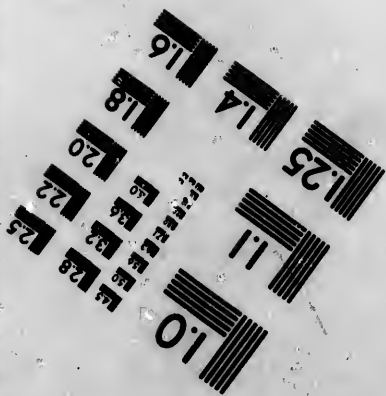
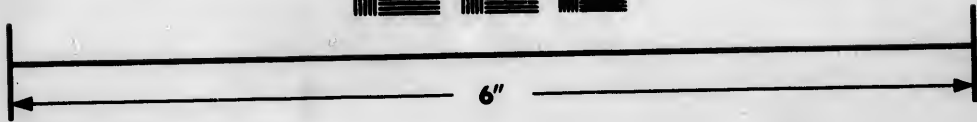
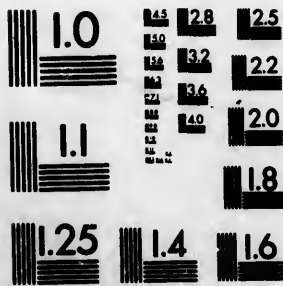


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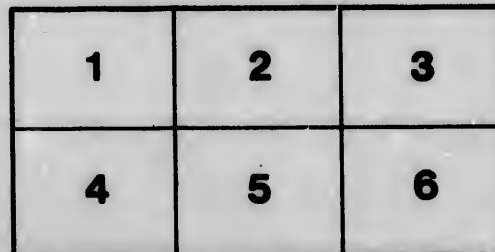
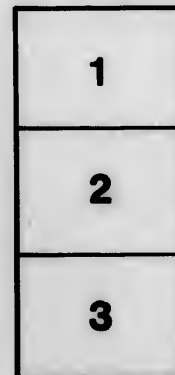
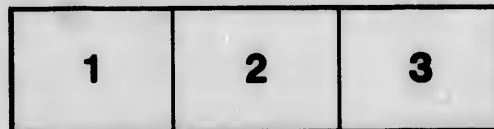
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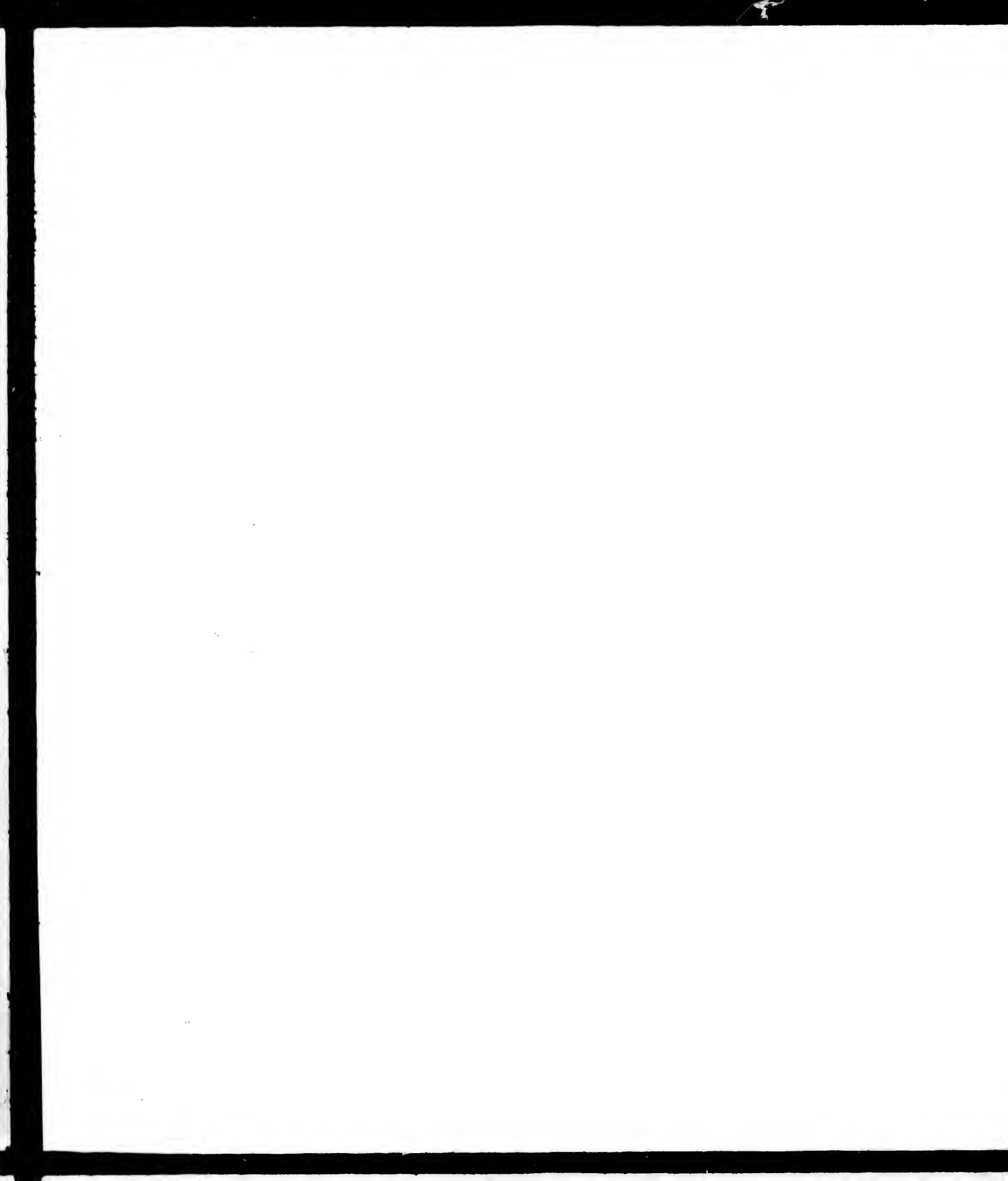
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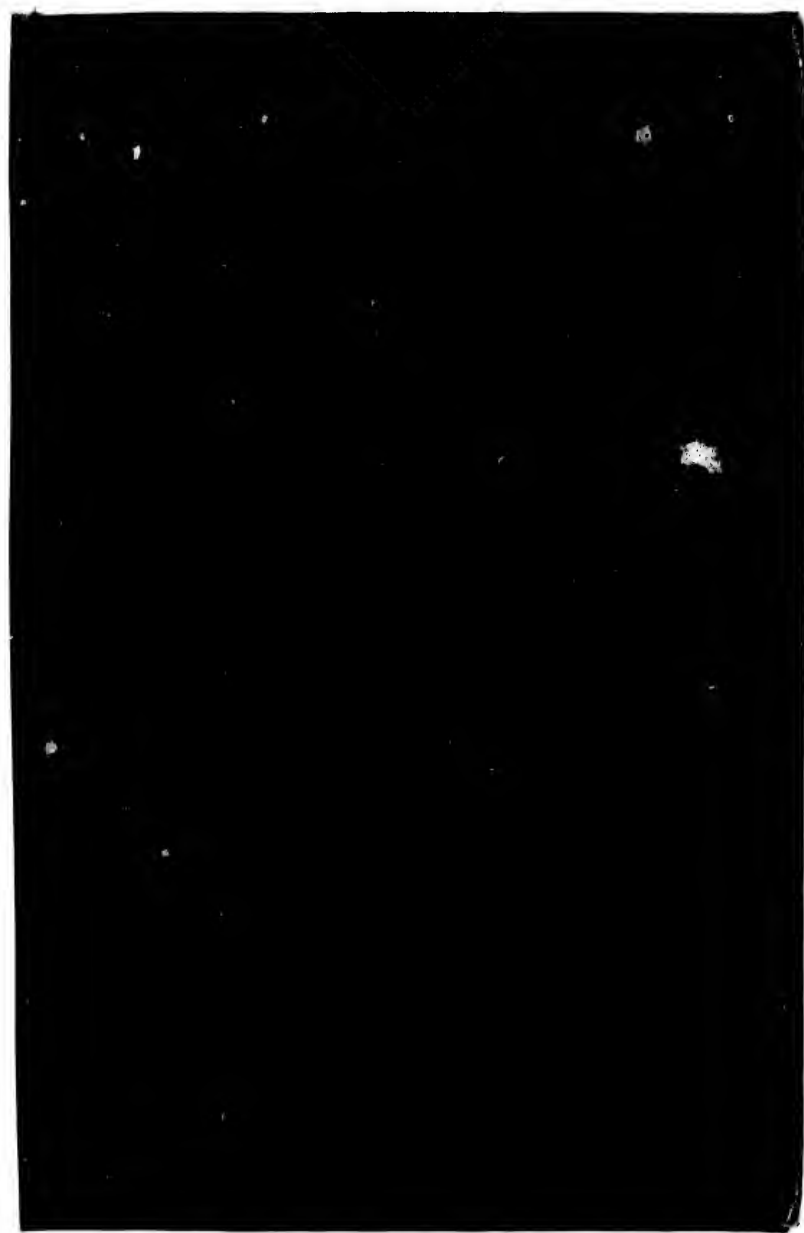
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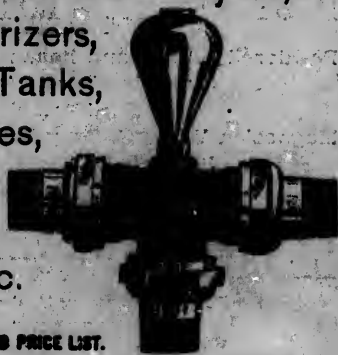
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**FOR THE UNITED STATES AND CANADA**

**Part I. DIRECTORY AND TRADE LISTS**

**Part II. (a) PORK AND BEEF PACKING**

**(b) COTTONSEED OIL MANUFACTURE**

**(c) CONDENSED SURVEY OF THE TRADE**

PUBLISHED BY

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## PREFACE.

FOR years the publishers of *The National Provisioner* have been in receipt of requests, on the part of their patrons and friends, in all parts of the civilized world, to publish a Directory of the Meat and Provision Trades and their allied industries in the United States and Canada. We have long felt that there was room for such a work, but we have hesitated to publish it, partly on account of the fact that we foresaw the difficulties connected with the compilation and revision of lists for the first time covering the numerous branches of the largest and most comprehensive trade in the country.

In presenting this work to the trade and the general public we by no means claim that these lists are infallible, but we know that we have used all possible care and precaution to make them as correct as possible. Every person, firm, or corporation, whose name appears within the covers of this book, has had from us a personal letter showing the classification under which his or their name would appear in the Directory, coupled with a request to verify such name, address, and classification, and return same to us. A great many responded, while others failed to reply to several requests. We have by this and other methods done our best to make the lists correct and inclusive. The Directory certainly fills a long-felt want, and should not be missed in any well-regulated establishment which is directly or indirectly connected with the meat and provision trades or their allied industries.

The second part of the book speaks for itself. The undivided approval which the publication of technical articles on the subject of pork-packing, lard-refining, manufacture of cotton-oil, etc., have met with on the part of the readers of *The National Provisioner*, and the very urgent requests made to have these articles appear in book form lead us to hope that the packers, refiners, and other members of the trade will appreciate our efforts in that direction. The Tables and Tests of Products given in connection with the foregoing (some of which we have never published before) will surely prove handy and invaluable. The interest in this book and its intrinsic value are much enhanced by a series of cuts of meats, for which we are indebted to the North Packing and Provision Company of Boston, Mass., and for which we herewith express our thanks and appreciation.

The exposition of cotton-seed-oil manufacture, which has appeared in serial form in *The National Provisioner*, is also republished here, to meet the views of numerous patrons. It has already received the stamp of approval from the trade.

The history of the trade given herein brings together for the first time many useful and interesting facts in a comprehensive yet condensed form.

We beg to thank our numerous friends for the large number of orders and encouraging letters received prior to publication, and we hope to merit the continuance of the confidence and good-will thereby expressed.

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DIRECTORY AND HAND-BOOK  
OF THE  
MEAT AND PROVISION TRADES.

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of every description, can be best preserved against mildew and dampness from without, and shrinkage or evaporation from within, by the intelligent use of

### VEGETABLE PARCHMENT.

It is a perfect and reliable protection against impairment of the goods, which it encloses, and the **Packer** with *progressive ideas*, who aims to be abreast of the times, will not afford to do without it.

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(in ten shades) is admirable for wrapping **Fancy Soaps, Perfumery, Confections**, and other choice wares, its transparency adding materially to the attractive appearance of the goods.

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Berry Streets  
Market Street  
2 Davis Street  
California Market  
California Street  
5, 24th Street  
Market Street  
4 Sixth Street  
y Hall Market  
Tenth Street  
California Market  
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California Street  
3 Front Street  
Wynsend Streets  
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..... San José  
.....  
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# Paterson Parchment Paper Co.

Manufacturers of PARCHMENT PAPER,

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ORGANIZED 1888.  
INCORPORATED 1891.

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Test Vegetable Parchment Paper by soaking thoroughly in water. When  
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## COLORADO.

|                                        |                             |
|----------------------------------------|-----------------------------|
| Colorado Springs Packing Co.....       | Colorado Springs            |
| Burkhardt Packing Co.....              | 1421, 16th Street, Denver   |
| B. & M. Packing Co.....                | 1529 Blake Street, "        |
| Silver State Packing Co.....           | "                           |
| Colorado Packing and Provision Co..... | "                           |
| Denver Packing Co.....                 | 1033 Arapahoe Street, "     |
| Kroeger Packing Co.....                | "                           |
| Monte Vista Packing Co.....            | Monte Vista                 |
| Andrews Packing Co.....                | 318 S. Union Street, Pueblo |
| Doyle, W. E., & Co.....                | 407 Sante Fé Road, "        |
| Nuokolls Packing Co.....               | Union Stock Yards, "        |
| Pueblo Packing Co.....                 | "                           |
| Brown, T. H., & Son.....               | Salida                      |

## CONNECTICUT.

|                           |                                 |
|---------------------------|---------------------------------|
| Bartram, F. A., & Co..... | 439 Water Street, Bridgeport    |
| Plumb & Winton Co.....    | 44 Middle Street, "             |
| McElroy Bros.....         | 580 Water Street, "             |
| Schwab, A. & A.....       | 12 Congress Street, "           |
| Hurd, E. G.....           | Shelton Street, Huntington      |
| Meriden Provision Co..... | 101-9 S. Colony Street, Meriden |
| Andrew, F. S., & Co.....  | City Market, New Haven          |
| Merwin, S. E., & Son..... | 354 State Street, "             |
| Seaman, Allan.....        | 265 Ferry Street, "             |
| Sperry & Barnes.....      | 114 State Street, "             |
| Davis, C. H., & Co.....   | Norwich                         |

## DELAWARE.

|                                    |                               |
|------------------------------------|-------------------------------|
| Barlow & Weer.....                 | 8th Street Market, Wilmington |
| Hart & Bro.....                    | 5th and Poplar Streets, "     |
| Mamele Bros.....                   | 506 Poplar Street, "          |
| Wilmington Abattoir and C. S. Co., |                               |
|                                    | 216-30 Tatnall Street, "      |

**DISTRICT OF COLUMBIA.**

Archer, John, & Son.....Georgetown  
 Rookey, H....."  
 Ruppert, H. J.....Washington

**GEORGIA.**

Shackleford, L. A.....Athens  
 Augusta Packing Co.....Angusta  
 Georgia Packing Co.....458, 1st Street, Macon  
 Henry, W. L.....214 Cotton Avenue, "  
 Bentley, B. W.....Valdosta

**ILLINOIS.**

Alton Packing and Refrigerating Co.....Alton  
 Schiess, B., & Son....."  
 Austin Packing Co.....Austin  
 Bartholomew, W. W.....Barry  
 Illinois Packing Co.....Belleville  
 Continental Packing Co...505 S. Gridley St., Bloomington  
 Wright, T. A.....Centralia  
 Dallenbach Bros.....Champaign  
 Illinois Packing Co....."

**Chicago.**

Agar Bros.....624 Larrabee Street  
 Anglo-American Packing and Provision Co.,  
     67 Board of Trade Building  
 Armour & Co....205 La Salle St., and Union Stock Yards  
 Chicago Packing and Provision Co..67 Board of Trade Bldg.  
 Continental Packing Co.....906 Royal Insurance Bldg.  
 Craig, John, & Co.....69 South Water Street  
 Cudahy Bros. Packing Co.....763 The Rookery  
 Dahmke Packing and Provision Co.....Board of Trade  
 Decker & Murath .....188 Fulton Street  
 Ellsworth Packing and Provision Co..5300 Armour Avenue

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Chicago (Continued).

- European Packing Co.....117, 47th Street
- Fairbank Canning Co..... Union Stock Yards
- Fowler Bros. (Ltd.).....60 Board of Trade Building
- Garden City Packing and Provision Co... 14 Fulton Mkt.
- Guthman, L., & Co.....3915 S. Halsted Street
- Hammond, G. H., Co.....244 Lake Street
- Hately Bros. Co.....169 Jackson Street
- Hess Bros.....4001 Emerald Avenue
- Imperial Packing Co.....53d Street and Armour Avenue
- Internat. and Wells Packing Co...R. 400 Royal Ins. Bldg.
- James & Edwards Co.....3324 S. Halsted Street
- Jones & Stiles Packing Co.....54 Traders' Building
- Latcham, F.....48 N. Green Street
- Libby, McNeil & Libby..... Union Stock Yards
- Lipton, Thomas J., Co..... " " "
- Maes & De Praft Packing Co.....16 Pacific Avenue
- Michener Bros. & Co.....230-36 La Salle Street
- Miller, Hendricks & Co.....53 W. Jackson Street
- Miller & Hart.....57 Market Street
- Moran, John, Packing Co... Union Stock Yards
- Morrell, J. & Co (Ltd.).....169 Jackson Street
- Morris, Nelson & Co..... Union Stock Yards
- Mueller, Valentine, Packing Co.....500 Larrabee Street
- Nash Bros.....Exchange Building, Union Stock Yards
- Nash, N. T.....Center Avenue
- Noonan & Haff.....Emerald Avenue and 41st Street
- North American Provision Co..... Union Stock Yards
- Omaha Packing Co.....87 Board of Trade Building
- O'Malley, John.....Quinn and Archer Streets
- Pond, E. K., Packing Co.....65, 24th Place
- Seiter, Anthony.....3401 Charlton Street
- Silberhorn, Wm. H., Co....414 Royal Insurance Building
- Sioux City Packing Co.....184 Fulton Street



## Chicago (Continued).

|                                        |                                    |
|----------------------------------------|------------------------------------|
| Stern, A., Co.....                     | 2719 Quinn Street                  |
| Swift & Company.....                   | Union Stock Yards                  |
| Turner Springer Co.....                | S. Halsted and 40th Street         |
| Underwood & Co.....                    | 915 S. Halsted Street              |
| Morris, Nelson & Co.....               | East St. Louis                     |
| Martin & Summers.....                  | Fairfield                          |
| Ryan, James M. ....                    | Galena                             |
| Vogel, B., (Estate of).....            | "                                  |
| Widmayer, C. H., & Son.....            | Jacksonville                       |
| Steidl & Son.....                      | Mattoon                            |
| Tri-City Packing and Provision Co..... | Moline                             |
| Blomer & Michael....                   | Front and Delaware Streets, Quincy |
| Farlow, S., & Co.....                  | 309 City Hall Square, "            |
| Lane, W. H.....                        | 210 N. 4th Street, "               |
| Metzger Packing Co.....                | 117-19 S. Hall Square, "           |
| Quincy Packing Co.....                 | Front Street, "                    |
| Gilmore, J. S.....                     | 1520, 1st Avenue, Rockland         |
| Milligan & Plowman.....                | Taylorville                        |
| Scott & Co.....                        | Wenona                             |

## INDIANA.

|                           |                                     |
|---------------------------|-------------------------------------|
| Akin, W. M., & Son ...    | 2d and Goodsell Streets, Evansville |
| Becker, C. H.....         | 524 Upper 4th Street, "             |
| Daudistel, H.....         | 1701 Main Street, "                 |
| Folz, Jacob, Jr.....      | 1200 W. Franklin Street, "          |
| Mohr, Casper.....         | 101 Upper 8th Street, "             |
| Newman Bros.....          | 207, 4th Avenue, "                  |
| Selzer & Co.....          | 4 Lincoln Avenue, "                 |
| Weil Bros.....            | 917 Main Street, "                  |
| Eckert, F.....            | 35 W. Main Street, Fort Wayne       |
| Leikauf Bros. & Bash..    | 10-20 Hanover Street, "             |
| Raeb, John.....           | 18 E. Columbia Street, "            |
| The G. H. Hammond Co..... | Hammond                             |



**INDIANA (Continued).**

Interstate Packing Co., "Canned Meats".....Hammond  
 Coffin, Fletcher & Co.... West & Ray Streets, Indianapolis  
 Kingan & Co. (Ltd.).....Maryland Street, "  
 Moore Packing Co..... Union Stock Yards, "  
 Dryfus Packing and Provision Co.....Lafayette  
 Horn, William, & Son..... "  
 Baldwin, Roberts & Co.....Newcastle  
 Peoria Packing and Provision Co.....South Street, Peoria  
 Bierhaus, E., & Sons.....Vincennes

**IOWA.**

Doud, L. B., & Co.....Atlantic  
 Doud Packing Co.....Boone  
 Boeck, George.....210 N. 5th Street, Burlington  
 Steinbrecher, Dehn & Lau, .  
     3d and Washington Streets, "  
**Sinclair, T. M., & Co....South 3d Street, Cedar Rapids**  
 Iowa Packing Co.....Clinton  
 Council Bluffs Stock Yards and Packing Co.. Council Bluffs  
 Kohrs, Henry.....1343 W. 2d Street, Davenport  
 Ranzow, J.....1334 W. 2d Street, "  
 Ruch, John .....2d and Fillman Streets, "  
 Tri-City Packing and Provision Co..... "  
 Zoekler, John L.....1337 W. 2d Street, "  
 Liverpool & Des Moines Pack. Co...216 2d St., Des Moines  
 Sinclair, T. M., & Co.....102, 6th Street, "  
 Stone Packing Co....18th and Maury Streets, "  
 Dubuque Packing and Provision Co.,  
     16th and Sycamore Streets, Dubuque  
 Roth, George S.....12th and Clay Streets, "  
 Ryan Packing Co.....Water and R. R. Avenue, "  
 Ryan, William, & Co...Jones and Water Streets, "  
 Stroebel, J. H.....465 Clay Street, "

Quinn Street  
**Stock Yards**  
 140th Street  
 Alsted Street  
 East St. Louis  
 ... Fairfield  
 ... Galena  
 ... "  
 Jacksonville  
 ... Mattoon  
 ... Moline  
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 Taylorville  
 ... Wenona  
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**Hammond**

## IOWA (Continued).

|                                           |                          |
|-------------------------------------------|--------------------------|
| Frazier, George J .....                   | Fort Dodge               |
| Schapper, F. C. ....                      | Fort Madison             |
| Close & Asmus. ....                       | Independence             |
| Iowa City Packing and Provision Co. ....  | Iowa City                |
| Coey & Co. (Ltd.) .....                   | Keokuk                   |
| Dick, C. F., & Co. ....                   | 210 Main Street, "       |
| Brittain & Co. ....                       | Marshalltown             |
| Gerndt, Julius .....                      | Muscatine                |
| Morell, John, & Co. ....                  | Ottumwa                  |
| Heller, A., & Sons .....                  | Leech Street, Sioux City |
| Sioux City Packing Co. ....               | Steuben St., Sioux City  |
| The Oudaly Bros. Packing Co. (Ltd.) ..... | "                        |
| Pitcher & Bronober .....                  | Waterloo                 |
| Roth Packing Co. ....                     | "                        |

## KANSAS.

|                                         |                                 |
|-----------------------------------------|---------------------------------|
| Atchison Packing and Provision Co ..... | Atchison                        |
| Proctor, White & Co. ....               | Chetopa                         |
| Johnson, H. W. ....                     | Harton                          |
| Hutchinson Packing Co. ....             | Hutchinson                      |
| Armour Packing Co. ....                 | State Line, Kansas City         |
| Davis Packing Co. ....                  | Adams and Shawnee Sts., "       |
| Fowler, George, Son & Co. (Ltd.) ..     | 335 James St., "                |
| Reid Bros. Pack. Co. (Ltd.) ..          | Kansas Avenue, "                |
| Schwarzschild & Sulzberger Co. ....     | "                               |
| Swift & Co. ....                        | Bergen Street, "                |
| Volz Bros. Packing Co. ....             | 734-40 Shawnee St., Leavenworth |
| Wolf Packing Co. ....                   | Quincy Street, Topeka           |
| Dold, Jacob, Packing Co. ....           | Wichita                         |
| Whittaker, Francis, & Sons .....        | Wichita                         |

## KENTUCKY.

|                                    |               |
|------------------------------------|---------------|
| Claypool, A. G., & Co. ....        | Bowling Green |
| Ruttle-Schlickman Packing Co. .... | Covington     |

**KENTUCKY (Continued).**

|                            |                               |
|----------------------------|-------------------------------|
| Sandwann, F., & Sons       | 432 Madison Avenue, Covington |
| Cecil, W. B.               | Danville                      |
| Unverzagt & Smith          | Henderson                     |
| Withers, W. J., & Son      | Hopkinsville                  |
| Conrad Provision Co.       | 1492 Story Avenue, Louisville |
| Engelhard, A., & Co.       | 834 W. Main Street, "         |
| Hainsville Packing Co.     | 1318 Story Avenue, "          |
| Leib, F., & Sons           | 120-24 Main Street, "         |
| Louisville Packing Co.     | Story Avenue, "               |
| Pfaffinger & Co.           | 923 E. Market Street, "       |
| Vissman, H. F., & Co.      | 417 Bickel Avenue, "          |
| Wissert & Bornwasser       | 937 Geiger Street, "          |
| Acker & Frederick          | Maysville                     |
| Wallingford, B. A.         | "                             |
| Kalb & Sons                | 1810 Broad Street, Paducah    |
| Oehlschlaeger, G. M., Sons | 825 S. 3d Street, "           |

**LOUISIANA.**

|                                       |                    |
|---------------------------------------|--------------------|
| McCormick Packing and Fertilizing Co. | Monroe             |
| Southern Grocer Co.                   | 20 Grand Street, " |

**MAINE.**

|                         |                            |
|-------------------------|----------------------------|
| Gross, E. W.            | 148 Main Street, Auburn    |
| Smith, John             | 100, 1st Street, "         |
| Carr, Wm. S., & Co.     | 51-55 Broad Street, Bangor |
| Cobb & Nash             | Valley Avenue, "           |
| Reagan & Dalton         | Ohio Street, "             |
| Rice, C. H.             | Central Market House, "    |
| Gilbert Childs Co.      | Canton                     |
| Bay State Provision Co. | Portland                   |
| Best, J. L.             | 375 Commercial Street, "   |
| Conant, P., & Co.       | 229 Commercial Street, "   |
| Cummings Brothers       | 228 Commercial Street, "   |

**MAINE (Continued).**

Dyer, Thomas, & Co. . . . . 346 Commercial Street, Portland  
 Fairbank, N. K., Co. . . . . 179 Commercial Street, "  
 Hatch, G. A. . . . . 257 Commercial Street, "  
 Milliken, Tomlinson & Co. . 303-9 Commercial St., "  
 Sawyer, M. F. . . . . 32 Market Street, "  
 Schonland Brothers . . . . . 8-10 Union Street, "  
 Shea, J. M. . . . . 48-50 Market Street, "  
 Smith, A. T. . . . . 15 Silver Street Market, "  
 Smith, F. A., & Co. . . . . 247 Commercial Street, "  
 Thomas, E., & Co. . . . . 114 Commercial Street, "  
 Twitchell, Champlin Co. . . 252 Commercial Street, "

**MASSACHUSETTS.**

Southwick, Geo. H., & Son. . . . . Beverley  
 Public Market & Packing Co. . 890-94 Wash'n St., Boston  
 North Packing and Provision Co.,  
     31 and 33 N. Market Street, Boston  
 Reid Bros. Packing Co. . . . . 45 N. Market Street, "  
 Squire, John P., & Co. . 39 and 40 Market Street, Boston  
 Vaupel, Louis W. H. . . . . 31-33 North Street, "  
 Niles Bros. . . . . Concord Avenue, Cambridge  
 Squire, John P., & Co. . . . . 169 Gore Street, "  
 Cornell, D. H. & W. C. . . . . East Grinnell, Fall River  
 Davis, H. W. . . . . "  
 Hargraves Mfg. Co. . . . . 267 Pleasant Street, "  
 Moulton, E. H. . . . . 132 Essex Street, Haverhill  
 Holmes Provision & C. S. Co. . . 18 Main Street, Holyoke  
 Springfield Provision Co. . . . . 22 Main Street, "  
 Bancroft & Sawyer. . . . . B. & M. Freight Depot, Lawrence  
 Galloway, E. B., & Son. . . . . 57 Hancock Street, "  
 Gowing & Higgins. . . . . 415 Haverhill Street, "  
 Penniman, J. B. . . . . 56 Amesbury Street, "  
 Public Market and Packing Co. . 499 Essex St., "

MASSACHUSETTS (Continued).

Reeves Peter.....113 Essex Street, Lawrence  
 Slayton, E. M., & Co.....266 Lowell Street, "  
 Volpey, D. S. A.....25 Beacon Street, "  
 Norris Bros.....36 Middle Street, Lowell  
 Sanborn, Hurd & Co.....32 Andrew Street, Lynn  
 Crosier & Bartlett.....Pittsfield  
 Averill, George H.....20 Central Street, Salem  
 Glidden, William H.....62 Union Street, "  
 Hurd, J. A.....5 Prescott Street, "  
 Upton & Eaton.....260 Bridge Street, "  
 Home Brothers.....South Street, Somerville  
 Jenks & Co.....22 Bennett Street, "  
 Merrill, L. E.....5 Concord Avenue, "  
 North Packing and Provision Co....."  
 Handy, H. L.....41 Hampden Street, Springfield  
 Hunt, A. C., & Co.....16 Sanford Street, "  
 Sheldon, E. C., & Son.....31 Bridge Street, "  
 Smith & Adams.....43 Lyman Street, "  
 Springfield Provision Co.....Brightwood, "  
 Goward, L. H.....24-26 Tremont Street, Taunton  
 Squire, John P., & Co.....Worcester  
 White, Pevey & Dexter Co.....13 Bridge Street, "

MARYLAND.

Bay & Heim.....115 South Street, Baltimore  
 Baltimore Beef Co.....401 E. Pratt Street, "  
 Butler, Chas., & Sons.....121 Cheapside Street, "  
 Cassard, G., & Son.....517-25 W. Balto Street, "  
 Frederick, John.....12 Stinson Street, "  
 Gebelein, George, & Bro... 731 N. Castle Street, "  
 George, P. T., & Co.... 210 E. Lombard Street, "  
 Harvey, W. P., & Co.....355 North Street, "  
 Hofstetter, P. H.....15-17 N. Fremont Avenue, "

**MARYLAND (Continued).**

Hohman, C., & Sons. 2026-40 E. Monument St., Baltimore  
 Jones, R. M., & Co. . . . Pa. and Falton Avenues, "  
 O'Connell, Joseph I., Packing Co. . . . . "  
 Pentz Provision Co. . . . . 301-5 Calvert Street, "  
 Pfeffenkorn, L. . . . . 215 N. Paca Street, "  
 Rieman, Doyle & Co. . . . 315-17 W. German St., "  
 Sehlmayer, D. . . . . 501 Eastern Avenue, "  
 Shaper, Jacob C., & Co. 516-20 W. Lexington St., "  
 So. Balto Packing Co. . . . 14-16 W. Barre Street, "  
 Steffens, Henry, Co. . . . . 937-39 Fell Street, "

**MICHIGAN.**

Baker & Shattuck . . . . . Adrian  
 Hine & Gustave . . . . 518-20 Washington Avenue, Bay City  
 Bigley & Co. . . . . 32 Griswold Street, Detroit  
 Hammond, Standish & Co. 1016 Hammond Bldg., "  
 Henkel, Peter, Co. . . . . 128 Randolph Street, "  
 Parker, Webb & Co. . . . . 62 Grand River Avenue, "  
 Webb, R. S. . . . . 269 Grand River Avenue, "  
 Grand Rapids Packing and Provision Co.,  
 14 Ottawa Street, Grand Rapids  
 Dettmann, Carl . . . . . 124 E. Pearl Street, Jackson  
 Bapes, Samuel A. . . . . Montgomery  
 Castenholz Bros. & Co.,  
 Getty Avenue and R. R. Track, Muskegon  
 Copas, J. H. . . . . Owosso  
 Hammond, Standish & Co. . 737 N. Wash'n Ave., Saginaw  
 King & Moore . . . . . 130 N. Jefferson Avenue, "  
 Stingel, F. C., & Co. . 118-20 N. Washington Ave., "  
 Teal, J. B. . . . . 2700 S. Washington Avenue, "  
 Trahan, E., & Son . . . . 414 W. Genesee Avenue, "



**MINNESOTA.**

Friedrich & Hormel.....Austin  
 Hormel, George, & Co....."  
 Stanton, Robert.....Crookston  
 Cassidy Packing Co.....Mankato  
 Armour Packing Co.....413 S. 2d Street, Minneapolis  
 Cudahy Packing Co.....Central Market, "  
 Minneapolis Packing Co...211 Wash'n. Ave., "  
 Minneapolis Stock Yards and Packing Co.,  
 907 N. Y. Life Building, "  
 O'Leary, J. J., & Sons...921 Wash'n. Ave., S. "  
 Schwarzschild & Sulzberger Co.,  
 201 6th Avenue, South, "  
 Twin-City Packing Co...119 1st Avenue, N., "  
 Schank, Jacob.....Shakopee  
 Armour Packing Co.....381 E. 3d Street, St. Paul  
 Columbia Packing Co....."  
 Lamb, H., & Sons.....138 E. 4th Street, "  
 McMillan, J. T.....Upper Leuce Street, "  
 Minneapolis Provision Co.,  
 Wabash and Montgomery Avenues, "  
 Minnesota Packing and Provision Co.....South St. Paul  
 O'Leary, J. J., & Sons.....60 W. 10th Street, St. Paul  
 Stanke Bros.....155 E. 2d Street, Winona  
 Winkels, J., & Co.....2d and Lafayette Streets, "

**MISSISSIPPI.**

Goldsmith Provision Co.....Greenville

**MISSOURI.**

Daniels, W. O.....Canton  
 Giegerich, N....."  
 Miller, Philip....."  
 Meystedt, H. L....."



## MISSOURI (Continued).

|                                                |                                     |
|------------------------------------------------|-------------------------------------|
| Quisenberry, A. D.....                         | Carrolltown                         |
| Hirsch, G.....                                 | Cape Girardeau                      |
| De Soto Packing Co.....                        | De Soto                             |
| Stillwell, A. J., Meat Co....                  | 307 N. Front Street, Hannibal       |
| Stohr, Fred.....                               | 105-7 Market Street, "              |
| Armour Packing Co....                          | W. 9th and State Line, Kansas City  |
| <b>Dold, Jacob, Packing Co..</b>               | <b>1500 W. 9th St., Kansas City</b> |
| Fowler, G., Son & Co. (Ltd.)..                 | 335 N. James St., "                 |
| <b>Reid Bros. Packing Co. (Ltd.)..</b>         | <b>Station A, Kansas City</b>       |
| Schwarzschild & Sulzberger Co.....             | "                                   |
| Swift & Co.....                                | Station A, "                        |
| Conrad & Son.....                              | Louisiana                           |
| Nauera Bros.....                               | "                                   |
| Happel, J. L.....                              | Palmyra                             |
| Ames, H., & Co.....                            | Springfield                         |
| Scudder, T. H.....                             | "                                   |
| Denker, H. B.....                              | St. Charles                         |
| Hofer, Frederick, Packing Co.....              | St. Joseph                          |
| Krug, Henry, Packing Co..                      | 4th and Monterey Sta., "            |
| Moran John, Packing Co.....                    | Stock Yards, "                      |
| Reid Bros. Packing Co.....                     | 417 S. 3d Street, "                 |
| St. Joseph Packing and Transportation Co.....  | "                                   |
| Viles & Robbins.....                           | "                                   |
| Cox & Gordon.....                              | 1019 S. 3d Street, St. Louis        |
| East St. Louis Packing Co....                  | 409-11 Morgan St., "                |
| Gerlock Packing Co.....                        | 415 Morgan Street, "                |
| Grant, William D.....                          | 3832 Garfield Street, "             |
| Griffin, Thomas.....                           | 1701 Austin Street, "               |
| Gruensfelder, L.....                           | 2029 Shenandoah Street, "           |
| Heitzeberg, Edward, Packing and Provision Co., | 3101-15 N. Broadway, "              |
| Meagher, James, & Co.....                      | 1800 N. Main Street, "              |
| McAllister & Co.....                           | 1701 N. Levee Street, "             |

MISSOURI (Continued).

Nedderhut Packing and Provision Co.,  
 313 S. Main Street, St. Louis  
 Rose, C. & L., Curing and C. S. Co.,  
 La Salle and Joab Streets, “  
 Sharp, Jas., & Co.....904-6 S. 2d Street, “  
 Spellens, D. A.....918 N. Main Street, “  
 St. Louis Dressed Beef and Provision Co.,  
 823 N. 4th Street, “  
 St. Louis Star Packing and Provision Co.,  
 1238-40 S. Broadway, “  
 Uniack, James, Packing and Provision Co.,  
 109 Clark Avenue, “  
 Waldeck, J. C. C., Provision Co..... “  
 Weber, A., & Co.....1941 O'Fallon Street, “  
 Whittaker, Francis, & Sons...1100 N. 7th Street, “  
 Wissmath, Chas., & Son, Packing and Prov. Co.,  
 1111 N. 12th Street, “  
 Schwarz, J. G., & Son.....Warrenton  
 Todd, G. J.....Washington

MONTANA.

Coe & Thebo ..... Kalispell  
 Kalispell Meat Co..... “

NEBRASKA.

Shelton, Burr.....Chadron  
 Elias, Charles F.....Columbus  
 Buchanan, A. G., & Co.....Fremont  
 Hubbard Packing Co.....142 N. 13th Street, Lincoln  
 Lincoln Packing Co.....315 N. 9th Street, “  
 Wheeler Packing Co.....216 N. 10th Street, “  
 Chicago Packing and Provision Co.,  
 Union Stock Yards, Nebraska City

**NEBRASKA (Continued).**

Nebraska City Packing Co. .... Nebraska City  
 Cudahy Bros. Packing Co.,  
     1215 Leavenworth Street, South Omaha  
 Hammond, G. H., Co. .1300 Leavenworth St.,     "  
 Omaha Packing Co. ....     "  
 Swift & Co .....1221 Leavenworth Street,     "

**NEW HAMPSHIRE.**

Manchester Prov. Co., Cedar and Franklin Sts., Manchester  
 Nashua Provision Co. ....Nashua

**NEW JERSEY.**

Robinson, R. T. ....2d and Pine Streets, Camden  
**Jersey City Packing Co., 134-54, 9th St., Jersey City**  
 Daly, M. ....New Brunswick  
 Atchason, Thomas .....477 Central Avenue, Newark  
 Bailey, C. M., & Co. ....95 S. Orange Avenue,     "  
 Bailey, H. E. ....101 S. Orange Avenue,     "  
 Bandendistel, Paul .....43 Central Market,     "  
 Jay, E. L. ....152 Front Street,     "  
 Schickhause, Pruden .....9 Commerce Street,     "  
 Schiener Co. ....143 Market Street,     "  
 Schreihoffer, J. ....32 Central Market,     "  
 Wagner, E. ....480 S. 10th Street,     "  
 York, E. C. ....58 Pacific Street,     "  
 Muhs, Henry .....125-31 River Street, Paterson  
 Ulrich, Charles M. ....25 W. Front Street, Plainfield  
 English, H. T. ....Market and Cooper Streets, Trenton  
 Margerum Bros. ....5, 2d Street,     "  
 Ponker, C. S. ....Clinton and Whittaker Street,     "  
 Taylor Provision Co. ....Perrine Avenue,     "

NEW YORK.

Bennett Bros.....Sand Creek Road, Albany  
 Carrier, Talmon.....87 Lawrence Street, "  
 Holland & Bro.....86 Green Street, "  
 Johnston & Co.....194 S. Pearl Street, "  
 McCormick, James F.....39 Elizabeth Street, "  
 Schwartz, Geo., & Co.....167 S. Pearl Street, "  
 Spencer, John I.....53 Lark Street, "  
 Cook, George T., & Son....22 Market Street, Amsterdam  
 Carpenter, W. N.....22-28 W. Main Street, "  
 Babiak, A.....686, 3d Avenue, Brooklyn  
 Bartels, Otto.....7 Wallabout Market, "  
 Butte Bros.....12 Steuben Street, "  
 Figge & Bro.....289 Atlantic Avenue, "  
 Grahfs, Herman.....59 Prospect Street, "  
 Helfat, John P.....York Street, "  
 Hermann, Henry.....56 Grand Street, "  
 Hoops, Herman.....127 Kent Avenue, "  
 Hutwelker, Charles, & Co..80 Ewen Street, "  
 Hutwelker Bros.....691, 5th Avenue, "  
 International Provision Co..35 Degraw Street, "  
 Mueller, Charles.....602 Fulton Street, "  
 Nieland & Son.....9 Chauncey Street, "  
 Root, Morris.....26 Raymond Street. "  
 Stoll, Charles J.....356 Graham Avenue, "  
 Stutz, Louis.....917 Broadway, "  
 Wallabout Pork Packing Co.,278 Flushing Ave., "  
 Breisacker, S.....261 Metcalf Street, Buffalo  
 Cushing, T. W.....862 Babcock Street, "  
 Danahy Packing Co.....Metcalf and Clinton Sts. "  
 Dold, Jacob, Packing Co.....745 William Street, "  
 Hall & Son.....5 Washington Market, "  
 Klinck Bros.....105 E. Market Street, "  
 Sablen & Roland.....310 Howard Street, "

Nebraska City  
 South Omaha  
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## NEW YORK (Continued).

|                                     |                                 |
|-------------------------------------|---------------------------------|
| Summers & Schnitzins . . . . .      | 83-85 E. Market Street, Buffalo |
| Thompson Packing Co. . . . .        | 94 Lewis Street, "              |
| Weppner's Sons, A. . . . .          | Sycamore and Guilford Sts., "   |
| Western Beef Co. . . . .            | 72-74 River Street, "           |
| Westheimer Beef Co. . . . .         | 114 Lewis Street, "             |
| Imperial Packing Co. . . . .        | Canajoharie                     |
| Rourke, Oliver . . . . .            | Catskill                        |
| Adams, Edwin G. . . . .             | Cohoes                          |
| Metzger, S. X., & Son . . . . .     | Elmira                          |
| Van Deusen, Charles A. . . . .      | 13-17 N. 7th Street, Hudson     |
| Reed, J. A. . . . .                 | Ithaca                          |
| Salisbury, W. K. . . . .            | Lansingburg                     |
| Reune, H. B. . . . .                | Malone                          |
| Reynolds, The James L., Co. . . . . | Mount Vernon                    |
| Coles, Marshall & Co. . . . .       | 21-23 S. Water Street, Newburg  |
| Sneed & Mathews . . . . .           | 139 Water Street, "             |

## New York City.

|                                         |                                    |
|-----------------------------------------|------------------------------------|
| Ams, Max. . . . .                       | 372-74 Greenwich Street            |
| Armour Packing Co. . . . .              | 12 Manhattan Market                |
| Armour & Co. . . . .                    | 182 Duane Street                   |
| Bechstein, F., & Son . . . . .          | 152 West Street                    |
| Beinecke & Co. . . . .                  | 196-98 Fulton Street               |
| Bohnet, John. . . . .                   | 188 Monroe, and Catherine Street   |
| Chicago Packing & Provision Co. . . . . | 333 Produce Exch. Bldg.            |
| Cook, H. A. . . . .                     | 979, 1st Avenue                    |
| Coles, B. G., & Co. . . . .             | 100 Forsyth Street                 |
| Cudahy Packing Co. . . . .              | 57 N. Moore Street                 |
| <b>Eastmans Company . . . . .</b>       | <b>59th Street and 12th Avenue</b> |
| Fairbank Canning Co. . . . .            | 13 Jay Street                      |
| Ferris, F. A., & Co. . . . .            | 264 Mott Street                    |
| Fowler Bros. Co. (Ltd.) . . . . .       | 111 Produce Exchange               |

## New York City (Continued).

|                                         |                                                          |
|-----------------------------------------|----------------------------------------------------------|
| Fowler, George, Son & Co.....           | 360 Produce Exchange                                     |
| Frankfeld, B., & Co.....                | 131 Reade Street                                         |
| Gappoldt, F. O.....                     | 307 E. 48th Street                                       |
| Halstead & Co.....                      | 104 Forsyth Street                                       |
| Hammond, G. H., Co.....                 | 309 Greenwich Street                                     |
| Haynes Bros.....                        | W. Washington Market                                     |
| Herold, George.....                     | 2161, 2d Avenue                                          |
| Heyer, A. Lester.....                   | 629, 3d Avenue                                           |
| Kestens, F. H.....                      | 670, 10th Avenue                                         |
| Kingan & Co. (Ltd.).....                | 33d Street and North River                               |
| King, Charles A.....                    | 33 Avenue C                                              |
| Lindener, Charles.....                  | 98, 1st Avenue                                           |
| Link, Ferdinand.....                    | 129 Christopher Street                                   |
| Morris, Nelson & Co.....                | Manhattan Market                                         |
| Muller Bros.....                        | 761, 10th Avenue                                         |
| * North Packing and Prov'n Co..         | 444-8 Produce Exch.                                      |
| Ottmann, William, & Co.....             | Fulton Market                                            |
| Pebler, Charles, & Son.....             | 224 Stanton Street                                       |
| <b>Rohe &amp; Bro., Packing Houses,</b> |                                                          |
|                                         | <b>547 W. 35th, 533 W. 36th, and 534 W. 37th Street.</b> |
|                                         | <b>Offices, 284 W. 33d and 344 Produce Exch.</b>         |
| Schramm, William.....                   | 179 Avenue C                                             |
| Schwarzschild & Sulzberger Co..         | 45th St. & 1st Ave.                                      |
| Silberhorn Bros.....                    | 92 Chrystie Street                                       |
| Stevens & Benedict.....                 | 20 Pearl Street                                          |
| Squire, John P., & Sons.....            | 20 Harrison Street                                       |
| Swift, G. F. & E. C.....                | 105 Barclay Street                                       |
| United Dressed Beef Co.....             | 1st Ave. and 45th Street                                 |
| <b>Webber, Richard.....</b>             | <b>120th Street &amp; 3d Avenue</b>                      |
| Weber, W. F.....                        | 2916-18, 3d Avenue                                       |
| Kennedy & Angell.....                   | Oneida                                                   |
| Davies Provision Co.....                | 24-26 Bridge Street, Plattsburg                          |



## NEW YORK (Continued).

|                                        |                               |
|----------------------------------------|-------------------------------|
| Cheney & Hoyt.....                     | 363 Main Street, Poughkeepsie |
| Kenyon, E. F.....                      | 364 Main Street, "            |
| Velies', J. C., Son.....               | 127 Main Street, "            |
| Dueppins, William, & Co.....           | 69 Front Street, Rochester    |
| Eckhardt, J.....                       | 103 Kent Street, "            |
| Hallock, J. M.....                     | Jones and Centre Streets, "   |
| Hautberg & Burkholder.....             | 53 Front Street, "            |
| Peester, W. L.....                     | 215 State Street, "           |
| Mulholland, D.....                     | Rondout                       |
| Braun, Charles.....                    | Stapleton                     |
| Syracuse Packing and Provision Co..... | Syracuse                      |
| Gere, W. C.....                        | 215-17 E. Water Street, "     |
| Mowry & Barnes.....                    | "                             |
| De Forest, A.....                      | 97 Congress Street, Troy      |
| De Lee, P. W.....                      | 1538 Fifth Avenue, "          |
| De Lee & Ryan.....                     | 152 Fourth Street, "          |
| Gaffey & Co.....                       | McElwain Avenue, "            |
| Kehn, Charles E., & Co.....            | 24 King Street, "             |
| Kehn, Elias, & Sons.....               | 12 King Street, "             |
| Lynd, Cyrus.....                       | 110 Congress Street, "        |
| Stansfield, W. F.....                  | 147 River Street, "           |
| Troy Sliced Smoked Beef Co...          | N. 4th and Jacob Sts., "      |
| Norton, Thomas E.....                  | Utica                         |
| Whiffen's, Isaac, Sons.....            | "                             |
| Utica Packing and Provision Co...      | 7-9 Columbia St., "           |

## OHIO.

|                                   |                                        |
|-----------------------------------|----------------------------------------|
| Brod, Jacob.....                  | 616-20 S. Main Street, Akron           |
| Kempel & Horst.....               | 190 S. Howard Street, "                |
| Schoeninger, C.....               | 214 East Market Street, "              |
| Banner Packing and Provision Co., | Bank and Patterson Streets, Cincinnati |
| Blackmore, Dawson & Co.....       | 40 Vine Street, "                      |

OHIO (Continued)

|                                     |                                 |   |
|-------------------------------------|---------------------------------|---|
| Brenner, C. J . . . . .             | 629 Colerain Avenue, Cincinnati |   |
| Buck, William . . . . .             | 91 McLean Avenue,               | " |
| Busch, H. F., Co. . . . .           | 490 Vine Street,                | " |
| Cincinnati Abattoir Co. . . . .     | Johnson Avenue,                 | " |
| Davis, Charles, & Co. . . . .       | 8th and Sycamore Sts.,          | " |
| Davis, William H., & Co. . . . .    | 761 Plum Street,                | " |
| Foehr & Ziegler . . . . .           | 24 E. Pearl Street,             | " |
| Frietsch, S. P., Co. . . . .        | 108 Coleman Street,             | " |
| Hahn, F. A., & Co. . . . .          | 51 Walnut Street,               | " |
| Haskins, R., & Co. . . . .          | 61 Walnut Street,               | " |
| Hoffman, John . . . . .             | Baymiller and Central Ave.,     | " |
| Jacob, Charles . . . . .            | 5 Marshall Street,              | " |
| Jacob, Joseph L., & Co. . . . .     | Cormany Avenue,                 | " |
| Jacob Packing Co. . . . .           | Findlay and Canal Sts.,         | " |
| Kirby, Robert . . . . .             | 57 Poplar Street,               | " |
| Knauber's, J., Sons . . . . .       | 33 Stock Street,                | " |
| Laidley, T. A., & Co. . . . .       | 61 Water Street,                | " |
| Lowenstein Canning Co. . . . .      | 577 John Street,                | " |
| Maescher & Co. . . . .              | 768 Central Street,             | " |
| Meyer, H. H., Packing Co.,          |                                 |   |
|                                     | Central Avenue and Linn Street, | " |
| Meyer-Huschart Packing Co.,         |                                 |   |
|                                     | Clarkson and Central Streets,   | " |
| Morrison, James, & Co. . . . .      | Bank and Riddle Sts.,           | " |
| Raum, J., & Co. . . . .             | 56 E. Pearl Street,             | " |
| Rawson, J., & Sons . . . . .        | 310 Sycamore Street,            | " |
| Remmers, J. H., & Co. . . . .       | 286 Harrison Street,            | " |
| Roth, Charles E. . . . .            | 337 Freeman Street,             | " |
| Roth, John C., Packing Co.,         |                                 |   |
|                                     | Fremont and Oehler Streets,     | " |
| Ryan Bros . . . . .                 | Johnson Avenue,                 | " |
| Sander, The A., Packing Co. . . . . | 19 Oehler Street,               | " |
| Schrauder's, George, Sons . . . . . | Elder & Logan Sts.,             | " |



## OHIO (Continued).

|                             |                                          |
|-----------------------------|------------------------------------------|
| Schroth, J. & F. P., Co.,   | Township and Cormany Streets, Cincinnati |
| Schuetze, L. C., & Co.,     | 567-71 W. Liberty Street, Cincinnati     |
| Beck, John                  | Mill, near Barber Street, Cleveland      |
| Bush, Arthur                | Mill Street Hill, "                      |
| Cleveland Provision Co      | 8 Bolivar Street, "                      |
| Flick, J. J., Provision Co  | 521 Forest Avenue, "                     |
| Flury Bros.                 | Walworth and Mill Streets, "             |
| Hopwood, James              | 960 Lorain Street, "                     |
| Kellogg & Jenkins           | 652 Brevier Street, "                    |
| Lake Erie Provision Co      | Clark Avenue, "                          |
| Ohio Provision Co           | Clark Avenue, "                          |
| Theurer, Norton & Co.       | 112 Rhodes Avenue, "                     |
| Burkhardt, H., Packing Co., | Burkhardt and Irwin Avenues, Dayton      |
| Focke, William, & Sons      | Springfield Pike, "                      |
| Jacobs, N., & Co            | 31 East Market Street, "                 |
| North Dayton Packing Co.    | "                                        |
| North Penn Packing Co.      | "                                        |
| Gusdorf Bros                | Fremont                                  |
| Hahn, John, Jr              | 331 S. Water Street, Hamilton            |
| Brenan, J. J.               | Marietta                                 |
| Webber, Frank               | "                                        |
| Cowdrick, E. R.             | Napoleon                                 |
| Bear & Ruth Bros            | 523 Water Street, Sandusky               |
| Gurney Market Co            | 511 Adams Street, Toledo                 |
| Fisker, Andrew R.           | Xenia                                    |
| Millen, Harbine & Co.       | "                                        |
| Youngstown Provision Co.    | Youngstown                               |

## OREGON.

|                                 |                         |
|---------------------------------|-------------------------|
| Horkersmith, J. W.              | Ashland                 |
| Christianson & Co               | Astoria                 |
| Beale, T. J.                    | Athens                  |
| Geddes & Pollman                | Baker City              |
| Miller & Carter                 | "                       |
| Taylor, James C.                | Corvallis               |
| Cheney & Owens                  | Dallas                  |
| Fisher & Watkins                | Eugene                  |
| Patterson & Miller              | "                       |
| Corwin & Wooster                | Hillsboro'              |
| Caviness, J. L.                 | La Grande               |
| Southern Oregon Pork Packing Co | Medford                 |
| Logus & Albright                | Oregon City             |
| Houser, Z                       | Pendleton               |
| Cross, Edwin C                  | Salem                   |
| Columbia Packing Co             | The Dalles              |
| Jones, R. E.                    | 2, 1st Street, Portland |
| McAvinney, Leonard              | 289, 1st Street, "      |
| Pacific Packing Co              | 258 Russell Street, "   |
| Portland Provision Co           | 32, 5th Street, N., "   |
| Simmons, E. T.                  | 112, 12th Street, N., " |

## PENNSYLVANIA.

|                          |                                   |
|--------------------------|-----------------------------------|
| Lohrey, H.               | 476 East Street, Allegheny        |
| Mutzig, C.               | 42 Allegheny Market, "            |
| Mutzig, J. F., & Co.     | 48 Allegheny Market, "            |
| Remensnyder, C.          | 18 Allegheny Market, "            |
| Musselman, M. K.         | 121 Broad Street, Bethlehem       |
| Hauck, C. E.             | Easton                            |
| Rice, G. O.              | "                                 |
| Bush Provision Co.       | 21st and State Streets, Erie      |
| Brelsford Packing Co.    | 7th and North Streets, Harrisburg |
| Harrisburg Provision Co. | 423-27 S. 2d Street, "            |

## PENNSYLVANIA (Continued).

|                                 |                                |
|---------------------------------|--------------------------------|
| Dryfoos, Henry                  | Hazleton                       |
| Holmes, W. B.                   | Honesdale                      |
| Worrall, James M.               | Kennett Square                 |
| Effrig, Samuel, & Co.           | Lansdale                       |
| Eberly, G. H.                   | 447 W. Lemar Street, Lancaster |
| Eberly, J. Y.                   | 240 N. Mary Street, "          |
| Martin, H. G.                   | 230 N. Mulberry Street, "      |
| Sument, J.                      | 634 N. Queen Street, "         |
| Swarbley, A. B.                 | 424 N. Duke Street, "          |
| Obert, Joseph                   | Lehighton                      |
| Wadlinger, F.                   | Mahanoy City                   |
| Weissenger, L. W., Jr.          | Mount Carmel                   |
| March, A. H.                    | Front Street, Norristown       |
| Seltzer & Bros.                 | Pottsville                     |
| <b>Ulmer Packing Co., Jacob</b> | <b>Pottsville</b>              |
| Scranton Packing Co.            | 113 Franklin Avenue, Scranton  |
| Stowers Paek. & Prov. Co.       | 2 Lackawanna Ave., "           |
| Shamokin Packing Co.            | 10 W. Commerce St., Shamokin   |
| Alburger, Jacob T., & Co.       | 414 S. Front St., Philadelphia |
| Allen, John, & Co.              | 820 Reed Street, "             |
| Bofinger, Jacob, & Co.          | 120 Vine Street, "             |
| Bower, John, & Co.              | 24th and Brown Streets, "      |
| Bradley, Thos., & Co.           | 21st and Market Sts., "        |
| Burk, William, & Bro.           | 1214 N. 3d Street, "           |
| Butcher, Washington, Co.        | 148 N. Front Street, "         |
| Felin, J. J.                    | 4148 Germantown Avenue, "      |
| Grovedale Packing Co.           | Somerset Street, "             |
| Harlan, Charles, & Co.          | N. 30th Street, "              |
| Jamison, John                   | Water and Market Streets, "    |
| Jewett, Abner A., & Co.         | 928 Noble Street, "            |
| Michener, J. H., & Co.          | 946 No. Front Street, "        |
| Moland, William, & Sons         | 158 Laurel Street, "           |
| Ott, George                     | 1244 S. 27th Street, "         |

PENNSYLVANIA (Continued).

Pennsylvania Packing and Provision Co. . . . . Philadelphia  
 Phila. Packing and Prov. Co. 907 Drexel Bldg., "  
**Roesch, Charles, & Son. 836 N. 2d Street, Philadelphia**  
 Warthman, The Adam H., Co.,  
     35-45 Poplar Street, "  
 Wilson & Rogers (Inc.) . . . . . 234 N. Water St., "  
 Allurt, H. . . . . 285, 5th Avenue, Pittsburg  
 Dietrich, C. . . . . 119 Diamond Market, "  
 Dunlevy & Bro. . . . . 603 Liberty Avenue, "  
 Engelhardt, A. . . . . 34 Diamond Market, "  
 Evermann, W. H. . . . . 98 Diamond Market, "  
 Fried, M. M., & Co. . . . . 28 Diamond Market, "  
 Jones, H. E. . . . . 97 Diamond Market, "  
 Hanna, J. P., & Co. . . . . 543 Liberty Avenue, "  
 Kimmich, E. A. . . . . 101 Diamond Market, "  
 Kirkpatrick & Stevenson. . . 617 Liberty Avenue, "  
 Myers, E. H., & Co. . . . . 645 Liberty Avenue, "  
 Peifer, P. . . . . 28 Diamond Market, "  
 Pittsburg Provision Co. . . . . "  
 Rea & Co. . . . . 242, 2d Avenue, "  
 Reineman, E. A. . . . . 16 Diamond Market, "  
 Roberts, J. A., & Co. . . . . 115 Diamond Market, "  
 Seipel, John . . . . . 88 Diamond Market, "  
 Smith's (G. F.) Ex'rs. . . . . 95 Diamond Market, "  
 Stevenson, J., & Co. . . . . 637 Liberty Avenue, "  
 Zoller, William, & Co. . . . . 9 Diamond Market, "  
 Leitheiser, Wm. K., & Sons. . 911-13 Penn Street, Reading  
 Millhopper Packing Co. . . . . Sandy Run  
 Schroth, J. & F., Packing Co. . . . . Shenandoah  
 Ahlborn & Co. . . . . 82 S. Canal Street, Wilkesbarre  
 Paine & Co. (Ltd.) . . . . . L. V. Depot, "  
 Sturdevant, Fogel & Co. . . . 68-72 S. Canal St., "  
 Getz, J. L. . . . . 3 S. Newberry Street, York

**RHODE ISLAND.**

Sunderland, W. F., & Son.....East Greenwich  
 Easton, William H., & Co.....67 W. Broadway, Newport  
 Comstock & Co.....Smithfield Avenue, Pawtucket  
 Johnson, H. S.....266 Weeden Street, "  
 Mason, I. B., & Sons.....Smithfield Avenue, "  
 Comstock & Co.....199 Canal Street, Providence  
 Dyer, R. F.....1890 Westminster Street, "  
 Kimball, Colwell & Co...459 Washington St., "  
 Lincoln, J. M.....323 Canal Street, "  
 Mason, I. B., & Sons.....165-73 Canal Street, "  
 Schott, J. N.....52 Randall Street, "  
 Saugy, A.....367 Canal Street, "

**SOUTH DAKOTA.**

Northwestern Packing Co.....Sioux Falls

**TENNESSEE.**

Reif Bros.....Chattanooga  
 Shamotulski, John,  
 Montgomery Avenue and Whiteside Street, "  
 Kney, Charles.....192 Front Street, Memphis  
 Nashville Packing Co...Line and Belleville Sts., Nashville

**TEXAS.**

Dallas Packing Co.....126 Alma Street, Dallas  
 Dallas Dressed Beef & Pack. Co..145 N. Akard St., "  
 Forth Worth Packing Co.....Stock Yards, Fort Worth

**UTAH.**

Scott & Anderson .....218 S. Main Street, Salt Lake City

**VIRGINIA.**

Isle of Wight Co.....Isle of Wight  
 Hechler, V., J., & Bro...1708-10 E. Main St., Richmond  
 Kingan & Co. (Ltd.) .....Richmond

## WASHINGTON.

|                             |                               |
|-----------------------------|-------------------------------|
| Carstens Bros.....          | 121 West Street, Seattle      |
| Louch, Augustine, & Co..... | 815 Front Street, "           |
| Masel, J. C., & Sons.....   | 806 West Street, "            |
| Wilson Drumheller Co.....   | Spokane                       |
| Dally Packing Co.....       | E. 25th and H Streets, Tacoma |
| Pacific Meat Co.....        | "                             |
| Washington Packing Co.....  | "                             |

## WEST VIRGINIA.

|                             |                                 |
|-----------------------------|---------------------------------|
| Brownrigg Bros.....         | Huntington                      |
| Flaccus Bros.....           | 17th and Chop Streets, Wheeling |
| Home Conserve Co.....       | 1405 Main Street, "             |
| McMechen, Geo. K., & Son .. | 1920-26 Jacob St., "            |
| Reilly, M., Estate.....     | 1309-11 Main Street, "          |
| Schenk, F., & Sons.....     | 1130 Market Street, "           |

## WISCONSIN.

|                                   |                               |
|-----------------------------------|-------------------------------|
| Kuehne Bros.....                  | Near S. 2d Avenue, Appleton   |
| Squires, John W.....              | Chippewa Falls                |
| Everson, C. W., & Co.....         | Columbus                      |
| Cudahy Bros. Co .....             | Cudahy                        |
| Drummond Bros.....                | Eau Claire                    |
| Level & Hunter.....               | Fond du Lac                   |
| Steppenbach's, Charles, Sons..... | Jefferson                     |
| La Crosse Pack. & Prov. Co..      | Front & Vine Sts., La Crosse  |
| Langdon & Boyd .....              | 116 N. 3d Street, "           |
| Pfeiffer, V.....                  | 500 Mill Street, "            |
| Reimers, D.....                   | 329 S. 3d Street, "           |
| Brinkhoff & Gefke.....            | 508 E. Wilson Street, Madison |
| Gallagher Bros.....               | 1157 Williamson Street, "     |
| Hoven, M. J.....                  | 101 N. Hamilton Street, "     |
| Lansing, William H.....           | 654 Williamson Street, "      |
| Roesch, William H.....            | 205 State Street, "           |

**WISCONSIN (Continued).**

|                                   |                           |                  |
|-----------------------------------|---------------------------|------------------|
| Scheler, H.....                   | 631 Union Avenue,         | Madison          |
| Scheler Bros.....                 | 24 Mifflin Street,        | "                |
| Soelch, Geo.....                  | 202 E. Main Street,       | "                |
| Sommers Bros.....                 | 117 W. Main Street,       | "                |
| Sprecher Bros.....                | 202 Williamson Street,    | "                |
| Welscher, W. A.....               | 122 E. Washington Avenue, | "                |
| Bodden Packing Co.....            | McGeogh House,            | Milwaukee        |
| Frank, L., & Son Pack. Co.....    | 644-50 Market St.,        | "                |
| Kretschmar, The, Co.....          | 280-82 Lake Street,       | "                |
| Layton & Co.....                  | 86-88 W. Water Street,    | "                |
| Milwaukee Packing Co.....         | 114-16 Sycamore St.,      | "                |
| Plankinton Packing Co.....        |                           | "                |
| McDowell Packing Co.....          |                           | Oconomowoc       |
| Engel, C.....                     | 16 Lincoln Avenue,        | Oshkosh          |
| Prairie du Chien Packing Co.....  |                           | Prairie du Chien |
| Flarity, Edward.....              | 7th and L Avenues,        | Superior         |
| Minnesota Packing & Prov. Co..... | 110 Banks Ave.,           | "                |

**BRITISH NORTH AMERICA.****British Columbia.**

|                                 |                 |
|---------------------------------|-----------------|
| Robinson, F. R.....             | New Westminster |
| British Columbia Cattle Co..... | Victoria        |
| Major & Eldridge.....           | "               |
| Moyle, J.....                   | "               |

**Manitoba.**

|                           |          |
|---------------------------|----------|
| Burchill & Howie.....     | Brandon  |
| Allen & Brown.....        | Winnipeg |
| Carveth, J. S., & Co..... | "        |
| Griffin, J. Y., & Co..... | "        |

**New Brunswick.**

|                         |          |
|-------------------------|----------|
| Slipp & Flewelling..... | St. John |
|-------------------------|----------|



**Nova Scotia.**

Bertram, John H. .... Halifax  
 Eisner, P. H. .... "  
 Hames & Davis. .... "  
 Hirschfield, George. .... "  
 Palm, Carl. .... "

**Ontario.**

Stevenson, N. .... Almonte  
 McGuiness, Robert A. .... Belleville  
 Gilbert, M. .... Blenheim  
 Brown, Nelson & Co. .... Brantford  
 Cammell Bros. .... "  
 Collingwood Meat Co. .... Collingwood  
 Craig, R. J. .... Cornwall  
 Campbell, William F. .... Dundas  
 Parsons, Henry. .... Guelph  
 Fearman, F. W. .... Hamilton  
 Lawry, Thomas, & Son. .... "  
 Ingersoll Packing Co. .... Ingersoll  
 Matthews, George. .... Lindsay  
 Canadian Packing Co. .... 435-45 Richmond Street, London  
 Hutchinson & Son. .... 1-5 Covent Garden Market, "  
 Park, Gavin. .... 10-12 Market Bazaar, "  
 Park, John. .... 72 King Street, "  
 Webbe & Hutchinson. .... "  
 Whyte, John, & Son. .... Mitchell  
 McClean, W. A., & Co. .... Owen Sound  
 Matthews, George. .... Peterboro'  
 Curtis, John. .... Port Hope  
 Evans, Samuel. .... 50 George Street, Ottawa  
 Matthews, The George, Co. (Ltd.) .. 18 York Street, "  
 Marshall Bros. .... Simcoe  
 Allan, F., & Co. .... St. Mary's



## Ontario (Continued).

|                                 |                              |
|---------------------------------|------------------------------|
| Griffin, F. N.....              | St. Thomas                   |
| Codd, John.....                 | Stratford                    |
| Wingfielder, Albert, & Son..... | "                            |
| Lee, F.....                     | Tilbury Center               |
| Baillie, James E.....           | 66 Front Street, E., Toronto |
| Dickson, James, & Co.....       | 26 W. Market Street, "       |
| Davies, The Wm., Co. (Ltd.)..   | Beachell & Front Sts., "     |
| Enright, T. J., & Co.....       | E. King Street, "            |
| Fox Bros.....                   | St. Lawrence Street, "       |
| Graham, McLean & Co.....        | 77 Colborne Street, "        |
| Gunn, D. Flavalle & Co.....     | 76-80 Front Street, "        |
| Lamb, William, & Co.....        | 81½ Front Street, "          |
| Park, Blackwell & Co. (Ltd.)..  | 41 St. Lawrence Mkt., "      |
| Ryan, William.....              | 70 Front Street, "           |
| Steinle, Charles.....           | 6 Ontario Street, "          |
| Thompson, R., & Co.....         | 35 Church Street, "          |
| Marshall & Paterman.....        | Woodstock                    |

## Prince Edward Island.

|                         |               |
|-------------------------|---------------|
| Rattenbury, B. & M..... | Charlottetown |
| Wright, George J.....   | "             |

## Quebec.

|                            |                                         |
|----------------------------|-----------------------------------------|
| Matthews, George.....      | Hull                                    |
| Canada Meat Packing Co.,   |                                         |
|                            | Wellington and Murray Streets, Montreal |
| Fischer, George F.....     | 36-38 St. Ann's Market, "               |
| Growlx, Fabien.....        | "                                       |
| Harper, James.....         | 16 St. Philip Street, "                 |
| Idler, William G.....      | 16 Bonsecour Market, "                  |
| Laing Pack. & Prov. Co.... | 839 St. Catherine St., "                |
| Limages, Z.....            | 169 Commissioners Street, "             |
| Masterman, A. S. & W. H..  | 2082½ Notre Dame St., "                 |



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BEEF EXTRACT. BEEF ESSENCE.  
BEEFRINE. BEEF CASINGS.  
DRIED BLOOD AND TANKAGE FERTILIZERS.  
ROUND AND FLAT SHIN BONES.  
HOOFS AND HORNS.  
CRUSHED AND GROUND BONE.  
BONE FERTILIZERS.  
SELECTED HIDES.  
FRESH, CORNED, AND SMOKED OX TONGUES.  
FRESH AND COOKED CORNED BEEF.  
SMOKED BEEF.  
BOLOGNA AND PORK SAUSAGES.  
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AND WHOLESALE DEALERS IN MEATS.**

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IV. First Avenue and 20th Street.  
V. Twelfth Avenue and 13rd Street.  
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Schwarzschild & Sulzberger Co.  
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II. Wallabout Market.  
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**SCHENECTADY, N. Y.**  
Schwarzschild & Sulzberger Co., 224 S. Centre Street.  
**JAMAICA, N. Y.**  
Schwarzschild & Sulzberger Co., Division St. and R.R. Avenue.  
**BOSTON, MASS.**  
Schwarzschild & Sulzberger Co.  
I. No. 2 North Market Street.  
II. No. 24 Clinton Street.  
III. Clinton Market.  
**PROVIDENCE, R. I.**  
Schwarzschild & Sulzberger Co.

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Schwarzschild & Sulzberger Co., Cellowhill and Willow Streets.  
**PITTSBURGH, PA.**  
Schwarzschild & Sulzberger Co., Pike, 12th and 13th Streets.  
**SCRANTON, PA.**  
Schwarzschild & Sulzberger Co., Tokash Place.  
**BALTIMORE, MD.**  
Schwarzschild & Sulzberger Co., No. 212 So. Eutaw Street.  
**WASHINGTON, D. C.**  
Schwarzschild & Sulzberger Co., 1209 H St., N.W.  
**WILMINGTON, DEL.**  
Schwarzschild & Sulzberger Co., 310 W. Front St.  
**ATLANTA, GA.**  
Schwarzschild & Sulzberger Co., Alabama St.  
**ST. PAUL, MINN.**  
Schwarzschild & Sulzberger Co., Foot Chestnut Street.  
**MINNEAPOLIS, MINN.**  
Schwarzschild & Sulzberger Co., 211 and 213 Third Avenue.

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Horns, Bones,  
and all Slaughter-house  
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PA.  
Co., Pike, 12th

PA.  
Tokash Place.

MD.  
Co., No. 212 So.

D. C.  
2309 H St., N.W.

DEL.  
310 W. Front St.

A.  
Alabama St.

IN.  
Co., Foot Chest

MINN.  
Co., 212 and 213

New York.

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Hides,

Tankage,

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secretary.

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AND WHOLESALE DEALERS IN MEATS.**

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Armour Packing Co.....5, 20th Street, N., Birmingham  
Morris, Nelson & Co.....1, 20th Street, N., "  
Tennessee Packing Co....7th St. and Ave. H, "

**ARIZONA.**

Pusch & Zellinger.....Tombstone  
Balsz, F., & Co.....Montezuma Street, Phoenix  
Hurley, M. E.....5 W. Washington Street, "  
Kellner, E. F.....Stock Yards, "  
Murray, D. L., & Co.....Washington Street, "

**ARKANSAS.**

Bell, C. S.....Hot Springs  
Merrill, W. T.....Van Buren

**CALIFORNIA.**

Emery Bros.....Alpine  
Lowrie & Co.....Alvarado  
Russ, Z., & Son.....Eureka  
Valley Meat Co.....Marysville  
Hayes & Co.....Oakland  
Borgwardt, H. L.....Bakersfield  
Briggs, Thomas L....."  
Pedrotti, B.....Crescent City  
Baillinge, A. P.....Gilroy  
Shein & Ladd.....Hollister  
May & Ohlson.....Livermore  
Cross, F.....829 W. 6th Street, Los Angeles

**CALIFORNIA (Continued).**

|                                        |                                   |
|----------------------------------------|-----------------------------------|
| Hauser, J. ....                        | 1st and Main Streets, Los Angeles |
| Maier, S. ....                         | 149 N. Spring Street, "           |
| Sentons Bros. ....                     | 618 Upper Main Street, "          |
| Sints, E. D. ....                      | 3d Street, "                      |
| Sloan, James. ....                     | Lompac                            |
| Banks & Bedesen. ....                  | Merced                            |
| Oakland Packing and Provision Co. .... | Oakland                           |
| Samson, M. M. ....                     | "                                 |
| Ecklon, E. L., & Sons. ....            | Folsom Street, Sacramento         |
| Heilborn, A., & Bro. ....              | 521 J Street, "                   |
| Leinberger, H. ....                    | Broderick Street, "               |
| Swanston, C., & Son. ....              | Riverside Road, "                 |
| Hardy, Charles S. ....                 | 701-707, 5th Street, San Diego    |
| Selmeyn & Allison. ....                | "                                 |

**San Francisco.**

|                                   |                                |
|-----------------------------------|--------------------------------|
| Avy, Eugene. ....                 | 320 Sansome Street             |
| Brandenstein, M., & Co. ....      | 319 Pine Street                |
| Brunswick, S. ....                | 50 Grand Central Market        |
| Donnelly, Dunne & Co. ....        | 601 California Street          |
| Draper & Selig. ....              | 5th Street and Railroad Avenue |
| Geaubit, A. ....                  | 18 San Francisco Market        |
| Hall, J. S. ....                  | 1st Avenue                     |
| Horn & Chapman. ....              | 504 Kearney Street             |
| James, J. G., & Co. ....          | 661 Market Street              |
| Johnson, J. G., & Son. ....       | 331 Kearney Street             |
| Judge & Livingstone. ....         | 331 Kearney Street             |
| Katz & Sons. ....                 | 95-100 California Market       |
| Lacosta, John. ....               | 36 San Francisco Market        |
| Levy, H. ....                     | 519 Clay Street                |
| Miller & Lux. ....                | 518 California Street          |
| Moding, T. ....                   | 4th Avenue and M Street        |
| Moffat, H. ....                   | 238 Kearney Street             |
| Oregon Stock and Butcher Co. .... | 322 Pine Street                |



San Francisco (Continued).

Pequillan, E. S..... 5th Avenue  
 Poly, Heilbron & Co..... 339 Kearney Street  
 Regan & O'Brien ..... 4th Avenue and M Street  
 Rosenberg, Charles..... 1st Avenue  
 Roth, Blum & Co..... 201 California Street  
 Salles, B., & Co..... East M Street  
 Schenkel, P..... 5th Avenue and L Street  
 Scheufeld, J..... 331 Kearney Street  
 Schweitzer, J., & Co..... 519 Clay Street  
 Shrader, A. W..... 1st Avenue  
 Silverberg, S. .... 320 Sansome Street  
 Strouse, M. .... 1146 Market Street  
 Sylvester, D., & Sons..... Railroad Avenue  
 Taafe & Co..... Railroad and 4th Avenues, S  
 Uri, F., & Co ..... 20 San Francisco Market  
 Welby, C. W..... 6th and Townsend Streets  
 Western Meat Co..... " "

Blake, W. S..... 1317 Orchard Street, San José  
 Brady, T..... 100 W. Santa Clara Street, "  
 Lehmann, G. A.... Stone Ave. and Monterey Rd., "  
 O'Rourke, John ..... "  
 San José Meat Co.... Market and St. John Streets, "  
 Western Meat Co..... 381 N. San Pedro Street, "  
 Sherman & Ealand..... Santa Barbara  
 Santa Barbara Slaughtering Co..... "  
 Santa Cruz Butchers' Union..... Santa Cruz  
 Edwards, J. W..... Weber Avenue, Stockton  
 Fisk, H..... "  
 Gerlach, Louis..... "  
 Grass, J. E., & Son..... "  
 Steffan, Jacob..... Valleys  
 Armstrong & Alge..... Woodland  
 Messmayer & Weaner..... "

## COLORADO.

Granes, H. S., & Son.....Alamosa  
 Brigham, Thomas S.....Colorado Springs  
 Denver Beef Co.....1626-1628, 19th Street, Denver  
 Guard, James.....1749 Market Street, "  
 Sargent, E. W.....2520 Market Street, "  
 Standard Meat and Live Stock Co...1536 Wazee St., "  
 Lamb & Archdekin.....Durango  
 Monarch Meat Co.....Florence  
 Western Union Beef Co.....Greeley  
 Rich, J. W., & Co.....Lawrence  
 Pierce, R. B., Beef Co.....205 W. Chestnut St., Leadville  
 Colorado Springs Packing Co.....Manitou Springs  
 Gross & Wright.....Salida  
 Bell, E. S., & Co.....Trinidad  
 Trinidad Meat Co....."  
 Lowenbruck, John.....Walsenburg

## CONNECTICUT.

Derby Beef Co.....1 Gilbert Street, Ansonia  
 Hotchkis's, G., Sons.....238 Main Street, "  
 Bridgeport Beef Co.....326 Water Street, Bridgeport  
 Hammond, G. H., Co.....4 Congress Street, "  
 McElroy Bros.....580 Water Street, "  
 Terry, William M., & Co.,  
 Congress Street and Housatonic Avenue, "  
 Danbury Beef Co.....Danbury  
 Dwyer, P. O., & Co.....R. R. Row, "  
 Omaha Beef Co.....70 White Street, "  
 Penfield, D. G.....Rose Street, "  
 Chapman, C. F.....Danielsonville  
 Derby Beef Co.....Derby  
 Brush, S. A., & Bro.....Greenwich  
 Botsford, Ingraham & Swift...126 Church Street, Hartford  
 Brown, G. T.....978 Main Street, "

CONNECTICUT (Continued).

|                                    |                                |
|------------------------------------|--------------------------------|
| Filley, C. T.....                  | 33 Canton Street, Hartford     |
| Hartford Beef Co.....              | 54-56 Huntley Avenue, "        |
| Hurlburt, E. E.....                | 130 Church Street, Hartford    |
| Wieder, M.....                     | 91 Morgan Street, "            |
| Manchester Beef Co.....            | Manchester                     |
| Strickland, J. J.....              | "                              |
| Armour & Co.....                   | 33 S. Colony Street, Meriden   |
| Birdsey, E. A.....                 | Middletown Road, "             |
| Cahill, C. W.....                  | Cross Street, "                |
| Cahill, W. J.....                  | 198 State Street, "            |
| Briggs, D. L., & Co.....           | 70 St. John Street, Middletown |
| Carrington, The F. H., Co.....     | Naugatuck                      |
| Andrews, Swift & Co.....           | 35 Commercial St., New Britain |
| Armour & Co.....                   | 591 Main Street, "             |
| McCabe, Thos., & Co.....           | 324 Main Street, "             |
| Crisey & Brinkerhoff.....          | New Canaan                     |
| Andrew, C. C., & Co.....           | 23 Long Wharf, New Haven       |
| Andrew, F. S., & Co.....           | City Market, "                 |
| Basserman, P.....                  | 900 State Street, "            |
| Hazard, L. M.....                  | 57 Vernon Street, "            |
| Lee & Hoyt.....                    | 36 Union Street, "             |
| New Haven Beef Co.....             | 54 Union Street, "             |
| Russell, W. C.....                 | 248 Cedar Street, "            |
| Schwarzschild & Sulzberger Co..... | "                              |
| Sperry & Barnes.....               | 114 State Street, "            |
| Strong, Barnes, Hart & Co.....     | 165 Long Wharf, "              |
| Barnstoff, G. F.....               | New London                     |
| Crocker, E. N., & Co.....          | "                              |
| Ellis, S. N.....                   | "                              |
| Klinck, Chas. H.....               | "                              |
| Steward & Harris.....              | "                              |
| Fillow, H. N.....                  | Norwalk                        |
| South Norwalk Beef Co.....         | 18 Ann Street, "               |
| Terry, W. M., & Co.....            | Water Street, "                |

## CONNECTICUT (Continued).

|                                   |                                |
|-----------------------------------|--------------------------------|
| Tinker, N., & Son.....            | Norwalk                        |
| Armour & Co.....                  | Ferry Street, Norwich          |
| Brown, J. A.....                  | 15 Commerce Street, "          |
| Lippitt, Geo., & Co.....          | 35 Water Street, "             |
| Winters, Swift & Co.....          | 3 Cove Street, "               |
| Bradley Bros. & Co.....           | Putnam                         |
| Armour & Co.....                  | Rockville                      |
| Chicago Packing Co.....           | Canal Street, Stamford         |
| Terry, Wm. M., & Co.....          | 109 Canal Street, "            |
| Weed, W. A., & Co.....            | Manhattan Street, "            |
| Brown, Jas. H.....                | Stonington                     |
| Moran, Xavier.....                | South Killingly                |
| Bright Bros.....                  | Thompsonville                  |
| Torrington Beef Co.....           | Torrington                     |
| Hall Bros.....                    | Wallingford                    |
| Bohl, Val.....                    | 56 S. Willow Street, Waterbury |
| Lilley, Swift & Co....            | Grand and Cedar Streets, "     |
| Pierpont Bros.....                | Judd Street, "                 |
| Waterbury Beef and Provision Co., |                                |
|                                   | Field and Beaver Streets, "    |
| Swift, Bros.....                  | 640 Main Street, Willimantic   |
| Tiffany, Geo.....                 | 640 Main Street, "             |
| Moses & Green.....                | Winsted                        |

## DELAWARE.

|                           |                               |
|---------------------------|-------------------------------|
| Armour & Co.....          | Tatnall Street, Dover         |
| Gordon & Thomas.....      | "                             |
| Hazell, J. H., & Bro..... | "                             |
| Best, B., & Bro.....      | 700 W. 8th Street, Wilmington |
| Bickta, D ..              | 8th and Madison Streets, "    |
| Boyd, Hugh.....           | 511 King Street, "            |
| Cypher, Geo.....          | 604 W. Front Street, "        |
| Curran, L.....            | 14 S. Harrison Street, "      |
| Eising & Lang....         | 407 Orange Street, "          |

**DELAWARE (Continued).**

|                                 |                          |            |
|---------------------------------|--------------------------|------------|
| Flynn, P. H.....                | 13 French Street,        | Wilmington |
| Garey, J. W.....                | 835 Bennett Street,      | "          |
| Garey, R. P.....                | 311 King Street,         | "          |
| Harisk, D.....                  | 8th Street Market,       | "          |
| Mark, P.....                    | 1712 Penn Avenue,        | "          |
| Moreland, W. P.....             | 407 King Street,         | "          |
| Powdermaker Bros.....           |                          | "          |
| Schwarzschild & Sulzberger Co., |                          |            |
|                                 | 310 W. Front Street,     | "          |
| Tonchton, W. E.....             | 415 Tatnall Street,      | "          |
| Wilmington Abattoir Co.....     | Tatnall Street,          | "          |
| Zweifel, J.....                 | 4th and Tatnall Streets, | "          |

**FLORIDA.**

|                      |           |
|----------------------|-----------|
| Johnson, G. V.....   | Key West  |
| Knight, Peter T..... | "         |
| McDavid, R. M.....   | Pensacola |

**DISTRICT OF COLUMBIA**

|                                    |            |
|------------------------------------|------------|
| Washington Abattoir Co.....        | Benning    |
| Armour & Co.....                   | Washington |
| Botsch's Sons, George L.....       | "          |
| Hammond, G. H., Co.....            | "          |
| Hummer, L. M.....                  | "          |
| Loeffler, Andrew.....              | "          |
| Morris, Nelson & Co.....           | "          |
| Rammling, Chris.....               | "          |
| Schwarzschild & Sulzberger Co..... | "          |
| Swift & Co.....                    | "          |
| Tibbetts, F. J.....                | "          |
| Varnall, J. T., & Son.....         | "          |
| Washington Market Co.....          | "          |

**GEORGIA.**

Armour Packing Co.....46-48 E. Alabama Street, Atlanta  
 Atlanta Beef Co.....42 E. Alabama Street, "  
 Morris, Nelson & Co.....44 E. Alabama Street, "  
 Schwarzschild & Sulzberger Co...Alabama Street, "  
 Armour Packing Co.....910 Walker Street, Augusta  
 Miller & Co.....1210 Twiggs Street, "  
 Morris, Nelson & Co.....Triangular Block, "  
 Brunswick Meat Market.....Brunswick  
 Fulton, C. O.....Darlen  
 Armour Packing Co.....5th and Mulberry Streets, Macon  
 Georgia Packing Co.....458, 1st Street, "  
 Macon Beef Co.....271 Cherry Street, "  
 Pounds, J. B.....Milledgeville  
 Morris, Nelson & Co.....77½ W. Broad Street, Savannah  
 Savannah Beef Co.....77 W. Broad Street, "  
 Smith, J. D.....Waycross

**IDAHO.**

Parnell, H.....Boise City  
 Caldwell Butchering Co.....Caldwell  
 Nagel & Bomberg.....Genesee  
 Wilkinson, E. J.....Idaho Falls  
 Held, W. E.....Moscow  
 Holt & Robertson....."  
 Felkner & McGowan.....Pocatello  
 Barger & Sears.....Wallace  
 Follett Bros....."  
 Kasemeyer, T. G.....Wardner

**ILLINOIS.**

Bray Bros.....Alton  
 Fritch, Julius....."  
 Kirsch, G. F....."  
 Meyers, H....."

ILLINOIS (Continued).

Schaub, Charles..... Alton  
 Armour & Co..... 137 New York Street, Aurora  
 Ortmeir, J..... Beardstown  
 Illinois Packing Co..... Belleville  
 St. Louis Dressed Beef Co..... "  
 Armour & Co....1013 W. Washington Street, Bloomington  
 Connor, Thomas..... Braidwood  
 Walter, Jacob..... Cairo  
 Kruschke, James..... Canton  
 Meiners & Schupman..... Carlinville

Chicago.

Altman, Michael..... 76 Van Buren Street  
 Armbruster, A..... 17 Fulton Market  
 Armour & Co..... N. Leavitt Street  
 Armour & Co..... N. Halsted Street  
 Armour & Co..... Union Stock Yards  
 Armour & Co..... W. Madison Street  
 Arnold Bros. Co..... 145 W. Randolph Street  
 Bauer & Sweeney..... 5 Fulton Market  
 Britton & Guth..... 2 Fulton Market  
 Craig, William..... 27 N. Peoria Street  
 Dahmke, J. J. A..... 982 W. Lake Street  
 Panz, Charles A..... 6 Fulton Market  
 Englewood Beef Co..... 6407 Wentworth Avenue  
 Fennessy, T., & Co..... 18 Fulton Market  
 Gleason, M. W..... 13 Gross Terrace  
 Gleason, T. C..... 16 Gross Terrace  
 Hackett, James..... 2723 Quinn Street  
 Haw, James..... 2935 Main Street  
 Hess Bros..... 22 Fulton Market  
 Hess, Thomas..... 1791, 69th Street  
 Hollis, N. E., & Co..... 266 S. Water Street  
 Jaeger, Philip..... 1-3 Fulton Market



## Chicago (Continued).

|                                |       |                           |
|--------------------------------|-------|---------------------------|
| Leyden & Collins.....          | 10    | Fulton Market             |
| Lincoln Avenue Beef Co.....    | 1106  | George Street             |
| Lowenstein, Sol.....           | 20    | Fulton Market             |
| Margraf & Suter.....           | 13    | Fulton Market             |
| Mielke, Albert.....            | 25    | Lawrence Street           |
| Miller & Armour.....           | 24-26 | Fulton Street             |
| Morris, Nelson & Co.....       | 23    | Fulton Street             |
| Morris, Nelson & Co.....       | 1535  | State Street              |
| Morris, Nelson & Co.....       | 147   | S. Water Street           |
| Morris, Nelson & Co.....       | 29    | Larrabee Street           |
| Morris, Nelson & Co.....       | 92d   | Street and B. & O. Tracks |
| Morris, Nelson & Co.....       | 653   | W. Lake Street            |
| O'Brien & Phelen.....          | 11    | Fulton Street             |
| O'Connell, John.....           | 2721  | Quinn Street              |
| O'Connell, Michael.....        | 2719  | Quinn Street              |
| O'Malley, William J.....       | 25    | Fulton Market             |
| Powell, John.....              | 8     | Fulton Market             |
| Quinlan, C.....                | 9     | Fulton Market             |
| Ruprecht, J., & Co.....        | 77-79 | W. Randolph Street        |
| Ryan Packing Co.....           | 187   | W. Randolph Street        |
| Schneider, A.....              | 3741  | Wabash Avenue             |
| Sheehan, James.....            | 2715  | Quinn Street              |
| Swift Bros.....                | 300   | S. Canal Street           |
| Swift, G. F., & Co.....        | 512   | N. Halsted Street         |
| Swift, G. F., & Co.....        | 1550  | State Street              |
| Wachenheimer, H.....           | 16    | Fulton Market             |
| Western Packing Co.....        | 133   | W. Harrison Street        |
| Wolf, B., Slaughtering Co..... | 4163  | S. Halsted Street         |
| Zirzow, F.....                 | 1300  | N. Halsted Street         |
| Morris, Nelson & Co.....       |       | Depot, Danville           |
| Smith, William M., & Co.....   |       | Local Avenue, "           |
| Danzeisen & Son.....           |       | Decatur                   |
| Imboden Bros.....              |       | "                         |

ILLINOIS (Continued).

|                                                                         |                              |
|-------------------------------------------------------------------------|------------------------------|
| Morris, Nelson & Co.....                                                | Decatur                      |
| Beck, Louis, & Co.....                                                  | Dry Quoin                    |
| Brinkman Bros.....                                                      | Elgin                        |
| Kerber, C. A.....                                                       | "                            |
| Foster & Price.....                                                     | Evanston                     |
| St. Louis National Stock Yards Co.,<br>St. Clair Avenue, East St. Louis |                              |
| Morris, Nelson & Co.....                                                | "                            |
| Roberts, T. M. & S.....                                                 | Galena                       |
| Swanson, S. R., & Bro.....                                              | Galesburg                    |
| Cole & Entrikin.....                                                    | Geneseo                      |
| Godfrey, Leibe.....                                                     | "                            |
| Armour & Co.....                                                        | Joliet                       |
| Kahn, Jonas.....                                                        | "                            |
| Swift & Co.....                                                         | "                            |
| Scheffler & Reed.....                                                   | Kankakee                     |
| Hoffrietter & Fister Bros.....                                          | Kewanee                      |
| Amsler, George.....                                                     | La Salle                     |
| Reinke, F.....                                                          | "                            |
| Stuart, Patrick.....                                                    | "                            |
| Eckert, John.....                                                       | Lincoln                      |
| Rock, Simon.....                                                        | "                            |
| Scheffel Bros.....                                                      | Litchfield                   |
| Geddes, John.....                                                       | Lockport                     |
| Schultz, William.....                                                   | "                            |
| Meisenbach, A.....                                                      | Mendota                      |
| Boyd, H. A.....                                                         | Morrison                     |
| Miller Bros.....                                                        | Oak Park                     |
| Godel, E., & Sons.....                                                  | 219 N. Adams Street, Peoria  |
| Kruse & Co.....                                                         | Sanger Street, "             |
| Oakland & Fahnestock.....                                               | S. Water and Liberty Sts., " |
| Peoria Beef Co.....                                                     | 801 S. Washington Street, "  |
| National Beef Co.....                                                   | Front Street, Quincy         |
| Brigham, L. H.....                                                      | Robinson                     |

## ILLINOIS (Continued).

Thompson, William.....Rushville  
 Springfield Beef Co.....922 E. Monroe Street, Springfield  
 Swift Bros.....Adams and 3d Streets, "  
 Armour & Co.....South Chicago  
 Schmoeger, S. A.....Sterling  
 Pipper, John....."  
 Schraeder & Co.....Streator  
 Edwards, Luke.....Vandalia  
 Grady, Thomas.....Waukegan

## INDIANA.

Anderson Dressed Beef Co. Main and Grand Aves., Anderson  
 Cramer, J., & Sons.....Andrews  
 Hinkle, J. M.....Bloomington  
 Herbert, Charles.....Brazil  
 Stewart, R. S....."  
 Fink, Phil.....Crawfordsville  
 Barkley & Steele.....Decatur  
 Donlin & Co.....Delphi  
 Weil Bros.....917 Main Street, Evansville  
 Sweitzer & Bickel.....Elkhart  
 Jenkins, A. M.....Frankfort  
 Butterfield, H. A.....Goshen  
 Tallen, William, & Co.....Greenfield  
 Fort Wayne Beef Co.....4 Calhoun Street, Fort Wayne  
 Roux & Co.....Glasgow Avenue, "  
 King, F. M.....Huntington  
 Bradford, O.....Indianapolis Abattoir Co., Indianapolis  
 Brown, Chas....." " "  
 Brown, Edward...." " "  
 Brown, G. A....." " "  
 Brown, Geo. W...." " "  
 Bryan, D....." " "  
 Crawford, S. M...." " "

ETC.

INDIANA (Continued).

|             |                                              |                                         |
|-------------|----------------------------------------------|-----------------------------------------|
| Rushville   | Linton, C. J. ....                           | Indianapolis Abattoir Co., Indianapolis |
| Springfield | Reiffel, G. L. ....                          | " " "                                   |
| "           | Wheeler, H. A. ....                          | " " "                                   |
| Chicago     | Wheeler, W. H. ....                          | " " "                                   |
| Sterling    | Coffin, Fletcher, & Co. ....                 | West and Ray Sts.,                      |
| "           | Gardner, C. J., Vandalia R.R. & White River, | "                                       |
| Streator    | Hilgemeier, C. H. ....                       | Gray and Raymond Sts.,                  |
| Vandalia    | Indianapolis Abattoir Co. ....               | "                                       |
| Waukegan    | Kingan & Co. ....                            | Maryland Street,                        |
|             | Menser, J. R. ....                           | 290-292 W. Ray Street,                  |
|             | Morris, Nelson & Co. ....                    | Kentucky Avenue,                        |
| Anderson    | Pinger, Jacob. ....                          | 47 N. Illinois Street,                  |
| Andrews     | Reiffel, M. ....                             | 295 W. Ray Street,                      |
| omington    | Swift Bros. ....                             | 123 Kentucky Avenue,                    |
| Brazil      | Wahnitz, L. ....                             | E. Ohio Street,                         |
| "           | Drake, Nelson. ....                          | Kendallville                            |
| fordsville  | Pike & James. ....                           | Knightstown                             |
| Decatur     | Bonner, G. & W. ....                         | Lafayette                               |
| Delphi      | Kurtz, Charles, & Co. ....                   | "                                       |
| Evansville  | Thrush & Barnum. ....                        | La Porte                                |
| Elkhart     | Green, H., & Sons. ....                      | Ligonier                                |
| Frankfort   | Selig, D. & J. ....                          | "                                       |
| Goshen      | Brinckmann, William, & Sons. ....            | Michigan City                           |
| Greenfield  | Miller, F. E. ....                           | "                                       |
| ort Wayne   | Snyder Bros. ....                            | Monroe City                             |
| "           | Wolff, Isaac. ....                           | Mount Vernon                            |
| untington   | Nelson & Wheeler. ....                       | Noblesville                             |
| dianapolis  | Liggett, R., & Son. ....                     | Plymouth                                |
| "           | Langsdorf, Charles. ....                     | Rochester                               |
| "           | Smithlinger, Philip. ....                    | Shelbyville                             |
| "           | Armour & Co. ....                            | South Bend                              |
| "           | Eastwood, W. D. ....                         | "                                       |
| "           | Rocksprof Bros. ....                         | "                                       |
| "           | Hoffman, Christian, & Co. ....               | Tell City                               |

## INDIANA (Continued).

Steinhauer, G. .... Tell City  
 Morris, Nelson & Co. . . . 944-946 Wabash Ave., Terre Haute  
 Terre Haute Abattoir and Stock Yards Co.,  
 Young Avenue, "  
 Shane, Henry ..... Warsaw  
 Berna, C. J., & Bro. .... Washington  
 Jackson & Ballinger ..... Winchester  
 Monk, C. C. .... "

## IOWA.

Hellberg, H., & Son ..... Anamosa  
 Kauffman, J. L. .... "  
 Zalesky, F. E. .... Belle Plain  
 Spencery & Kilmer ..... Brooklyn  
 Sinclair, T. M., & Co. .... Cedar Rapids  
 Armour Packing Co. .... 103 Perry Street, Davenport  
 Davenport Beef Co. .... Perry and Front Streets, "  
 Thee Bros ..... "  
 Armour Packing Co. .... 6th and Cherry Streets, Des Moines  
 Des Moines Beef Co. .... 6th and Vines Streets, "  
 Howard, John ..... R. R. Avenue, "  
 National Beef Co. .... Vine and W. 5th Streets, "  
 Swift Bros. .... Dubuque  
 Simpson & Beatty ..... Fairfield  
 Schultz, Louis ..... Fort Dodge  
 Buesber, Chris. .... Fort Madison  
 Vyse & Gottache ..... Hamburg  
 Glisendorf, F. .... Manchester  
 Kocher, J., & Co. .... Marion  
 Unangst, J. H. .... "  
 Long, Forbes & McKee ..... Newton  
 Reyfsnyder, Chas., & Son ..... Ottumwa  
 Van Der Zyl Bros. .... Pella  
 Baxter Bros. .... Red Oak

IOWA (Continued).

Clark, J. T. .... Sigourney  
 Keller, C. .... "  
 Brown, W. H. .... Vinton  
 Bush & Wells ..... Washington  
 Robinson, J. H. .... What Cheer

KANSAS.

Scott & Whiting ..... Arkansas City  
 Durst & Logeman ..... Atchison  
 Swift & Co. .... "  
 Geenen Bros ..... Beloit  
 Smith & Kring ..... Cherryvale  
 Kipple, G. M., & Co. .... Dodge City  
 Kalina & Cizek ..... Ellsworth  
 Henning, J. .... Emporia  
 Pfeiffer & Weirich ..... Fort Scott  
 Swift & Co. .... Fort Leavenworth  
 Elliot, C. O. .... Holton  
 Duff, J. B. .... Horton  
 Detrick, J. H. .... Hutchinson  
 Enesbary, P. .... 5th and Seneca Streets, Leavenworth  
 Leavenworth Beef Co. Main & Cherokee Sts., "  
 Swift & Co. .... "  
 Entrekin, F. D. .... McPherson  
 Hull, Louis ..... Pittsburg  
 Shute & Haskell ..... Salina  
 Osthoff Bros ..... Sterling  
 Topeka Beef Co. .... 313 W. 1st, Topeka  
 Knowles & Garland ..... Wellington

KENTUCKY.

Martin, D. S. .... Cotlettsburg  
 Hais, Chas., & Co. .... Lewis and Worth Streets, Covington  
 Kraus & Sons. .... Lewis and Montague Streets, "

**KENTUCKY (Continued).**

Niemeyer, F. C.....Lewis and Western Streets, Covington  
 Rivard, Alf.....Lewis and Western Streets, "  
 Sauter, A.....Lewis and Montague Streets, "  
 Schlosser, A.....Lewis and Western Streets, "  
 Walz, Conrad.....679 Western Street, "  
 Fencel, C. W. & H.....Frankfort  
 Featherstone, Charles.....Lexington  
 Price, John F....."  
 Wright & Meyers....."  
 Armour & Co.....144 Washington Street, Louisville  
 Wilson, J. D.....Mount Sterling  
 Duncan & Biggiestaff.....Richmond  
 Million & Heathman....."  
 Wolf, A.....Somerset

**LOUISIANA.**

Claverie, A. J.....New Orleans  
 Crescent City Slaughter-House Co....."  
 New Orleans Abattoir and Stock Landing Co. "

**MAINE.**

Merdow Bros. & Co.....38, 1st Street, Auburn  
 Augusta Beef Co.....Augusta  
 Armour & Co.....134 Broad Street, Bangor  
 Bangor Beef Co.....130 Broad Street, "  
 Bean & Son.....Central Market House, "  
 Bath Beef Co.....Bath  
 Russ, C. F.....Belfast  
 Mason, William W.....Bethel  
 Deering Bros.....Biddeford  
 Portland Beef Co.....East Deering  
 Gardiner Beef Co.....Gardiner  
 Thorne, F. S....."  
 Best, John L.....375 Commercial Street, Portland



**MAINE (Continued).**

Best, M. W. .... 383 Commercial Street, Portland  
 Cummings Bros. .... 228 Commercial Street, "  
 Dyer, Thomas, & Co. .... 346 Commercial Street, "  
 Eastern Beef Co. .... 15 Silver Street Market, "  
 Morris, Nelson & Co. .... 250 Commercial Street, "  
 Portland Beef Co. .... 336 Commercial Street, "  
 Rockland Beef Co. .... Rockland  
 Ham, E. M. .... South Berwick  
 Ricker, H. S. .... Waterville

**MARYLAND.**

Armour & Co. .... 414 North Street, Baltimore  
 Armour & Co. .... Pratt Street, "  
 Baltimore Beef Co. .... 401 Pratt Street, "  
 Claremont Abattoir Co. .... Claremont, "  
 Eutaw Beef Co. .... 400 Eutaw Street, "  
 Morris Beef Co. .... 215 Pratt Street, "  
 Morris, Nelson & Co. .... 500 North Street, "  
 Swift, G. F. & E. C. .... 300-302 Eutaw Street, "  
 Western Beef Co. .... 212 S. Eutaw Street, "

**MASSACHUSETTS.**

Kendrick, G. S. .... Amherst  
 Volpey Bros. .... Andover  
 Wakefield, J. P. .... "  
 Upham, E. E. .... Arlington  
 Lowe Bros. & Co. .... Ayer  
 Sheldon, Charles A. .... Beverly

**Boston.**

Adams, Chapman & Co. .... 37 N. Market Street  
 Armour Packing Co. .... 38 Clinton Street  
 Armour & Co. .... 109 Clinton Street

## Boston (Continued).

|                                                           |                           |
|-----------------------------------------------------------|---------------------------|
| Armour & Co.                                              | Commercial Wharf          |
| Atlantic Beef Co.                                         | 116 S. Market Street      |
| Barnes, M. E.                                             | 17½ Blackstone Street     |
| Balton, Kidder & Co.                                      | 22 Blackstone Street      |
| Batchelder, Francis & Co.                                 | 51-63 Blackstone Street   |
| Boston Beef Co.                                           | 40 Faneuil Hall Square    |
| Butchers' Slaughtering & Melting Ass'n, Brighton Abattoir |                           |
| Chamberlin, W. N.                                         | 115 Clinton Street        |
| Clark & Merrill                                           | 40 Clinton Street         |
| Clinton Market Beef Co.                                   | Clinton Market            |
| Corwin, Wilde & Co.                                       | 12-14 Clinton Market      |
| Davis, S., & Son                                          | 11½ Blackstone Street     |
| Donnelly, J. J., & Co.                                    | 75 Blackstone Street      |
| Donnelly & Co.                                            | 30 Blackstone Street      |
| Downs & Wentworth                                         | 40-42 Merchants' Row      |
| Fletcher, J. V., & Son                                    | 66-72 Faneuil Hall Square |
| Gunsenheiser, A., & Co.                                   | 46 S. Market Street       |
| Hammond, G. H., Co.                                       | 54 Chatham Street         |
| Hollis, N. F.                                             | 50-51 North Market Street |
| Hoogs, S. F., & Co.                                       | 42 Merchants' Row         |
| Hyde, Wheeler & Co.                                       | 41 N. Market Street       |
| Learnard, S. S.                                           | 50-52 Faneuil Hall Market |
| Mayo Meat Co.                                             | 53 N. Market Street       |
| Mentzer, W. C. & A. F.                                    | 25-27 N. Market Street    |
| Monroe Meat Co.                                           | 126 S. Market Street      |
| Niles Bros.                                               | 67 N. Market Street       |
| New England Beef Co.                                      | 103 Clinton Street        |
| New England Dressed Meat and Wool Co.                     | 20 North Street           |
| Prince, C. H.                                             | 77 Blackstone Street      |
| Reid Bros. Packing Co.                                    | 45 N. Market Street       |
| Richardson, C. W.                                         | 113 Clinton Street        |
| Sanderson, J. T.                                          | 6-10 Quincy Row           |
| Schwarzschild & Sulzberger Co.                            | 5 N. Market Street        |
| Skinner & Arnold                                          | 28 Faneuil Hall Square    |

**Boston (Continued).**

|                                      |                                |
|--------------------------------------|--------------------------------|
| Sproul, P., & Co.....                | 23 N. Market Street            |
| Squire, John P., & Co.....           | 39-40 N. Market Street         |
| Sturtevant & Haley Beef & Supply Co. | 6 Brighton Abattoir            |
| Swift & Co.....                      | 91 Clinton Street              |
| Swift Bros. & Co.....                | 46 Ames Building               |
| Swift, E. C., & Co.....              | 98 S. Market                   |
| Swift, G. F. & E. C.....             | 28 Clinton Market              |
| Taylor, A. A.....                    | 24 $\frac{1}{2}$ S. Market     |
| Thompson, Clark & Son.....           | 9 Fulton Street                |
| Thorndike, A. H.....                 | Clinton and Blackstone Avenues |
| Waters & Taylor.....                 | 35 S. Market Street            |
| Whitaker, H. & C. F.....             | 23 S. Market Street            |
| Wilkins, W. L.....                   | 24 S. Market Street            |
| Woodbridge, S. F., & Co.....         | 111 Clinton Street             |
|                                      |                                |
| Rankin, A. H., & Co.....             | Blackstone                     |
| Sampson, T. W.....                   | Braintree                      |
| Cahoon, Kingman & Swift.             | 240-42 Montrello St., Brockton |
| Morris, Edward, & Co.....            | 162 Montrello Street, "        |
| Winter, Sanford.....                 | 588 Pearl Street, "            |
| Sullivan, Jeremiah.....              | 73 Spruce Street, Cambridge    |
| Ward, John J.....                    | Jackson Street, "              |
| Swift, E. C.....                     | Clinton                        |
| Bourne & Nickerson.....              | Cohasset                       |
| Bartan, John S.....                  | Dalton                         |
| Thompson, H. E., & Co.....           | "                              |
| Ward, E. N.....                      | East Bridgewater               |
| Hammond, A.....                      | East Brookfield                |
| Albert, A. C., & Co.....             | 1 Stafford Road, Fall River    |
| Cornell, D. H., & Son.....           | 30 Eight Rod Way, "            |
| Hargraves Mfg. Co.....               | 267 Pleasant Street, "         |
| Hathaway, F. E., & Co.....           | 24 Eight Rod Way, "            |
| Morris, Nelson & Co.....             | "                              |
| Swift, Anthony, & Co.....            | 79-81 Davol Street, "          |

## MASSACHUSETTS (Continued).

|                               |                         |            |
|-------------------------------|-------------------------|------------|
| Armour & Co.                  | 31 Laurel Street,       | Fitchburg  |
| Lowe Bros. & Co.              | South Street,           | "          |
| Lowe Bros. & Co.              |                         | Gardner    |
| Thomas, J. B.                 |                         | Gloucester |
| Felton, J. P.                 |                         | Greenfield |
| Lowe Bros. & Co.              |                         | "          |
| Davis, Charles A.             | 8-10 Batchelder Street, | Haverhill  |
| Gowing & Higgins              | 202 Winter Street,      | "          |
| Page & Harnden                | Railroad Square,        | "          |
| Morris, Nelson & Co.          | 24-26 Main Street,      | Holyoke    |
| Nash, Holmes & Co.            | 22 Main Street,         | "          |
| Steele, F. C., & Co.          | 46 Race Street,         | "          |
| Axtell, James K.              |                         | Huntington |
| Churchill, John               | S. Lowell Road,         | Lawrence   |
| Morris, Nelson & Co.          | Amesbury Street,        | "          |
| Carter, S. W.                 |                         | Leominster |
| Armour & Co.                  | 129 Market Street,      | Lowell     |
| Hall, Perham & Co.            | 590 Dutton Street,      | "          |
| Jewett & Swift                | 570 Dutton Street,      | "          |
| McKillop & Co.                | 168 Gorham Street,      | "          |
| Public Market and Packing Co. | 72 Prescott Street,     | "          |
| Wilder, Charles W.            | 166 Market Street,      | "          |
| Wilson, J. M., & Co.          | 8 Thorndike Street,     | "          |
| Cotton, F. E.                 | 25½ Buffum Street,      | Lynn       |
| O'Brien, John                 | 123 Pleasant Street,    | "          |
| Safford, H. L.                | 111 Timson Street,      | "          |
| Thomas, J. B.                 | 48 Oxford Street,       | "          |
| Davis, E. H.                  |                         | Maynard    |
| Morris, Nelson & Co.          |                         | Marlboro'  |
| Armour & Co.                  |                         | Milford    |
| Holmes, F. L., & Co.          |                         | "          |
| Swift Bros.                   |                         | "          |
| Bartlett, E. L.               |                         | Montague   |
| Natick Beef Co.               |                         | Natick     |

ETC.

MASSACHUSETTS (Continued).

|             |                                              |                                |
|-------------|----------------------------------------------|--------------------------------|
| Fitchburg   | Brownell, S. A.....                          | 2-6 School Street, New Bedford |
| "           | Hathaway, James H.....                       | Tarklin Hill Road, "           |
| Gardner     | Morris, Nelson & Co., N. Front & Bridge Sq., | "                              |
| Gloucester  | Swift, Anthony, & Co.....                    | Bridge Square, "               |
| Greenfield  | Brackett's Market Co.....                    | 7 and 8 Coles Block, Newton    |
| "           | Holmes, Wellington.....                      | 413 Center Street, "           |
| Haverhill   | Chase, J. M.....                             | Ashland Street, North Adams    |
| "           | Gibbs, E. F., & Co.....                      | 17 State Street, "             |
| "           | Pike, James.....                             | Furnace Street, "              |
| Holyoke     | Northampton Beef Co.....                     | 29 Hawley Street, Northampton  |
| "           | Steele, F. C., & Co....                      | 20 Market Street, "            |
| "           | Maloney & Holbrook.....                      | 24 Main Street, "              |
| Northampton | Horton, Frank E.....                         | North Attleboro'               |
| Lawrence    | Goward, J. F.....                            | North Easton                   |
| "           | Hayward Bros.....                            | North Reading                  |
| Leominster  | Conthell, Joseph H.....                      | Norwell                        |
| Lowell      | Bills, George A.....                         | Palmer                         |
| "           | Clark & Hastings.....                        | "                              |
| "           | Crozier & Bartlett.....                      | Pittsfield                     |
| "           | Eagen, James.....                            | 32-48 Depot Street, "          |
| "           | Hadsell, E. & G.....                         | "                              |
| "           | Morris, Nelson & Co.....                     | "                              |
| "           | Wolfe, The John S., Co.....                  | 36 Clapp Avenue, "             |
| Lynn        | Wood, E. P.....                              | 167 Columbus Avenue, "         |
| "           | Holmes, Charles T.....                       | Plymouth                       |
| "           | Taylor, Charles.....                         | Reading                        |
| "           | Cushing, H. J.....                           | Rockland                       |
| Maynard     | Gibbs, William R.....                        | Sagamore                       |
| Marlboro'   | Swift, N. P.....                             | "                              |
| Milford     | Byrnes & Harvey.....                         | Saxonville                     |
| "           | N. E. Dressed Meat & Wool Co....             | Medford St., Somerville        |
| "           | French, P. F.....                            | South Braintree                |
| Montague    | Bradley, L. E.....                           | Southbridge                    |
| Natick      | Davis, Isaac C., & Son.....                  | South Dartmouth                |

**MASSACHUSETTS (Continued).**

|                               |                                 |
|-------------------------------|---------------------------------|
| Alger, H. H.....              | South Easton                    |
| Armour & Co.....              | South Framingham                |
| Fitch, George E., & Co.....   | "                               |
| Carey & Glunz.....            | South Hadley Falls              |
| Searle, E. B., & Co.....      | "                               |
| Hammond, Aaron.....           | Spencer                         |
| Armour & Co.....              | 152 Lyman Street, Springfield   |
| Gould, G. W.....              | Dorchester Street, "            |
| Handy, H. L., & Co.....       | 45 Hampden Street, "            |
| Howes, F. E., & Co.....       | 32 Bridge Street, "             |
| Hunt, A. C., & Co.....        | 20 Sanford Street, "            |
| Nye, George, & Co.....        | 130 Lyman Street, "             |
| Sheldon, E. C.....            | 31 Bridge Street, "             |
| Springfield Provision Co..... | Brightwood, "                   |
| Strong & Ripley.....          | 215 Main Street, "              |
| White, A., & Co.....          | 12 Tremont Street, Taunton      |
| Smith, S. P.....              | Wales                           |
| Hashshorn, Charles A.....     | Walpole                         |
| Armour & Co.....              | 14-16 Felton Street, Waltham    |
| Waltham Beef Co.....          | 20 Felton Street, "             |
| Ware Beef Co.....             | Ware                            |
| Armour & Co.....              | Westboro'                       |
| Dunbar, Francis.....          | West Bridgewater                |
| Webster Beef Co.....          | Webster                         |
| Bush & Mullen.....            | Westfield                       |
| Egleston & Co.....            | "                               |
| Marshall, W. W.....           | "                               |
| Westfield Beef Co.....        | "                               |
| Jourdan, B. A.....            | West Upton                      |
| Brady, J.....                 | Whitinsville                    |
| Woburn Beef Co.....           | Woburn                          |
| Armour & Co.....              | 26 Washington Square, Worcester |
| Bartlett, J. F....            | Holden and Grove Streets, "     |
| Clark, N. H., & Co.....       | 164 Foster Street, "            |

**MASSACHUSETTS (Continued).**

Clark, F. M. .... 166 Foster Street, Worcester  
 Gates, A. F. .... 20 Shrewsbury Street, "  
 Holmes, R. E., & Sons. .... "  
 McCormick, Daniel, & Co. .... 170 Foster Street, "  
 Prentice, H. S. .... 220 Sumner Street, "  
 Swift, S. T., & Co. .... 22 Shrewsbury Street, "  
 Taylor, H. C. .... 69 Shrewsbury Street, "  
 White, Pevey & Dexter Co. .... 13 Bridge Street, "

**MICHIGAN.**

Howard, George. .... Albion  
 Valgan & Brand. .... Allegan  
 Laubengayer, J. .... Ann Arbor  
 Bay City Beef Co. .... 1008 Adams Street, Bay City  
 Bertch Brothers. .... 112 Centre Avenue, "  
 Hammond, Standish & Co. .... 1st and Water Sts., "  
 Hines, Gustavus. .... 518-520 Washington Avenue, "  
 Heyman, M. .... Charlotte

**Detroit.**

Andrews, Samuel ... 19 Arcade Avenue  
 Bussell, Walter. .... 16 Union Market  
 Caplis, Walter. .... 18 Arcade Market  
 Caplis, Michael ... 9 Arcade Market  
 Caplis, Richard ... 32 Arcade Market  
 Churchward, H. .... 1 Union Market  
 Clancy, J. .... 1 Union Market  
 Costello, J. & J. .... 806 Michigan Avenue  
 Detroit Beef Co. .... 423 Adelaide Street  
 Faltis Market Co. .... 299 Woodward Avenue  
 Farnam, M. .... Leverett Avenue  
 Fitzpatrick Brothers. .... 23 Arcade Market  
 Fleischman, L. .... 35 Arcade Market  
 Fond, William. .... 44 Union Market



## Detroit (Continued).

|                                     |                       |                    |
|-------------------------------------|-----------------------|--------------------|
| Fry, J. E.....                      | 16                    | Arcade Market      |
| Funkey, F. L.....                   | 17                    | Arcade Market      |
| Grant, F.....                       | 31                    | Arcade Market      |
| Hammond Beef Co.....                | 8th and River Streets |                    |
| Hammond, Standish & Co.....         |                       | Hammond Block      |
| Harland, William.....               | 13                    | Union Market       |
| Hayes, Robert.....                  | 25                    | Cadillac Square    |
| Heise, M. H.....                    | 6                     | Arcade Market      |
| Karman, Charles.....                | 8                     | Union Market       |
| Karman, W. J.....                   | 10                    | Union Market       |
| Kieffer, D.....                     | 96                    | Marshall Avenue    |
| Lossemore, A. G.....                | 37                    | Arcade Market      |
| Lossemore, J.....                   | 30                    | Union Market       |
| McIntyre, Samuel.....               | 33                    | Union Market       |
| Magee, William M.....               | 33                    | Arcade Market      |
| Marx, H.....                        | 41                    | Union Market       |
| Mason, J. I.....                    | 36                    | Arcade Market      |
| Mertsch Bros.....                   | 14                    | Griffin Market     |
| Michigan Beef and Provision Co..... |                       | Cadillac Square    |
| Morris, Nelson & Co.....            | 524                   | Adelaide Street    |
| Moynahan, J. A.....                 | 1                     | Arcade Market      |
| Newton, T.....                      | 28                    | Union Market       |
| Parker, Webb & Co.....              | 62                    | Grand River Avenue |
| Regan, T.....                       | 9                     | Union Market       |
| Robinson, J.....                    | 3                     | Union Market       |
| Stockers, William.....              | 38                    | Arcade Market      |
| Stonehouse, J. H.....               | 12                    | Union Market       |
| Weber, L. C.....                    | 145                   | Monroe Street      |
| Young, W. D.....                    | 5                     | Arcade Market      |
| Bitner Bros.....                    |                       | Escanaba           |
| Hessel, Q. R.....                   |                       | "                  |
| Hammond, Standish & Co.....         |                       | Gladstone          |
| Bottje, Derk.....                   |                       | Grand Haven        |

**MICHIGAN (Continued).**

|                                    |                                |
|------------------------------------|--------------------------------|
| Morris, Nelson & Co.....           | 16 Ottawa Street, Grand Rapids |
| Swift, L. F., & Co.....            | 24 Ottawa Street, " "          |
| Western Beef and Provision Co..... | " "                            |
| Baer Bros.....                     | Hancock                        |
| Knite, Jacob.....                  | Holland                        |
| Alt, J. W.....                     | Houghton                       |
| Hesse Bros. & Co.....              | Howell                         |
| Cudahy Bros. Packing Co.....       | Iron Mountain                  |
| Gaiser, Emil, & Co.....            | " "                            |
| Genting & Son.....                 | " "                            |
| Laing, W. S.....                   | " "                            |
| Armour & Company.....              | Ironwood                       |
| Ishpeming Beef Co.....             | 200 Front Street, Ishpeming    |
| Morris, Nelson & Co....            | Ridge and Second Sts., " "     |
| Armour & Co.....                   | Kalamazoo                      |
| Richardson, Thomas.....            | 510 E. Frank Street, " "       |
| Bertch, F. W.....                  | 333 Washington Avenue, Lansing |
| Drulard, F. P.....                 | 215 Cherry Street, " "         |
| Lee, J. Edward.....                | Lowell                         |
| Kremple, H.....                    | Manistee                       |
| Wall, C. A.....                    | " "                            |
| Spademan, T.....                   | Marine City                    |
| Coles, J., & Sons.....             | Marquette                      |
| Fassbender, William M.....         | " "                            |
| Hamill, H. F.....                  | " "                            |
| Hathway & Peters.....              | " "                            |
| Ishpeming Beef Co.....             | " "                            |
| Cox, James S.....                  | Marshall                       |
| Hastings & Pellant.....            | Menominee                      |
| Lawrence, A. W., & Co.....         | " "                            |
| Higley & Vedden.....               | Milan                          |
| Roskopp, John, & Son.....          | Mount Clemens                  |
| Heck, Henry, & Sons.....           | Monroe                         |
| Meinzinger, C., & Son.....         | " "                            |

**MICHIGAN (Continued).**

|                                         |                                |
|-----------------------------------------|--------------------------------|
| Schrauder, John.....                    | Monroe                         |
| Webb, Alf.....                          | Pontiac                        |
| Saginaw Beef Co.....                    | Port Huron                     |
| Wellman, Charles.....                   | "                              |
| Wilson, Oscar A.....                    | "                              |
| Baer & Dymock.....                      | Red Jacket                     |
| Kohlhaas, F. A.....                     | "                              |
| Kearney, F. H., & Co.....               | Republic                       |
| Hammond, Standish & Co....              | 737 N. Wash'n Ave., Saginaw    |
| Hubert & Heller.....                    | 604 Johnson Street, "          |
| Kainfert, C.....                        | 1438 Gratiot Street, "         |
| Saginaw Beef Co.....                    | Thompson & S. Franklin Sts., " |
| Saginaw Valley Beef Co....              | 210 S. Hamilton Street, "      |
| Stingel, F. C., & Co....                | 118-120 N. Wash'n Ave., "      |
| Hammond, Standish & Co.....             | St. Ignace                     |
| Webster & Macam.....                    | St. Johns                      |
| Cornwell, L.....                        | Sault St. Marie                |
| Hammond, Standish & Co.....             | "                              |
| Brosch Frank.....                       | Traverse City                  |
| Behnlander, John A.....                 | West Bay City                  |
| Forbes, William L.....                  | Whitehall                      |
| Fairchild Packing and Provision Co..... | Ypsilanti                      |

**MINNESOTA.**

|                             |                           |
|-----------------------------|---------------------------|
| Horning, D.....             | Albert Lea                |
| Raiter, Charles H.....      | Alexandria                |
| Hangstorfer, William C..... | Big Rapids                |
| Walker, C. A., & Co.....    | Brainerd                  |
| White, Charles H.....       | Chatfield                 |
| Hammond, G. H., Co.....     | Duluth                    |
| Sutphin, J. B., & Co.....   | "                         |
| Swift & Co.....             | 301 Lake Avenue (South) " |
| Rodewald & Ochs.....        | Faribault                 |
| Nelson, John J., & Co.....  | Hutchinson                |

MINNESOTA (Continued).

|                                       |                                 |
|---------------------------------------|---------------------------------|
| Smyth, C. W.....                      | Lake City                       |
| Kerich, Moeglein.....                 | Little Falls                    |
| Wirigs, J. P., & Bro.....             | Mankato                         |
| Armour Packing Co.....                | 413 S. 2d Street, Minneapolis   |
| Minneapolis Provision Co.....         | 9 S. 3d Street, "               |
| Carr, W. H., & Co.....                | 214 1st Avenue, N., "           |
| Cassidy Packing Co.....               | 26½ Central Market, "           |
| Columbian Market Co.....              | 38 Washington Avenue, "         |
| Couch, C. A., & Co.....               | 627 Nicollet Avenue, "          |
| Gottwerth & Drews.....                | 106 N. 1st Street, "            |
| Minnesota Packing and Provision Co.,  |                                 |
|                                       | 11th Avenue and S. 2d Street, " |
| National Beef Co.....                 | "                               |
| Schwarzschild & Sulzberger Co.,       |                                 |
|                                       | 211-213, 3d Avenue, "           |
| Swift Bros.....                       | "                               |
| Union Packing Co.....                 | 211 Washington Avenue, "        |
| Stuche, Charles.....                  | New Ulm                         |
| Roach, P. A., & Co.....               | Northfield                      |
| Schafer, J. M.....                    | Owatonna                        |
| Dow & Howe.....                       | Red Wing                        |
| Armour Packing Co.....                | 381 E. 3d Street, St. Paul      |
| Armour & Co.....                      | 214 E. 3d Street, "             |
| Brown & Dyer.....                     | 31 E. 7th Street, "             |
| Cassidy Packing Co.....               | 381 Robert Street, "            |
| Oudahy Packing Co.....                | "                               |
| Delaney, Martin.....                  | Upper Lena Street, "            |
| Haas, Anton.....                      | Upper Lena Street, "            |
| King, J. R.....                       | Chicago and Starkey Avenues, "  |
| Lamb, H., & Sons.....                 | 138 E. 4th Street, "            |
| Luley, F. W., & Son.....              | 382 Jackson Street, "           |
| McCormick, W. E.....                  | Chicago and Starkey Aves., "    |
| Minneapolis Stock Yards & Packing Co. |                                 |
|                                       | 391 E. 3d Street, "             |

**MINNESOTA (Continued).**

Morris, Nelson & Co. . . . . Chestnut Street, St. Paul  
 O'Leary, J. J., & Sons . . . . . 64 W. 10th Street, "  
 Schwarzschild & Sulzberger Co. Chestnut Street, "  
 Swift, G. F., & Son . . . . . Chestnut Street, "  
 Twin City Packing Co. . . . . 211-213 Eagle Street, "  
 Grundman Bros. . . . . Sauk Centre  
 Kirchof & Weisel . . . . . Stillwater  
 Shapiro, M., & Co. . . . . Tower  
 Armour Packing Co. . . . . 158 E. 2d Street, Winona  
 Stanke Bros. . . . . 155 E. 2d Street, "  
 Winkels, J., & Co. . . . . 2d and Lafayette Streets, "

**MISSISSIPPI.**

Lutz, John . . . . . Meridian  
 Mattingly Bros . . . . . Vicksburg

**MISSOURI.**

Betzler, Q. . . . . Carrollton  
 Fowler, A. W. . . . . Chillicothe  
 Coons, R. H. . . . . Hannibal  
 Stillwell, A. J., Meat Co. . . . . 307 N. Front Street, "  
 Crocraft & Mueller . . . . . Jackson  
 Morris, Nelson & Co. 8th and Hickory Streets, Kansas City  
 Schwarzschild & Sulzberger Co. . . . . "  
 St. Louis Ave. Beef Co. . . . . 1401 St. Louis Ave., "  
 Conway & Piper . . . . . Marshall  
 Kuhn, H. K. . . . . Nevada  
 Irons, Robt. . . . . "  
 Armour & Co. . . . . 214 S. 2d Street, St. Joseph  
 Dold, Jacob, Co. . . . . 415 S. 3d Street, "  
 St. Joseph Beef Co. . . . . 413 S. 3d Street, "  
 Swift & Co. . . . . "

**St. Louis.**

Morris, Nelson & Co.....Broadway and Pestalozzi Streets  
 Morris, Nelson & Co.....1010 Fourth Avenue  
 Morris, Nelson & Co..... 807 S. Theresa Avenue  
 Morris, Nelson & Co.....6800 S. Broadway  
 Morris, Nelson & Co.....312 S. 21st Street  
 Morris, Nelson & Co.....Broadway and Market Street  
 Muldoon & Co.....207 S. Main Street  
 Murphy, J.....2315 Morgen Street  
 St. Louis Dressed Beef & Provision Co...823 N. 4th Street  
 St. Louis Union Stock Yards Co.....Union Stock Yards  
 Springer, Thomas, Meat Co...1919 Benton Street  
 Swift Bros....1012 S. 4th Street  
 Swift, G. F., & Co.....1012 S. 4th Street

Newton Meat Co.....Sedalia  
 Wright, S., & Son....."  
 Garlick, T. H., & Son.....Springfield  
 Sawpey, Thomas....."  
 Dumler & Co.....Trenton  
 Heberling, William H.....Warrensburg  
 Sams, B. T., & Co....."  
 Parker Bros.....Webb City  
 Bredall, H. N.....Webster Grove

**MONTANA.**

Bielenberg, N. J., & Co.....Anaconda  
 Wilkinson, A. J., & Co.....Billings  
 Butte Wholesale Meat Market...117 N. Park Street, Butte  
 Helena Meat Co.....18 Edwards Street, Helena  
 Moran, W. H., & Bro.....Main Street, East Helena  
 Harvest, J. H.....Livingston  
 Holt, B. K.....Miles City  
 Grill & Daily.....Missoula  
 McDonald & Chapman.....Red Lodge

## NEBRASKA.

|                            |                                   |
|----------------------------|-----------------------------------|
| Watkins, R. H.....         | Alliance                          |
| McGee Bros.....            | Arapahoe                          |
| Baith, E. D., & Co.....    | Arlington                         |
| Pancoast & Pancoast .....  | Ashland                           |
| Beatrice Beef Co.....      | Beatrice                          |
| Klingmen Bros.....         | Chadron                           |
| Hauer & Hauer .....        | Friend                            |
| Stehr, F.....              | Grand Island                      |
| Beekman & Knapp .....      | Hastings                          |
| Palmer Bros.....           | "                                 |
| Smith & Sons .....         | Kearney                           |
| Duren Bros.....            | Lexington                         |
| Maybury, John.....         | Neligh                            |
| Semmler, A.....            | Norfolk                           |
| Gatz, F. C.....            | O'Neill                           |
| Oliver & Ramage.....       | Plattsmouth                       |
| Gronss, Joseph .....       | Red Cloud                         |
| Green & Co.....            | Schuyler                          |
| Cudahy Packing Co.....     | 645 L Street, Lincoln             |
| Hubbard Packing Co.....    | 142 N. 13th Street, "             |
| Lincoln Meat Co.....       | 916 P Street, "                   |
| Silberhorn, W. H., Co..... | "                                 |
| Swift Beef Co.....         | 714 R Street, "                   |
| Wheeler Packing Co.....    | 216 N. 10th Street, "             |
| Gardner, Michael.....      | 610 Central Avenue, Nebraska City |
| Nebraska Beef Co.....      | " "                               |
| Swift, G. F., & Sons.....  | 13th and Leavenworth Sts., Omaha  |
| Anderson, A. P.....        | Stromsburg                        |
| Allen, J. B., & Son .....  | Wahoo                             |
| Goll, A.....               | Wayne                             |
| Sackett, W. B.....         | Weeping Water                     |
| Clark & Beveridge .....    | York                              |
| Ross & Co.....             | "                                 |



**NEVADA.**

Schultz, Otto T.....Carson City  
 Litton & Hunter.....Elko  
 Haley, T. E.....Eureka  
 Cook Bros.....Pioche City  
 Bailey, W. S.....Reno

**NEW HAMPSHIRE.**

Concord Beef Co.....R. R. Square, Concord  
 John P. Squire & Co....."  
 Dover Beef Co.....2d Street, Dover  
 Morris, Nelson & Co....."  
 McIntyre, John....."  
 Wilson, J. M., & Co.....15, 4th Street, "  
 Legro, J. S.....Great Falls  
 Peavey, C. F. & G. S.....Greenfield  
 Keene Beef Co.....Keene  
 Nims, F. O....."  
 Laconia Beef Co.....Laconia  
 Cox, C. E.....36 Granite Street, Manchester  
 Durgin, C. H....."  
 Manchester Beef Co..Franklin and Cedar Sts., "  
 Morris, Nelson & Co.....Franklin Street, "  
 Public Market and Packing Co...Franklin St., "  
 Slayton, E. M., Co.....64 Granite Street, "  
 Towle, J. E., & Co.....22 Granite Street, "  
 Laton, F. D.....Nashua  
 Chicago Meat Co.....6 Pleasant Street, Portsmouth  
 Portsmouth Beef Co....."  
 Yeaton, H. A., & Son.....143 Market Street, "  
 Rochester Beef Co.....Rochester

**NEW JERSEY.**

Long Branch Beef Co.....Asbury Park  
 Abergfell, George.....Atlantic City

## NEW JERSEY (Continued).

|                                   |               |
|-----------------------------------|---------------|
| Burkhardt, Charles.....           | Atlantic City |
| Evans & Parker.....               | "             |
| Bergen Point Beef Co.....         | Bayonne City  |
| Fryer, William.....               | "             |
| Mahnken, J. H.....                | "             |
| Ruhlman, E., & Co.....            | "             |
| Bergen Point Beef Co.....         | Bergen Point  |
| Brady Bros.....                   | "             |
| Heckel, R. E., & Sons.....        | Bloomfield    |
| Van Sant, Nicholas.....           | "             |
| Kingsland, A.....                 | Boonton       |
| Bridgeton Beef Co.....            | Bridgeton     |
| Holmes, L. B.....                 | "             |
| Kinkle, G.....                    | "             |
| Sneathen, J.....                  | "             |
| Hitchens, John.....               | Burlington    |
| Silpath, G.....                   | "             |
| Burckell, J. H.....               | Dover         |
| Dover Beef Co.....                | "             |
| Sampson, J. W.....                | "             |
| Bennett, H. T.....                | East Orange   |
| Condit, O. E. & W. E.....         | "             |
| Hedden & Bennett.....             | "             |
| Wheaton, M.....                   | "             |
| Armour & Co.....                  | Elizabeth     |
| Bender Brothers.....              | "             |
| Elizabeth Beef Co.....            | "             |
| Elizabeth City Packing Co.....    | "             |
| Glaser, J. & B.....               | "             |
| High, George G.....               | "             |
| Metropolitan Dressed Beef Co..... | "             |
| Schardien, J. R.....              | "             |
| Tipper, John.....                 | Englewood     |
| Emmons, J. E.....                 | Freehold      |

NEW JERSEY (Continued).

|               |                            |                                   |
|---------------|----------------------------|-----------------------------------|
| Atlantic City | Emmerich, L.....           | Guttenberg                        |
| "             | Henry, F.....              | Hackensack                        |
| Bonne City    | Smith & Shafer.....        | "                                 |
| "             | Van Buskirk, J. H.....     | "                                 |
| "             | Coffin Brothers.....       | Harrison                          |
| "             | Kerr, John.....            | "                                 |
| Engen Point   | Bollinger, J.....          | Hoboken                           |
| "             | Hoboken Beef Co.....       | "                                 |
| Gloomfield    | Rehn, Ernest.....          | "                                 |
| "             | Schelling, George.....     | "                                 |
| Boonton       | Siemer, H.....             | "                                 |
| Bridgeton     | Smith, M. & J.....         | "                                 |
| "             | Armour & Co.....           | 396 Henderson Street, Jersey City |
| "             | Bartlett, G. V., & Co..... | 1 Montgomery Street, "            |
| "             | Bowden, J. C.....          | 564 Communipaw Avenue, "          |
| Burlington    | Brainard Bros.....         | 1 Montgomery Street, "            |
| "             | Hudson Beef Co.....        | 303 Grove Street, "               |
| ...Dover      | Jersey City Beef Co.....   | 138, 9th Street, "                |
| ... "         | Wilson, G. B., & Co.....   | Fuller Building, "                |
| ... "         | Armour & Co.....           | Long Branch                       |
| East Orange   | Long Branch Beef Co.....   | "                                 |
| "             | McClain, J.....            | "                                 |
| "             | Miller Bros.....           | Madison                           |
| "             | Arnold Bros.....           | Morristown                        |
| Elizabeth     | Hibbler, William H.....    | "                                 |
| "             | Morristown Beef Co.....    | "                                 |
| "             | Herbert, J. B., & Son..... | Mount Holly                       |
| "             | Armour & Co.....           | M. & E. R. R. Avenue, Newark      |
| "             | Coffin, H. T.....          | 131 Harrison Avenue, "            |
| "             | Lehman, Emmanuel.....      | 5 Commerce Street, "              |
| "             | Lehman, Isaac.....         | 5 Thomas Street, "                |
| "             | Morris, Nelson & Co.....   | "                                 |
| Englewood     | Newark Beef Co.....        | Orange Avenue, "                  |
| Freehold      | Schickhaus & Pruden.....   | 9 Commerce Street, "              |

## NEW JERSEY (Continued).

|                                |                            |               |
|--------------------------------|----------------------------|---------------|
| Schloss, A. C.                 | Avenue B and Astor Street, | Newark        |
| Schwarzschild & Sulzberger Co. | 164 Mulberry St.,          | "             |
| Strauss, B.                    | 4 M. & E. R. R. Avenue,    | "             |
| Deinzer, George                |                            | New Brunswick |
| New Brunswick Beef Co.         | 122 Paterson St.,          | "             |
| Raritan Beef Co.               | 56 French Street,          | "             |
| Schmidt & Valentine            |                            | "             |
| Jones, Thomas                  |                            | Orange        |
| Swift Bros.                    |                            | "             |
| Vincent, Thomas                |                            | "             |
| Frank, William                 |                            | Passaic       |
| Passaic Beef Co.               |                            | "             |
| Streckfuss, F. C.              |                            | "             |
| Werling, A. J.                 |                            | "             |
| Brogger, L. C. N.              |                            | Perth Amboy   |
| Krogh, Chris                   |                            | "             |
| Leigh, Albert S.               |                            | Princeton     |
| Warren, R. D.                  |                            | "             |
| Allen, F. W.                   |                            | Paterson      |
| Armour & Co.                   | 107 Hamilton Avenue,       | "             |
| Bauer, T. & S.                 |                            | "             |
| Morris, Nelson & Co.           |                            | "             |
| Philipsburg Beef Co.           |                            | Philipsburg   |
| Shimer, Joseph R.              |                            | "             |
| Plainfield Beef Co.            |                            | Plainfield    |
| Somerville Beef Co.            |                            | Somerville    |
| Straub, Christian              |                            | South Amboy   |
| Decker, Wilson                 |                            | South Orange  |
| Roth & Co.                     |                            | "             |
| Baumgartner, W.                | 140 Brunswick Avenue,      | Trenton       |
| Morris, Nelson & Co.           |                            | "             |
| Stein, L. H.                   | 27 Tucker Avenue,          | "             |
| Schleckess Beef Co.            | Perrine Avenue,            | "             |
| Trenton Abattoir Co.           | Perrine Avenue,            | "             |

**NEW JERSEY (Continued).**

Trenton Beef Co ..... Ringold Street, Trenton  
 Staltz, A. .... West Hoboken

**NEW MEXICO.**

Townsend, F., & Co. .... Chama  
 Fennessey & McLendon. .... Eddy  
 Jones, George D. .... Silver City

**NEW YORK.**

Armour & Co. .... Albany  
 Guthman, R., & Bro. .... Spencer Street, "  
 Morris, Nelson & Co. .... "  
 Swift Bros. .... "  
 Blott & Hannington. .... Albion  
 Armour & Co. .... Amsterdam  
 Carpenter, W. N. .... "  
 Auburn Dressed Beef Co. .... 42 Chapel Street, Auburn  
 Babcock, H. W. .... 46-48 Garden Street, "  
 Smith, Charles A. .... 17 Hulbert Street, "  
 Horne, George T. .... Babylon  
 Bisdee, Edw. .... Baldwinsville  
 Wood & Briggs. .... Ballston Spa  
 Longwell, W. V. .... Bath  
 Craft & Caldwell. .... 61 Jackson Street, Batavia  
 Schenck, J. .... Bayshore  
 Sands, A. A. .... Bergen  
 Armour & Co. .... Binghamton  
 Darling, C. S. .... "  
 Cornes, George T. .... Brockport  
 Beck, August. .... 186 Genesee Street, Buffalo  
 Bell, J. W. .... 75 Lewis Street, "  
 Bishop & Son. .... 20 Elk Street Market, "  
 Cannon, Joseph. .... Washington Market, "  
 Cushing, T. W. .... 863 Babcock Street, "

**NEW YORK (Continued).**

|                                        |                             |         |
|----------------------------------------|-----------------------------|---------|
| Geissler, L.....                       | 43 Carroll Street,          | Buffalo |
| Hall & Son.....                        | 5 Washington Market,        | "       |
| Hoffield, R., & Co.....                | 65 Carroll Street,          | "       |
| Klinck, C.....                         | Elk Street Market,          | "       |
| Klinck Bros.....                       | 105-107 E. Market Street,   | "       |
| Krauss, A., & Co.....                  | 23 Quay Street,             | "       |
| Miller, George.....                    | 235 Peckham Street,         | "       |
| Milsom, A.....                         | 85 Elk Street Market,       | "       |
| New England Dressed Meat and Wool Co., | 23 Live Stock Exchange,     | "       |
| Sahlen & Rolan.....                    | 310 Howard Street,          | "       |
| Summers, William.....                  | 87 E. Market Street,        | "       |
| Weppner's, A., Sons.....               | Sycamore and Guilford Sts., | "       |
| Western Beef Co.....                   | 72 River Street,            | "       |
| Wolff, N.....                          | 32 Lloyd Street,            | "       |

**Brooklyn.**

|                                       |                                   |
|---------------------------------------|-----------------------------------|
| Aarons, A.....                        | Johnson Avenue                    |
| Atlantic Beef Co.....                 | 176 Fort Greene Place             |
| Armour & Co.....                      | 188 Fort Greene Place             |
| Armour & Co.....                      | Williamsburg, E. D.               |
| Armour & Co.....                      | East New York                     |
| Armour Packing Co.....                | 201 Fort Greene Place             |
| Bernstein, N., & Son.....             | Johnson Avenue                    |
| Bloch, Henry.....                     | 268 Hudson Avenue                 |
| Brooklyn Beef Co.....                 | 74 Atlantic Avenue                |
| Brooklyn Veal and Mutton Co.....      | 164 Fort Greene Place             |
| Butterfaas, C.....                    | 88 East Avenue                    |
| Cudahy Packing Co.....                | 168 Fort Greene Place             |
| Dressler, G.....                      | 74 East Street (Wallabout Market) |
| Force & Kentana.....                  | 192 Fort Greene Place             |
| Fort Greene Sheep & Provision Co..... | 172 Fort Greene Place             |
| Graf, H. & J. G.....                  | 108 Wallabout Market              |
| Heidelberger, W. C. & P. C.....       | 537 Manhattan Avenue              |

Brooklyn (Continued).

|                                                          |                           |
|----------------------------------------------------------|---------------------------|
| Hamburger, H.....                                        | 300 Johnson Avenue        |
| Hamburger, S.....                                        | Johnson Avenue            |
| Isaacs, G.....                                           | 244 Hudson Avenue         |
| Jacobs, J.....                                           | 64 East Avenue            |
| Kohn, H.....                                             | 93 East Avenue            |
| Lehman, Frank.....                                       | 300 Johnson Avenue        |
| Lehman, N.....                                           | Johnson Avenue            |
| Levy, A.....                                             | 258 Hudson Avenue         |
| Levy, M. & D.....                                        | 244 N. 9th Street         |
| Levy & Dahlman.....                                      | 178 Fort Greene Place     |
| Mandle & Reis.....                                       | 68 East Avenue            |
| Mannheimer & Hecht.....                                  | 107 Wallabout Market      |
| May, Charles.....                                        | Johnson Avenue            |
| May, Levy & May.....                                     | 300 Johnson Avenue        |
| Mayer, Mark, & Co.....                                   | 71 East Avenue            |
| Nachmann, B.....                                         | 780 Flushing Street       |
| New York Small Stock Co.....                             | 70 East Avenue            |
| New York Veal and Mutton Co.....                         | 95 East Avenue            |
| N. Y. & Brooklyn Dressed Meat Co. (Ltd.)... 92 East Ave. |                           |
| Pacific Beef Co.....                                     | 106 N. 6th Street         |
| Plaut Brothers.....                                      | 358 Johnson Avenue        |
| Plaut, H., & S.....                                      | Johnson Avenue            |
| Plaut, Robert.....                                       | Johnson Avenue            |
| Pratzmann & Seaton.....                                  | East Avenue               |
| Scanlan, J. M., & P.....                                 | 169 Fort Greene Place     |
| Schleirmacher, C.....                                    | Johnson Avenue            |
| Schwarzschild & Sulzberger Co.....                       | 623 Pacific Street        |
| Schwarzschild & Sulzberger Co.....                       | Wallabout Market          |
| Schweizer, George.....                                   | 69 East Avenue            |
| Stern, Albert.....                                       | 93 East Avenue            |
| Stern, Benjamin.....                                     | 85 East Avenue            |
| Stern, James.....                                        | 86 East Avenue            |
| Swift Bros.....                                          | 182-184 Fort Greene Place |
| Vanderbeck, A.....                                       | 84 East Avenue            |



## Brooklyn (Continued)

|                                |                              |
|--------------------------------|------------------------------|
| Wallabout Market Sheep Co..... | 87 East Avenue               |
| Weil, Joseph, & Sons.....      | Johnson Avenue               |
| Williamsburg Beef Co. ....     | 100 N. 6th Street            |
| Wolf & Stern.....              | 276 Johnson Avenue           |
| Wulf & Ehler.....              | 73 East Avenue               |
|                                |                              |
| Duncan, John.....              | Cairo                        |
| O'Conner, John.....            | Canajoharie                  |
| Blanchard Bros.....            | Canandaigua                  |
| Boyle & Garland.....           | "                            |
| Mutschler, Louis.....          | "                            |
| Cronk, E. A.....               | Canastota                    |
| Van Buren, A., & Son.....      | Castleton                    |
| Case, Nelson M.....            | Catskill                     |
| Granby & Van Hoosen.....       | "                            |
| Douglas & Kissam.....          | Chateaugay                   |
| Blinn, Philo D.....            | Chatham                      |
| Coates, S., & Son.....         | Cherry Valley                |
| Booth, Geo. W.....             | City Island                  |
| Lindauer Bros.....             | Clifton Springs              |
| Zeluff, Charles E.....         | Clyde                        |
| Wersides, John, & Co.....      | Cohoes                       |
| Coffey, Daniel.....            | "                            |
| Bruel, August.....             | College Point                |
| Ileh, David.....               | "                            |
| Wheeler, Bradstreet & Co.....  | Gibson Street, Corning       |
| Cortland Beef Co.....          | 98 Railroad Street, Cortland |
| Marks, T. T.....               | 84 Argyle Place, "           |
| Dolan, James, & Co.....        | Coxsackie                    |
| Lester, A.....                 | Cuba                         |
| Bliss Bros.....                | Dobb's Ferry                 |
| Jones, Thomas C.....           | Dunkirk                      |
| Hammond & Nield.....           | East Aurora                  |
| Post, Jotham.....              | East Williston               |

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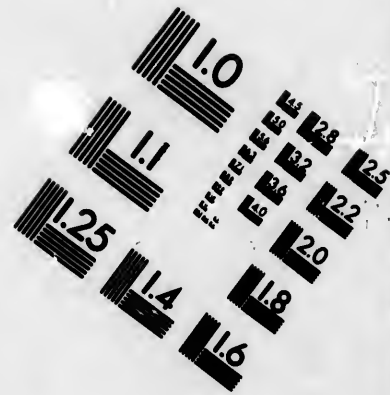
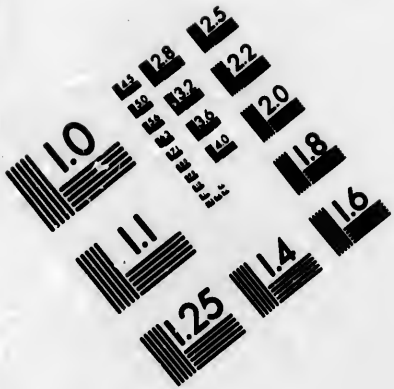
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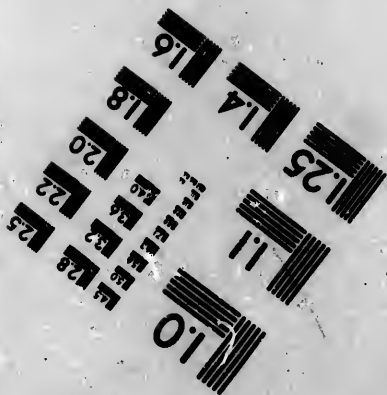
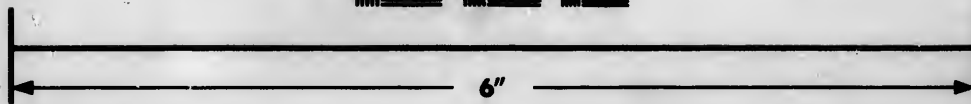
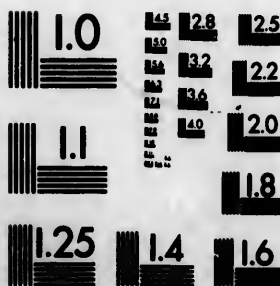
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**IMAGE EVALUATION  
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23 WEST MAIN STREET  
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NEW YORK (Continued).

|                                       |                               |
|---------------------------------------|-------------------------------|
| Armour & Co.....                      | Elmira                        |
| Elmira Beef Co.....                   | "                             |
| Friend, Metzger & Co.....             | "                             |
| Morris, Nelson & Co.....              | "                             |
| Mosher & Chapman.....                 | "                             |
| Rhodes & Strader.....                 | "                             |
| Palmer, K. R., & Co.....              | Fredonia                      |
| Dexter, William.....                  | Fulton                        |
| French, F. H.....                     | "                             |
| Dilman Bros.....                      | Castle Street, Geneva         |
| Sheffer, R. W. (Swift Bros.).....     | 40 Middle Street, "           |
| Smith, Charles A. (Armour & Co.)..... | 30 Lewis Street, "            |
| Gaffey, D., & Co.....                 | 106 Maple Street, Glens Falls |
| Lohmas, D.....                        | 19 Prospect Street, "         |
| Armour & Co.....                      | Gloversville                  |
| Clark & May.....                      | Goshen                        |
| Lansing, B. P.....                    | Greenbush                     |
| Baker, B.....                         | Green Island                  |
| Haverstraw Beef Co.....               | Haverstraw                    |
| Akley & Bro.....                      | Hempstead                     |
| Bedell & Pray.....                    | "                             |
| Burton & Welton.....                  | Honeoye Falls                 |
| Durkin, J. J., & Co.....              | Hornellsville                 |
| Halsey & Whittaker.....               | "                             |
| Morris, Nelson & Co.....              | Hudson                        |
| Dickerson Bros.....                   | Islip                         |
| McCrea & Reed.....                    | Ithaca                        |
| Ithaca Beef Co.....                   | "                             |
| Stephens, Philip.....                 | "                             |
| Jamaica Beef Co.....                  | Jamaica                       |
| Johanknecht, E.....                   | "                             |
| Nostrand & Remsen.....                | "                             |
| Schwarzschild & Sulzberger Co.,       |                               |
| Division Street and Railroad Avenue,  |                               |

## NEW YORK (Continued).

|                                 |                    |
|---------------------------------|--------------------|
| Cheney, B. E.....               | Jamestown          |
| Jamestown Beef Co.....          | "                  |
| Johnstown Beef Co.....          | Johnstown          |
| Murphy, John.....               | "                  |
| O'Neil, John.....               | "                  |
| Kingston Beef Co.....           | Kingston           |
| Morris, Nelson & Co.....        | "                  |
| Hammond Beef Co.....            | Little Falls       |
| Armour & Co.....                | Lockport           |
| Calby, John.....                | 160 Erie Street, " |
| East River Beef Co. (Ltd.)..... | "                  |
| East River Beef Co. (Ltd.)..... | Long Island City   |
| McCorl, W. L.....               | Middletown         |
| Middletown Beef Co.....         | "                  |
| Cline Bros.....                 | Millerton          |
| Sawyer, A., & Bro.....          | Mount Morris       |
| Armour & Co.....                | Newburgh           |
| Taggart's, Jas., Sons.....      | "                  |

## New York City.

|                            |                                          |
|----------------------------|------------------------------------------|
| Armour & Co.....           | 6-9 Manhattan Market                     |
| Armour & Co.....           | 9 Bloomfield Street                      |
| Armour & Co.....           | Foot of E. 128th Street                  |
| Armour & Co.....           | 129th Street and 12th Avenue             |
| Armour & Co.....           | Westchester and Brook Avenues            |
| Beinecke & Co.....         | 196-198 Fulton Street                    |
| Berry, A. G.....           | 77 Barclay Street                        |
| Bladel, Geo.....           | 17 Grace Avenue, W. Washington Market    |
| Bloch, B....               | Grace and Lawton Avenues, W. Wash'n Mkt. |
| Bloch, Leopold...          | 16-20 Grace Avenue, W. Wash'n Market     |
| Boley & Co.....            | 45th Street and 1st Avenue               |
| Browne, T.....             | 15 Gansevoort Avenue, W. Wash'n Mkt.     |
| Carroll, Wm.....           | 28-32 Loew Avenue, W. Wash'n Mkt.        |
| Centre Market Beef Co..... | Centre and Grand Streets                 |



New York City (Continued).

Cudahy Packing Co ..... 11th Avenue and 35th Street  
 Cunningham Bros.....104 Barclay Street  
 Cunningham Bros...50-54 Lawton Ave., W. Wash'n Mkt.  
 Cunningham, Thos....8 Loew Avenue, W. Wash'n Market  
 Crane, M., & Son.....Foot of W. 39th Street  
 Davis, F. W., & Co.....Foot of W. 39th Street  
 Desmond, Cornelius...16-18 Loew Ave., W. Wash'n Mkt.  
 Duncan, C. W....21-23 Loew Avenue, W. Wash'n Market  
**Eastmans' Co. of New York.....Foot of W. 59th St.**  
 East River Beef Co. (Ltd.) .....Foot of E. 86th Street  
 Emerson & Co.....8 Hewitt Street  
 Empire City Beef Co. ....518 West Street  
 Eureka Beef Co.....1814, 3d Avenue  
 Figge Slaughtering Co. (Ltd.) .....Foot of W. 40th Street  
 Fleischauer, J., & Bro.....788, 1st Avenue  
 Furth, Aaron ...19-21 Thompson Ave., W. Wash'n Mkt.  
 Gansevoort Beef Co.....22-24, 10th Avenue  
 Graf, Jacob..12 Grace Avenue, W. Washington Market,  
 and 13 Gansevoort Market  
 Graf, Henry.....14 Grace Avenue, W. Wash'n Market  
 Graf, John.....3 Gansevoort Avenue, W. Wash'n Market  
 Guggenheim, M.....44th Street and East River  
 Halligan & Dalton .....601 W. 39th Street  
 Halligan & Dalton...3-7 Hewitt Avenue, W. Wash'n Mkt.  
 Harlem Beef Co.....Foot of E. 127th Street  
 Harrington, J. J., & Co.....770, 1st Avenue  
 Harrington Dressed Beef Co...10-12 W. Washington Mkt.  
 Hatch, Simon ...1 Thompson Ave., W. Washington Mkt.  
 Haly, John.....626 W. 40th Street  
 Healy & O'Brien.....4 Hewitt Avenue  
 Heilmann, M., & Sons.....776, 1st Avenue  
 Heyman, B.....74 Vesey Street  
 Hotchkiss, Geo., & Co. (Ltd.).....4 Manhattan Market  
 Hotchkiss, Geo., & Co. (Ltd.).....28-30, 10th Avenue

## New York City (Continued).

|                                        |                                        |
|----------------------------------------|----------------------------------------|
| Hudson River Beef Co.....              | 132d Street and 12th Avenue            |
| Kaufman & Strauss.....                 | 623 W. 39th Street                     |
| Kearr, D.....                          | 14 Washington Market                   |
| Kelly, Michael.....                    | 258 Fulton Street                      |
| Kloeblen, Albert.....                  | 18-28 Thompson Ave., W. Wash'n Mkt.    |
| Kurtz & Metz.....                      | 626-628 W. 40th Street                 |
| Levy, David.....                       | 606 W. 40th Street                     |
| Levy, Sol.....                         | 602-604 W. 40th Street                 |
| Lippincott, W. H.....                  | 20-24 Loew Ave., W. Wash'n Market      |
| Love, J., & Co.....                    | Foot of W. 40th Street                 |
| Lyon, G. S.....                        | 7-8 West Street                        |
| Lyon, David.....                       | 106 Vesey Street                       |
| Mandle, D., & Co.....                  | 52 Hewitt Ave., W. Wash'n Market       |
| Manhattan Beef Co.....                 | 1, 2, and 3 Manhattan Market           |
| Mayer, David.....                      | 13 Lawton Ave., W. Washington Market   |
| Mayer, Mark.....                       | 23 Thompson Ave., W. Wash'n Market     |
| McDonald, C.....                       | 44th St. and East River (U. S. B. Co.) |
| McGovern, Peter J.....                 | 559 W. 48th Street                     |
| Meyers, M., & Son.....                 | 788, 1st Avenue                        |
| Meyers, M., & Son.....                 | 3 Grace Ave., W. Wash'n Market         |
| Morris, Nelson & Co.....               | 16 and 19 Manhattan Market             |
| Morris, Nelson & Co.....               | 131st Street                           |
| Morrisania Beef Co.....                | 148th Street and Willis Avenue         |
| Mowreen, W. H.....                     | 59-63 Thompson Ave., W. Wash'n Mkt.    |
| Murray Hill Beef Co.....               | Foot of East 31st Street               |
| Nagle, Samuel.....                     | 27-31 Loew Ave., W. Wash'n Market      |
| New England Dressed Meat and Wool Co.. | 664 W. 39th St.                        |
| N. Y. Small Stock Co.....              | 790-802, 1st Avenue                    |
| N. Y. Small Stock Co.....              | 2 Loew Ave., W. Wash'n Market          |
| N. Y. Veal and Mutton Co.....          | 1st Ave. and E. 45th Street            |
| N. Y. Veal and Mutton Co.....          | 1st Ave. and E. 43d Street             |
| N. Y. Veal and Mutton Co.....          | 609 W. 40th Street                     |
| North River Beef Co.....               | 668-670 W. 39th Street                 |
| O'Brien, David.....                    | 16 W. Washington Market                |

## New York City (Continued).

|  |                                             |                                      |
|--|---------------------------------------------|--------------------------------------|
|  | Ottmann, William, & Co.....                 | Fulton Market                        |
|  | Pidcock & Brandt....                        | 11-13 Hewitt Ave., W. Wash'n Mkt.    |
|  | Riverside Beef Co.....                      | 130th Street and 12th Avenue         |
|  | Samuels, B.....                             | 33 Hewitt Ave., W. Washington Market |
|  | Sayles, Sol.....                            | 126, 6th Avenue                      |
|  | Scanlan, J. M. & P.....                     | 613-619 W. 40th Street               |
|  | Scanlan, J. M. & P.,                        |                                      |
|  | 14-16 Thompson Avenue, W. Washington Market |                                      |
|  | Schmedes, Geo. H.....                       | 27-31 Hewitt Ave., W. Wash'n Mkt.    |
|  | Schwarzschild & Sulzberger Co.,             |                                      |
|  | 45th and 46th Streets and 1st Avenue        |                                      |
|  | Schwarzschild & Sulzberger Co.,             |                                      |
|  | 132d Street and 1st Avenue                  |                                      |
|  | Shannon, David.....                         | 607-611 W. 40th Street               |
|  | Shannon, David.....                         | 3-7 Loew Ave., W. Wash'n Market      |
|  | Shrag & Muth.....                           | Foot W. 40th Street                  |
|  | Shea, John.....                             | 644 W. 39th Street                   |
|  | Spencer, C. E. & J. A. .                    | 21 Hewitt Ave., W. Wash'n Mkt.       |
|  | Spencer, S. V.....                          | 16 West Street                       |
|  | Spring, J. B.....                           | 23-25 Hewitt Ave. and 26 Loew Ave.   |
|  | Stahlnecker, W. G.....                      | Foot W. 41st Street                  |
|  | Stern, Joseph, & Son.....                   | 616-646 W. 40th Street               |
|  | Stiefel, The I., Co.....                    | 786, 1st Avenue                      |
|  | Strauss Bros.....                           | Grace and Lawton Avenues             |
|  | Strauss, Moses,                             |                                      |
|  | 19-21 Hewitt Avenue, W. Washington Market   |                                      |
|  | Swift, G. F. and E. C.....                  | 105 Barclay Street                   |
|  | Swift, G. F. and E. C.....                  | West and Bloomfield Streets          |
|  | Swift, G. F. and E. C.....                  | Manhattan Market                     |
|  | Swift Sheep and Prov. Co. ....              | Manhattan Mkt., W. 35th St.          |
|  | Tompkins Market Beef Co.,                   |                                      |
|  | Tompkins Market, 3d Avenue and 6th Street   |                                      |
|  | Union Sheep Co.....                         | 22-24 West St., W. Washington Mkt.   |
|  | United Dressed Beef Co.....                 | 778, 1st Avenue                      |

## New York City (Continued).

|                                                   |                                  |
|---------------------------------------------------|----------------------------------|
| Vanderbeck, A.....                                | 207 Washington Street            |
| Vanderbeck, A.....                                | 412 E. 45th Street               |
| Washington Market Sheep Co.,                      |                                  |
| Bloomfield and West Streets, W. Washington Market |                                  |
| Webber, Richard.....                              | 3d Avenue and 120th Street       |
| Weinheimer, Jacob....                             | 19 Loew Ave., W. Washington Mkt. |
| Westervelt, John H. & Co.                         | 11 Hewitt Ave., W. Wash'n Mkt.   |
| Weston & Levy.....                                | 44th Street and East River       |
| Winant, D.....                                    | 4-10 Catharine Market            |
| Wheeler, Bradstreet & Co.,                        |                                  |
| 100-102 Gansevoort Street, W. Washington Market   |                                  |
| Wheeler, Bradstreet & Co....                      | 2 West St., cor. Bloomfield St.  |
| Bardes, C.....                                    | New Brighton                     |
| New Rochelle Beef Co.....                         | New Rochelle                     |
| Nyack Beef Co.....                                | Nyack                            |
| Wohlgemuth, L.....                                | Main Street, "                   |
| Mollison & Dawdle.....                            | 12 Commerce Street, Ogdensburg   |
| Mayer Bros.....                                   | Olean                            |
| Merriam, J. K.....                                | "                                |
| Kelly Bros.....                                   | Oneida                           |
| Oswego Beef Co.....                               | Oswego                           |
| Baylis, S. T.....                                 | Oyster Bay                       |
| Hyland & Caviston.....                            | Penn Yan                         |
| Wheeler, Bradstreet & Co.....                     | "                                |
| Hotchkiss Beef Co.....                            | Port Chester                     |
| Patterson & Grandison.....                        | "                                |
| Davis, G. L. & A. C.....                          | Port Jefferson                   |
| Port Jervis Beef Co.....                          | Port Jervis                      |
| Winant & Christopher.....                         | Port Richmond                    |
| Morris, Nelson & Co.....                          | Cottage Street, Poughkeepsie     |
| Foclet, Joseph.....                               | 644 Main Street, "               |
| Schoenewens, Charles.....                         | 124 Pine Street, "               |
| Van Wagenen, P. L.....                            | Cottage Street, "                |

NEW YORK (Continued).

|                                                  |                  |
|--------------------------------------------------|------------------|
| Armour & Co.....                                 | Rochester        |
| Crittenden, F. & C., Co... 290 Exchange Street,  | "                |
| Fahy, P..... 38 Mumford Street,                  | "                |
| Rochester Beef Co.....                           | "                |
| Miller, C.....                                   | Lancaster        |
| Tremper, J. L.....                               | Rhinebeck        |
| Bech's, George W., Sons .....                    | Rome             |
| Leverentiz, A. F., & Co.....                     | Rondout          |
| Wehr, E., & Co.....                              | "                |
| Reardon, J. J.....                               | St. Johnsville   |
| Newton, A. V., & Bro.....                        | Salamanca        |
| Lohmas, D.....                                   | Saratoga Springs |
| Saratoga Beef Co.....                            | "                |
| Waring & Knapp.....                              | "                |
| Blackwell, E.....                                | Saugerties       |
| Shultz, J. W.....                                | "                |
| Schenectady Beef Co .....                        | Schenectady      |
| Schwarzschild & Sulzberger Co.....               | "                |
| Schaeffer & Richtmeyer .....                     | Schoharie        |
| George & Co.....                                 | Seneca Falls     |
| McKee & Waterman.....                            | Silver Creek     |
| Schaefer, B.....                                 | Stapleton        |
| Stapleton Beef Co.....                           | "                |
| Dold, Jacob, Co..... 554-556 S. Clinton Street,  | Syracuse         |
| Hammond, G. H., Co... 239-241 Walton Street,     | "                |
| Hoffmann & Drescher.....                         | "                |
| Morris, Nelson & Co..... 243 Walton Street,      | "                |
| Mowry, H. J., & Co..... 101 Lock Street,         | "                |
| Swift Bros..... 235 Walton Street,               | "                |
| Syracuse Packing and Prov. Co... 419 Fulton St., | "                |
| Richter, Louis .....                             | Tarrytown        |
| Shotts, John C.....                              | "                |
| Batz, Philip .....                               | Tompkinsville    |
| Hardleben, Wm., & Co .....                       | Tonawanda        |



**NEW YORK (Continued).**

Sharrott, W. H. & J. D.....Tottenville  
 Beiser, D.....27-29 River Street, Troy  
 Duke, John....."  
 Keyn & Busch.....2436, 6th Avenue, "  
 Swift Bros.....2788-2790, 6th Avenue, "  
 Budlong, S. H., & Son.....57-59 Main Street, Utica  
 Hammond Beef Co.....49-50 Main Street, "  
 Hutler, Val.....253 Sunset Avenue, "  
 Morris, Nelson & Co.....1st Street, "  
 Seymour & Kelso.....Walden  
 Truesdel, I. John.....Warsaw  
 Applebee & Peck.....Wellsville  
 Hartshorn & Ingham.....Yonkers  
 Morris, Nelson & Co....."  
 Shotts, J. C....."  
 Swift Bros....."  
 Westchester Beef Co....."

**NORTH CAROLINA.**

Cransford, W. R.....Raleigh  
 Coughentour & Shauer.....Salisbury  
 Richards, J. M.....Winston

**NORTH DAKOTA.**

Hyde, Z., & Co..... Fargo  
 Rentschler & Schoeninger..... "  
 Driscoll & Welch..... Grafton  
 Upham, Nathan..... "  
 Gilbert Bros.....Grand Forks  
 De Groat & Anderson.....Hillsboro

**OKLAHOMA.**

Sams, J. H., & Co..... El Reno  
 Brown, J. W..... Guthrie  
 Wilson, J. P..... "

OKLAHOMA (Continued).

Olsen Bros.....Milton  
 Hill Bros.....Oklahoma City  
 Lowenskin, I....."

OHIO.

Armour & Co.....Erie Street n Depot, Akron  
 Brodt, Jacob....616 S. Main Street, "  
 Kempel & Horst....."  
 Schoeninger, C.....214 E. Market Street, "  
 Schoeninger Bros....."  
 Sael, J.....Ashland  
 Bousenberger & Gans.....Bellefontaine  
 Zehner Bros.....Bellevue  
 Kabig, Frank.....Bowling Green  
 Kramer, George.....Buoyrus  
 Glover, J. C., & Son.....Cadis  
 Turnbough & Sellers.....Cambridge  
 Armour & Co.....91 E. 4th Street, Canton

Cincinnati.

Alexander, Julius.....223 Cormany Street  
 Armour & Co.....52 Walnut Street  
 Assel's, F., Sons.....39 Branch Street  
 Bare, Charles.....Rachel and Plymouth Avenues  
 Bauer, Andrew.....Sidney Avenue  
 Bauer's, Jacob, Sons.....214 Massachusetts Avenue  
 Blackburn, J. A.....Clarkson and Central Streets  
 Cincinnati Beef Co.....Front and Main Streets  
 Dinkelacker, F.....256 Colerain Avenue  
 Donnewald, H.....69 Livingston Street  
 Engel, F.....16 Dunlap Street  
 Erhardt, G.....79 Poplar Street  
 Freudn, A.....15 Straight Street  
 Geringer, William.....1137 Colerain Avenue



## Cincinnati (Continued).

|                             |                               |
|-----------------------------|-------------------------------|
| Goetz, Charles.....         | 213 Massachusetts Avenue      |
| Gradolf, V.....             | 11 Straight Street            |
| Hoffmann, J.....            | 541 Baymiller Street          |
| Hoffman, J., & Sons.....    | Bank and Turner Streets       |
| Hust, George A.....         | 901 Central Avenue            |
| Hust, Jacob.....            | 19 Dunlap Street              |
| Janson Bros.....            | 55 Poplar Street              |
| Jackers, F.....             | 3 Dunlap Street               |
| Kaus, J.....                | 411 Spring Grove Avenue       |
| Kline, Bauer & Co.....      | 215 Massachusetts Avenue      |
| Kraft, C.....               | 211 Massachusetts Avenue      |
| Kuhn's M., Sons.....        | 42 Stork Street               |
| Kurrus, A.....              | 593 John Street               |
| Lowenstein's, A., Sons..... | John and Livingston Streets   |
| Lowenstein Canning Co.....  | 577 John Street               |
| Meyer, H.....               | 211 Sidney Avenue             |
| Morris, Nelson & Co.....    | Front and Walnut Streets      |
| Obermeyer, H.....           | 278 Bank Street               |
| Ochs, John S.....           | 10 Straight Street            |
| Orth, Mrs. J.....           | 597 John Street               |
| Osfeld, F. A.....           | Sidney and Township Avenues   |
| Pausero Bros.....           | Straight and Colerain Streets |
| Peters, D. F. A.....        | 630 Colerain Street           |
| Pfiedter & Rabenstein.....  | 61 Livingston Street          |
| Rehn, William, & Bros.....  | Branch and Henry Streets      |
| Richter, G.....             | 862 Queen City Avenue         |
| Ries, P.....                | Harrison Avenue               |
| Robinson, D.....            | 540 Baymiller Street          |
| Ryan Bros.....              | Alabama and Kinney Streets    |
| Schlachter, J.....          | 409 Colerain Street           |
| Schoenberger, E.....        | 545 Baymiller Street          |
| Schroth, J. F., Co.....     | Cormany and Township Streets  |
| Schueler, L., & Bro.....    | 308 Sidney Avenue             |
| Seibel, Jacob.....          | 15 Kindel Avenue              |

Cincinnati (Continued).

|                                           |                                   |
|-------------------------------------------|-----------------------------------|
| Slimmer, George.....                      | John and Findlay Streets          |
| Weiss, Charles.....                       | 805 Freeman Street                |
| Weyand, Charles.....                      | 591 John Street                   |
| Wunder, Samuel.....                       | 155 Findlay Street                |
| Wurster, George.....                      | Ethan Avenue                      |
| Armour & Co.....                          | 30 Broadway, Cleveland            |
| Blumenstock & Ascher.....                 | 108 Sheriff Street, "             |
| Flick, J. J., Provision Co.....           | 521 Forest Street, "              |
| Sheriff Street Market and Storage Co..... | "                                 |
| Swift Bros.....                           | 853 Pearl Street, "               |
| Swift, G. F., & Co.....                   | 363 Ontario Street, "             |
| Teufel, M., & Sons.....                   | 43 Pleasant Street, "             |
| Theurer, Norton & Co.....                 | 112 Rhodes Avenue, "              |
| Weigel, F.....                            | Louis and Meyer Street, "         |
| Gundlach & Slessman.....                  | Clyde                             |
| Armour & Co.....                          | 25 W. Randolph Street, Columbus   |
| Morris, Nelson & Co.....                  | 40 E. Naghten Street, "           |
| Shaw & McNaughton.....                    | Coshocton                         |
| Shodgrass, Thomas, & Son.....             | Crestline                         |
| Dayton Beef Co.....                       | 6th and Ludlow Streets, Dayton    |
| Focke, William, & Sons.....               | 1004-1006, 5th Street, "          |
| Gilliland, L. L.....                      | 225 S. Caroline Street, "         |
| Horwell, W. O.....                        | W. River Street, "                |
| Jacobs, N., & Co.....                     | McGee Street, "                   |
| Knecht, Christ.....                       | Main Street (Riverdale) "         |
| Lotz, P.....                              | 218 S. Lewis Street (Patterson) " |
| Mock, Alexander.....                      | Main Street, "                    |
| Morris, Nelson & Co.....                  | "                                 |
| Donovan Bros.....                         | Delaware                          |
| Helmhamp Bros.....                        | Delphos                           |
| Armour & Co.....                          | East Liverpool                    |
| Wells, T. E., & Co.....                   | Union Street, "                   |
| Willis, S. A.....                         | Eaton                             |

## OHIO (Continued).

|                            |                             |
|----------------------------|-----------------------------|
| Boynton, J. E., & Co.....  | Elyria                      |
| Armour & Co.....           | 345 N. Main Street, Findlay |
| Lynch & Yocum.....         | Fostoria                    |
| Fleckner, Geo., & Bro..... | "                           |
| Bauman, J., & Son.....     | Fremont                     |
| Biebighauser, H.....       | Galion                      |
| Lipphardt, C. H.....       | 127 S. 3d Street, Hamilton  |
| McClun, C. W.....          | "                           |
| Cronsher, F.....           | Ironton                     |
| Horshel, E.....            | "                           |
| Lowenstein, N., & Son..... | Jackson                     |
| Johnson & Co.....          | Kent                        |
| Krembihl & Koch.....       | Kenton                      |
| Rugh, D. & B.....          | Lancaster                   |
| Floding, W.....            | Leetonia                    |
| Lima Beef Co.....          | 121 E. Wayne Street, Lima   |
| Thomas, M., & Sons.....    | 239 S. Tanner Street, "     |
| Kock & Wiemer.....         | Londonville                 |
| Kern, Wm., & Son.....      | Mansfield                   |
| Seaton Bros.....           | "                           |
| Stoodt, W., & Son.....     | "                           |
| Milligan, S. F.....        | Martin's Ferry              |
| Asman, John C.....         | Marysville                  |
| List Bros.....             | Massillon                   |
| Willenburg & Brown.....    | "                           |
| Oviatt, C.....             | Medina                      |
| Spring & Schaster.....     | Miamisburg                  |
| Knewzle, J., & Sons.....   | New Phila                   |
| Freck, J. C., & Co.....    | Niles                       |
| Pay, Geo. S., & Son.....   | Oberlin                     |
| Beck, John.....            | Ottawa                      |
| Presley, F. E.....         | Painesville                 |
| Decker, Val.....           | Piqua                       |
| Danis, Thos. H.....        | Pomeroy                     |

OHIO (Continued).

|                      |                                                      |                                        |
|----------------------|------------------------------------------------------|----------------------------------------|
| ..... Elyria         | Kelly & Wenger .....                                 | Port Clinton                           |
| ..... Findlay        | Brand, J. A .....                                    | Portsmouth                             |
| ..... Fostoria       | Dann, Geo .....                                      | "                                      |
| ..... "              | Rauch, Chas .....                                    | "                                      |
| ..... Fremont        | Armour & Co .....                                    | 517 Water Street, Sandusky             |
| ..... Galion         | Bustretter & Weingartner .....                       | Sidney                                 |
| ..... Hamilton       | Springfield Beef Co .....                            | 67 S. Mechanic Street, Springfield     |
| ..... "              | Armour & Co .....                                    | Steubenville                           |
| ..... Ironton        | Bair & Bro .....                                     | "                                      |
| ..... "              | Bullock, Wm., & Bro .....                            | "                                      |
| ..... Jackson        | Hankey & Alt .....                                   | Tiffin                                 |
| ..... Kent           | Hartsok, G. W .....                                  | "                                      |
| ..... Kenton         | Miller, Jas. D .....                                 | "                                      |
| ..... Lancaster      | Armour & Co .....                                    | Washington and S. Erie Streets, Toledo |
| ..... Leetonia       | Hammond, Standish & Co .....                         | "                                      |
| ..... Street, Lima   | Hasemeyer, J. F .....                                | Main Street, "                         |
| ..... Street, "      | Morris, Nelson & Co .....                            | 14 S. Erie Street, "                   |
| ..... Londonville    | Swift Bros .....                                     | 8-12 Erie Street, "                    |
| ..... Mansfield      | Toledo Beef and Provision Co., 31-37 S. Ontario St., | "                                      |
| ..... "              | Fronsfeld & Greenwald .....                          | Van Wert                               |
| ..... "              | Distelrath, J. G .....                               | Wapakoneta                             |
| ..... Martin's Ferry | Shibely Bros .....                                   | Warren                                 |
| ..... Marysville     | Wilhelm F .....                                      | "                                      |
| ..... Massillon      | Turner Bros .....                                    | Wellsville                             |
| ..... "              | Ambuhl & Co .....                                    | Xenia                                  |
| ..... Medina         | Armour & Co .....                                    | Youngstown                             |
| ..... Miamisburg     | Armour & Co .....                                    | Zanesville                             |
| ..... New Phila      | Felsenlee & Son .....                                | "                                      |
| ..... Niles          | Fox, Theo .....                                      | "                                      |
| ..... Oberlin        | Stack, W. H .....                                    | "                                      |
| ..... Ottawa         | Wolf, D., & Co .....                                 | "                                      |
| ..... Painesville    |                                                      |                                        |
| ..... Piqua          |                                                      |                                        |
| ..... Pomeroy        |                                                      |                                        |

## OREGON.

Hyde, Milton.....Albany  
 Schaltz Bros. & Co....."  
 Stewartson, J. M....."  
 Beun, W. P.....Ashland  
 Portland Meat Co.....Portland  
 Souers, H. M.....Williams Avenue, "  
 Union Meat Co.....4th Street, "  
 Woodworth & Co.....249-251 Front Street, "

## PENNSYLVANIA.

Allegheny City Beef Co....26-28 Church Ave., Allegheny  
 Armour & Co.....64 Anderson Street, "  
 Morris Chicago Beef Co....29 Church Avenue, "  
 Pittsburg Meat Supply Co.,  
 Church Avenue and Anderson Street, "  
 Winter, Emil, Co.....Herr's Island, "  
 Allentown Beef Co.....130 Hamilton Street, Allentown  
 Arbogast & Bastian ....31-37 Hamilton Street, "  
 Deiffer, George, & Bro....."  
 Kaufman, George, & Bro....."  
 Meyer, Otto.....228 N. 3d Street, "  
 Miller, Charles .....245 N. 7th Street, "  
 Reinhard & Bro.....18 S. 5th Street, "  
 Rinns, E. E., Sons.....25 N. Front Street, "  
 Worman & Kemmerer.....12 N. 8th Street, "  
 Armour & Co.....Altwood  
 Armour & Co.....Beaver Falls  
 Beaver Falls Beef Co....6th Ave. and 3d St., "  
 Stower, F. B.....Bellefonte  
 Bethlehem Beef Co .....Bethlehem  
 Deck, George H....."  
 Huebner, G.....502 E. 3d Street, South Bethlehem  
 Knans, M. W....Broad St. & 4th Ave., "  
 Krauss, M. A .....8 Allentown Road, "



PENNSYLVANIA (Continued).

|            |                         |                             |
|------------|-------------------------|-----------------------------|
| Albany     | Haas, Charles           | Berwick                     |
| "          | Davis, A.; & Sons       | Blairville                  |
| "          | Blossburg Beef Co.      | Blossburg                   |
| Ashland    | Bradford Beef Co.       | Bradford                    |
| Portland   | Hammond, G. H., Co.     | "                           |
| "          | Merriam, J. K.          | "                           |
| "          | Salisbury & Kilgore     | "                           |
| "          | Krug, H. G.             | Braddock                    |
| "          | Morris, Nelson, & Co.   | "                           |
| "          | Johnson, J. H., & Bros. | Butler                      |
| Allegheny  | Armour & Co.            | Carbondale                  |
| "          | Carbondale Beef Co.     | 35 Dundaff Street, "        |
| "          | Dale & Co.              | 33 Dundaff Street, "        |
| "          | Karper & Susong         | Chambersburg                |
| "          | Armour & Co.            | Chester                     |
| "          | Chester Beef Co.        | Market and Front Streets, " |
| Leontown   | Great Western Beef Co.  | 4th and Market Streets, "   |
| "          | Standard Beef Co.       | 527 Market Street, "        |
| "          | Phillips, G. V., & Son  | Clarion                     |
| "          | Beyer, N. P., & Co.     | Coatesville                 |
| "          | Hiphey, George          | Columbia                    |
| "          | Minich, J. A.           | "                           |
| "          | Mowlds, William         | Conshohocken                |
| "          | Hetzel, John T.         | Connellsville               |
| "          | Shepp, S. E.            | "                           |
| Altwood    | Cogswell, Eaton & Gay   | Corry                       |
| Over Falls | Bensbach, B.            | Danville                    |
| "          | Wormser, A.             | "                           |
| Bellefonte | Keller, F. B.           | Doylestown                  |
| Ethlehem   | Lehman, M., & Sons      | "                           |
| "          | Henrick, Louis          | Dunbar                      |
| Ethlehem   | Smith, H. P.            | "                           |
| "          | Flynn, Owen             | Dunmore                     |
| "          | Potter, G. W.           | "                           |

**PENNSYLVANIA (Continued).**

- Link, Charles G..... E. Mauch Chunk
- Brown, John, & Bros..... P. O. Box 175, Easton
- Easton Beef Co.....130 Delaware Street, "
- Felker & Dotts.....5th and Northampton Streets, "
- Pentz, M. A., & Son..... "
- Weber & Patier..... "
- Weidknecht, H. & S. C..... "
- Blair, J. A., & Son.....Ebensberg
- Pryce, D. D., & Son..... "
- Bohlander, P.....Elisabeth
- Armour & Co.....1316 Sussefras Street, Erie
- Swift & Co.....1501 Peach Street, "
- Wagner Bros.....Frackville
- Cramer, G., & Son.....Franklin
- Ebert, William.....Freeland
- Cordori, S. J.....Gettysburg
- Weagand & Homan..... "
- Bracey & Bro.....Girardville
- Mervine, Moses..... "
- Swoyer, S. N..... "
- Armour & Co.....Greensburg
- Immell, A..... "
- Shearer, F., & Son..... "
- Ruffing Bros.....Grove City
- Bear & Little.....Hanover
- Harrisburg Beef Co....9th and Paxton Streets, Harrisburg
- Haselton Beef Co.....Haselton
- Harney & Curtis..... "
- Doerr, A.....Homestead
- Eck, George, & Son.....Honesdale
- Hartung, H..... "
- Longnecker, John S., & Son.....Hummelstown
- Benkert, Louis.....Huntington
- Good, Paul & Son.....Irwin



PENNSYLVANIA (Continued).

|                                    |                                   |
|------------------------------------|-----------------------------------|
| Underwood, Isaac & Austin.....     | Jersey Shore                      |
| Miller, J. S.....                  | Jermyn                            |
| Armour & Co.....                   | Johnstown                         |
| Fisher, John.....                  | "                                 |
| Kurtz, G.....                      | "                                 |
| Spenger, John.....                 | "                                 |
| Walton, Joel M.....                | Kennett Square                    |
| Worrall, James M.....              | "                                 |
| Rutt, J. J.....                    | 465 New Holland Avenue, Lancaster |
| Efrig, Samuel & Co.....            | Lansdale                          |
| Seiler, G. E.....                  | Latrobe                           |
| Gebbard, H. L.....                 | Lebanon                           |
| Roller, Michael.....               | "                                 |
| Lehighton Beef Co.....             | Lehighton                         |
| Stein, G., & Bro.....              | Lewisburg                         |
| Kulp, George S.....                | Lock Haven                        |
| Mahanoy City Beef Co.....          | Mahanoy City                      |
| Selvert, H. C.....                 | "                                 |
| Quinn, J. T.....                   | "                                 |
| Wadlinger & Sons.....              | "                                 |
| Kumph, John.....                   | Mansfield Valley                  |
| Orth & Son.....                    | Marietta                          |
| Shillow, J. A.....                 | "                                 |
| Hadden, C. C.....                  | McDonald                          |
| Morris, Nelson & Co.....           | McKeesport                        |
| Wise Bros.....                     | "                                 |
| Co-operative Meat Association..... | Meadsville                        |
| King, J.....                       | "                                 |
| Mumper, J. S.....                  | Mechanicsburg                     |
| Clauson, Charles.....              | Mercer                            |
| Ackerman, John.....                | Middletown                        |
| Croll, A.....                      | "                                 |
| Knouff & Newbold.....              | Millersburg                       |
| Robbins Bros.....                  | Milton                            |

## PENNSYLVANIA (Continued).

|                      |                |
|----------------------|----------------|
| Rumbaugh, J. H.      | Mount Pleasant |
| Lape, A., & Co.      | Nanticoke      |
| Nanticoke Beef Co.   | "              |
| Schappert, H. & J.   | "              |
| Norristown Beef Co.  | Norristown     |
| Pfhals, A.           | New Castle     |
| Wettick, H.          | "              |
| Easton, Hugh A.      | Oil City       |
| Fornof, John, & Son. | "              |
| Oil City Beef Co.    | "              |
| Wall, William        | Phenixville    |
| Weiland & Rhoades.   | "              |

## Philadelphia.

|                           |                         |
|---------------------------|-------------------------|
| Armour & Co.              | 128 N. Delaware Avenue  |
| Armour & Co.              | S. Delaware Avenue      |
| Armour & Co.              | Ridge Avenue            |
| Beiswanger Bros.          | 4100 Lancaster Avenue   |
| Callowhill Beef Co.       | 400 N. Delaware Avenue  |
| Fairmount Market Beef Co. | 22d and Spring Streets  |
| Felin, J. J.              | 4148 Germantown Avenue  |
| Grant, J. N.              | 2008 E. Main Street     |
| Hagy, John C.             | 733 Race Street         |
| Hoffer, David.            | 29th and Market Streets |
| Hausmann, A.              | 501 S. 23d Street       |
| Hausmann & Co.            | 5105 Westminster Avenue |
| Hiller, Karl W.           | Bridesburg Street       |
| Kensington Beef Co.       | 1975 American Street    |
| Koller & Hawk             | 218 N. Delaware Avenue  |
| McCandless Reining Co.    | 30th Street             |
| Morris, Nelson & Co.      | 8 N. Delaware Avenue    |
| Morris Chicago Beef Co.   | 230 N. Delaware Avenue  |
| Philadelphia Beef Co.     | 17 Dock Street          |
| Philadelphia Meat Co.     | 3038 Market Street      |

Philadelphia (Continued).

Powdermaker, Joseph.....202 Callowhill Street  
 Powdermaker, M. (Estate) .....138 S. Delaware Avenue  
 Quaker City Beef Co. (Ltd.).....440 N. Front Street  
 Reese, Charles P., & Co..... Philadelphia Market  
**Roesch, Charles, & Son ..... 30th and Market Streets**  
 Sohwarzschild & Sulzberger Co... 837-841 Callowhill Street  
 Swift Bros..... 9th and Girard Avenues  
 Varian Beef Co..... Philadelphia Market  
 Welker & Bro.....30th Street  
 West Philadelphia Abattoir.....30th Street  
 Willow Street Beef Co.....704 Willow Street

Miners Beef Co.....Philipsburg  
 Armour & Co.....3035 Carson Street, Pittsburg  
 Armour & Co..... Union Street, "  
 Cudahy Packing Co.....431 Liberty Avenue, "  
 Morris, Nelson & Co.....438 Liberty Avenue, "  
 Pittsburg Beef Co.....441 Liberty Avenue, "  
 Schwarzschild & Sulzberger Co., 13th & Pike Sta., "  
 Wolfe, J. N., & Co., 2300-2308 Josephine Street, "  
 Brown & St. Amand..... Pittston  
 Reid, J. T., & Co..... "  
 Reid & McGowan..... "  
 Seibel, L. & F..... "  
 Batey, George..... Plymouth  
 Detweller & Redcay..... Pottstown  
 Slonaker & Krause..... "  
 Spatz, Daniel..... "  
 Swift Bros..... "  
 Pottsville Beef Co.....Pottsville  
 Ulmer, Jacob, Packing Co...207 N. Center Street, "  
 Leitheiser, William K., & Son, 911-913 Penn St., Reading  
 Reading Beef Co.....612 N. Eighth Street, "  
 Mercer, B. P., & Co. .... Ridgway

## PENNSYLVANIA (Continued).

|                                    |                              |
|------------------------------------|------------------------------|
| Armour, Samuel C.....              | Saint Clair                  |
| Mengel, E. C.....                  | Schuylkill Haven             |
| Campbell, P. & Son.....            | Scottdale                    |
| Kritschgau, John.....              | "                            |
| Stauffer, C. W.....                | "                            |
| Armbrust, H.....                   | 240 Elm Street, Scranton     |
| Bennett, Ira, & Co..               | 816 W. Lackawanna Avenue, "  |
| Dale & Co.....                     | 415 N. 8th Street, "         |
| Miller, John S.....                | Franklin and Vine Streets, " |
| Scranton Beef Co.....              | 702 Wyoming Avenue, "        |
| Schwarzschild & Sulzberger Co..... | "                            |
| Lake, John B.....                  | Sewickley                    |
| Shamokin Beef Co.....              | Shamokin                     |
| Henlan, William.....               | Sharon                       |
| Hoelzle, F.....                    | "                            |
| Kraft, G.....                      | Sharpsburg                   |
| Wertz & Beck.....                  | "                            |
| Nelson, Andrew.....                | Sheffield                    |
| Morrison, Andrew.....              | Shenandoah                   |
| Shenandoah Beef Co.....            | "                            |
| Stout, Russell.....                | "                            |
| Weiderbold, H.....                 | "                            |
| Horglerode & Holler.....           | Shippensburg                 |
| Kern, A. A.....                    | Slafington                   |
| Danis, Ross F., & Co.....          | Somerset                     |
| Conner, J. H.....                  | Stroudsburg                  |
| Kinney, H. H.....                  | Sunbury                      |
| Sunbury Beef Co.....               | "                            |
| Brode, E. E.....                   | Tamaqua                      |
| Kranth, John, Senior.....          | Tarentum                     |
| Beese & Wager.....                 | Titusville                   |
| Longenbacher, John & Son.....      | Tyrone                       |
| Wallace Bros.....                  | "                            |
| Armour & Co.....                   | Uniontown                    |

PENNSYLVANIA (Continued).

Hurst & Core.....Uniontown  
 Armour & Co.....Washington  
 Baldwin, J. S., & Co....."  
 Meredith, J. L.....Westchester  
 Brown, Wesley & Son....114 S. Canal Street, Wilkesbarre  
 Lacey, H. R., & Co..136 Northampton Street, "  
 Shoemaker, Geo.....Academy Street, "  
 Wilkesbarre Beef Co..141 Northampton Street, "  
 Williamsport Beef Co.....113 Basin Street, Williamsport  
 Mitzel, John.....E. Market Street, York

RHODE ISLAND.

Mexey, J. Eaton, & Son.....Central Falls  
 Nichols, J. O.....E. Greenwich Street, "  
 Armour & Co.....Bridge Street, Newport  
 Coggeshall, F. B.....115 Thomas Street, "  
 Newport Beef Co.....Long Wharf, "  
 Swift & Co....."  
 Bennett, N. P.....Olneyville  
 Chicago Beef Co.....33 Bayley Street, Pawtucket  
 Coates, W. W. & Co.....346 Canal Street, Providence  
 Comstock, J. F., & Sons....216 Canal Street, "  
 Hall, C. C.....66 Dean Street, "  
 Lincoln, J. M.....223 Canal Street, "  
 Lincoln, J. M., & Co.....330 Canal Street, "  
 Morris, Nelson & Co.....364 Canal Street, "  
 Public Market Co.....Westminster Street, "  
 Providence Beef Co....."  
 Saugy, A.....367 Canal Street, "  
 Schwarzschild & Sulsberger Co...Canal Street, "  
 Viall, G. R....."  
 Wallis, F. O.....Warren  
 Westerly Beef Co.....Westerly  
 Lyman, Swift, & Co.....Woonsocket



**SOUTH CAROLINA.**

Charleston Beef Co....Meeting & Mary Streets, Charleston  
 Pope, W. S., & Bro.....Columbia  
 Bomar Bros.....Spartanburg

**SOUTH DAKOTA.**

Stowell & Yeoman.....Aberdeen  
 Bender, B. F.....Bradley  
 Kochler, J. B.....Madison  
 Schlenning & Young.....Rapid City  
 Whistler Bros.....Watertown  
 Jewell & Engelhart.....Webster  
 Stier & Ferdinand.....Yankton  
 Wyman & Ward....."

**TENNESSEE.**

Godsey & Moore.....Bristol  
 Lynes Bros.....Clarkesville  
 Ackerman, Leo.....9 Carter Street, Chattanooga  
 Chattanooga Beef Co....."  
 Hagey, A. J., & Son.....Columbia

**TEXAS.**

Fisher, F.....Brenham  
 Franklin, P.....Bryan  
 Arnoldt, G .. ..2 French Market, Dallas  
 Dallas Dressed Beef & Packing Co. 145 N. Akard St., "  
 Fenchler Bros.....El Paso  
 Snyder & Harris.....Georgetown  
 Baus, Geo.....Houston  
 Geiselman, J. L....."  
 Lutz, Geo.....Marshall  
 Spaithe, A. M.....Palestine  
 Hicks & Baker.....Paris  
 Herpel, Wm.....San Antonio  
 McDonald Bros....."

**TEXAS (Continued).**

Michel, C. T., & Sons.....San Antonio  
 Pfeil, Henry....."  
 Irvine & Wilson.....Sherman  
 Bentinck, Geo.....Tyler  
 Goldsmith, S.....Waco

**UTAH.**

Murray Meat & Live Stock Co.....Murray  
 Greenwell, C. H., & Bros.....355, 24th Street, Ogden  
 Hasley, Morrison & Co.....2285 Well Avenue, "  
 Hess, F. E., & Co.....173, 25th Street, "  
 Dickinson & Marriott...265 S. Main Street, Salt Lake City  
 Salt Lake Meat Co.....5 West Street, "  
 Utah Slaughtering Co...368 W. First Street, "

**VERMONT.**

Thompson, C. C., & Co.....Bennington  
 Burlington Beef Co....Maple and Battery Sts., Burlington  
 Barnes & Co.....Brattleboro'  
 Brattleboro' Beef Co....."  
 Montpelier Beef Co.....Montpelier  
 Vermont Beef Co.....Rutland  
 Royce, A. H. & S. S.....St. Alban's  
 Collins Bros....."  
 St. Alban's Beef Co....."  
 White River Beef Co.....White River

**VIRGINIA.**

Walker Bros.....Bedford City  
 Clement & Clement.....Danville  
 O'Brien, Wm. A.....Lynchburg  
 Shaner, Jacob....."  
 Shaner, J. Philip....."  
 Wright & Caighill....."



## VIRGINIA (Continued).

Stein, Mrs. M. .... Manchester  
 Armour & Co. .... 98 Water Street, Norfolk  
 Robertson, C. R., & Co. .... 8-10 City Market, Portsmouth  
 Armour & Co. .... 123 Union Street, Richmond  
 Kingan & Co. (Ltd.) .1427-1429 E. Carey Street, "  
 Swift Bros. .... 1007 Broad Street, "  
 Catt, E. B., & Co. .... Salem

## WASHINGTON.

Hoss Bros. .... Centralia  
 Talmadge & Coonen. .... "  
 Lommasson, L. R., & Co. .... Colfax  
 Field Bros. .... Ellensburg  
 Alsof, Joseph. .... Fairhaven  
 Butler, Chas. .... Port Townsend  
 Evans Bros. & Co. .... "  
 Cartens Bros. .... 121 and 523 West Yeeler Avenue, Seattle  
 Oudahy Packing Co. .... 202 National Bank Building, "  
 Denner Market Co. .... 922, 2d Street, "  
 Frye, Bruhn Co. .... 115 Washington Street, "  
 Hammond, G. H., Co., The. .... 919 West Street, "  
 Masel, J. C., & Sons. .... 806 West Street, "  
 Seattle Meat Co. .... "  
 Bosquet, Leon. .... Garden Springs, Spokane  
 Fisher, Adolph. .... 925 Sprague Avenue, "  
 Hausen & Mahoney Bros. .... Spring Lake, "  
 King & Bender. .... Spring Avenue, "  
 Spokane Butchering Co. .... "  
 Wilson-Drumheller Co. .... "  
 Frye, Bruhn & Co. .... 909 Pacific Avenue, Tacoma  
 Krentzman, E. .... Puyallup Street, "  
 Pacific Meat Co. .... 1525 Pacific Avenue, "  
 Bluerock & Sons. .... Vancouver  
 McGeldrick & Hough. .... "

WASHINGTON (Continued).

Mulligan, O..... Vancouver  
 Kirkman, William..... Walla Walla  
 Sayer, William..... "  
 Balford & Balford..... Whatcom

WEST VIRGINIA.

Laidley, J. J..... Charleston  
 Young, M. W., & Bro..... "  
 Cole, William L..... Clarksburg  
 Waldeck & Law..... "  
 Lucas, F., & Son..... Grafton  
 Bowen, Davis & Son..... Huntington  
 Madagan, J..... Morgantown  
 Wheeling Beef Co..... Wheeling

WISCONSIN.

Kuehne Bros..... South 2d Avenue, Appleton  
 Wolfram, A. E..... 872 College Avenue, "  
 Armour Packing Co.... 110-122 Commercial Row, Ashland  
 Ashland Meat Co..... "  
 Hanley & Halbrook... 9th Avenue and 4th Street, "  
 Lake Superior Beef Co..... Commercial Row, "  
 Roehn, J. C..... 822 St. Clair Street, "  
 Meyer, F. C..... Antigo  
 Flanders & Herrick..... Bayfield  
 Harvey, C. W..... Beaver Dam  
 Martin, Joseph A..... Beloit  
 Ritcher, John..... "  
 Rouse & Trastle..... "  
 Campbell, B., & Son..... Evansville  
 Bartlett & Carstens..... Fond du Lac  
 Coughlin Bros..... "  
 Treleven, D. D., & Co..... "  
 Black, R. J..... Fort Howard  
 Plattin Bros. & Co..... "

## WISCONSIN (Continued).

|                                |                                 |
|--------------------------------|---------------------------------|
| Daly, Charles E., & Co.....    | Grand Rapids                    |
| Schumacher & Bro.....          | Green Bay                       |
| Johnson, Coon & Johnson.....   | Hudson                          |
| Carlson, Nels.....             | Janesville                      |
| Harper, R. B.....              | "                               |
| Scarcliff, George.....         | "                               |
| Jahn, C.....                   | Jefferson                       |
| English Bros.....              | Kenosha                         |
| Stahl, P., & Co.....           | "                               |
| La Crosse Pack. and Prov. Co.. | Front & Vine Sts., La Crosse    |
| Lohe, H., & Co.....            | Manitowoc                       |
| Pitz, John.....                | "                               |
| Hastings & Trotier.....        | Marinette                       |
| Martin & Campbell.....         | "                               |
| Ely & Galvin.....              | Mauston                         |
| Barrett, James A.....          | Merrill                         |
| McCarthy, M., & Co.....        | "                               |
| Armour & Co.....               | Milwaukee                       |
| Born & Kolnitzer.....          | 796 Teutonia Avenue, "          |
| Oudahy Bros. Co.....           | Muskego Road, "                 |
| Gifford, George P., Jr.....    | 150 Second Street, "            |
| Gross, F. C., & Bros.....      | Muskego and Canal Streets, "    |
| Gurnz, R., & Co.....           | Muskego and S. Canal Streets, " |
| Swift Bros.....                | Second and Fowler Streets, "    |
| Geetings, John, Jr.....        | Monroe                          |
| Hesse, W. H.....               | Neenah                          |
| Lowe Bros.....                 | Neillsville                     |
| Kapermick, A., & Son.....      | New London                      |
| Haefel Bros.....               | Oconto                          |
| Warren & Son.....              | Portage City                    |
| Armour & Co.....               | Racine                          |
| Romley Bros.....               | Main Street, "                  |
| Graff & Jussen.....            | Ripon                           |
| Hammond, Standish & Co.....    | Rhineland                       |

**WISCONSIN (Continued).**

Spearbaker, C. C., & Co.....Rhinelander  
 Degenkalbe, F., & Son.....Sheboygan  
 Gottschalk, M.....“  
 Knocke, Charles.....“  
 Lorfeld, F. L.....“  
 Blut Bros.....Sheboygan Falls  
 Keller & Co.....Tomah  
 Jenson, Matt.....Waupaca  
 Ware & Morris.....“  
 Armour & Co.....Wausau  
 Chadwick, A. F., & Co.....West Superior

**WYOMING.**

Breenahan & Smith.....Cheyenne  
 Thomas Bros.....“  
 Marsh & Cooper.....Laramie

**BRITISH NORTH AMERICA.**

**British Columbia.**

Brightman, S.....Nanaimo  
 Quennell, E.....“  
 British Columbia Cattle Co.....New Westminster  
 Dickenson, R., Estate.....“  
 British Columbia Cattle Co.....Vancouver  
 McIntosh, W. A., & Co.....“

**Manitoba.**

Burchill & Howie.....Brandon  
 Hull Bros. & Co.....Calgary  
 Topp, F. G., & Co.....“  
 Taylor Bros. & Co.....Minnedosa  
 Snowden & Nelson.....Morden  
 Gillies & Son.....Portage la Prairie  
 Robb & Livingston.....“

Grand Rapids  
 ... Green Bay  
 ... Hudson  
 ... Janesville  
 ... “  
 ... “  
 ... Jefferson  
 ... Kenosha  
 ... “  
 Sts., La Crosse  
 ... Manitowoc  
 ... “  
 ... Marinette  
 ... “  
 ... Mauston  
 ... Merrill  
 ... “  
 ... Milwaukee  
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 ets, “  
 ... Monroe  
 ... Neenah  
 ... Neillsville  
 ... New London  
 ... Oconto  
 ... Portage City  
 ... Racine  
 n Street, “  
 ... Ripon  
 ... Rhinelander

**Manitoba (Continued)**

|                            |               |
|----------------------------|---------------|
| McDonald, John, & Co.....  | Prince Albert |
| Childs & Gallagher.....    | Regina        |
| Bennalleck, H.....         | Winnipeg      |
| Carson & Cowles.....       | "             |
| Gallagher, P., & Sons..... | "             |
| Holman Bros.....           | "             |
| McLennan & McKenzie.....   | "             |

**New Brunswick**

|                          |            |
|--------------------------|------------|
| Miller, W. J., & Co..... | New Castle |
| Matthews, G. C.....      | Moncton    |
| McDonald, John.....      | St. John   |
| Ryan, Michael.....       | St. John   |
| McLean, Forrester.....   | Woodstock  |

**Newfoundland**

|                       |            |
|-----------------------|------------|
| Connors, Michael..... | St. John's |
| Cook, William.....    | "          |

**Nova Scotia**

|                   |              |
|-------------------|--------------|
| Haas, James.....  | Lunenburg    |
| Smith, John.....  | New Glasgow  |
| Kelly, James..... | North Sydney |

**Ontario**

|                      |             |
|----------------------|-------------|
| Johnson Bros.....    | Amprior     |
| Miller, John.....    | Belleville  |
| Klein, George.....   | Berlin      |
| Tyson Bros.....      | "           |
| Cawker, W. R. R..... | Bowmanville |
| Carsons Bros.....    | Brampton    |
| Smith, James.....    | Brantford   |
| Webling, E. H.....   | "           |
| Brown & Ross.....    | Brockville  |



Ontario (Continued).

|                          |                |
|--------------------------|----------------|
| Cowan, Enoch & Co.....   | Brockville     |
| Henderson, J. J.....     | "              |
| Murray, John.....        | "              |
| Stagg, John.....         | "              |
| Irvine, George.....      | Caledonia      |
| Nancarrow Bros.....      | Campbellford   |
| Taylor & Beatty.....     | Cannington     |
| Wilson Bros.....         | Carleton Place |
| Goodland, Frederick..... | Chatham        |
| Ramage, James.....       | Chesley        |
| Couch, A.....            | Clinton        |
| Powell, O. W.....        | Cobourg        |
| Fawcett & Robbins.....   | Dunnville      |
| Davis, Richard.....      | Exeter         |
| Mills, A. & T.....       | Fergus         |
| Allison, Thos.....       | Galt           |
| McLean, R.....           | Goderich       |
| Miller, J. & R.....      | Guelph         |
| Roberts, J.....          | "              |
| Beer, Frank.....         | Hamilton       |
| Bowering & Pain.....     | "              |
| Clark, Thos.....         | "              |
| Dingle, Jas. A.....      | "              |
| Harrison, Henry.....     | "              |
| Fee, Wm.....             | Kingston       |
| Gowdy, Jas.....          | "              |
| McCammon, John.....      | "              |
| Waddington, Bros.....    | "              |
| Bibbings, Adolphus.....  | London         |
| Doherty, Jas.....        | Mitchell       |
| Exley, Walter.....       | Napanee        |
| McHattie, Wm.....        | Niagara Falls  |
| McAllister, Jas.....     | Norwich        |
| Schmidt, Geo.....        | Pembroke       |

## Ontario (Continued).

|                             |                            |
|-----------------------------|----------------------------|
| Barrie, A. & M.....         | Perth                      |
| Laplant, John.....          | Peterboro'                 |
| Marshall, Edw.....          | Petrolia                   |
| Brown, G. W., & Co.....     | Port Arthur                |
| Coffey, John.....           | Port Elgin                 |
| Blaschke, Jas., & Sons..... | Preston                    |
| Kobold, H. W., & Co.....    | Rat Portage                |
| Peterson, Richard.....      | St. Catherine's            |
| Allan, F., & Co.....        | St. Mary's                 |
| Hammond, James.....         | St. Thomas                 |
| Pincombe, J., & Son.....    | "                          |
| Buchner & Co.....           | Sarnia                     |
| Brown, T. A., & Co.....     | Sault Ste. Marie           |
| Govenlock Bros.....         | Seaforth                   |
| McEachren, M.....           | Stayner                    |
| Ubelacher, H., & Son.....   | Stratford                  |
| Wingfielder Bros.....       | "                          |
| Holland, Terence.....       | 155 Curzon Street, Toronto |
| Kelly, H.....               | 56 St. Lawrence Market, "  |
| Levack, William.....        | 355 Brock Avenue, "        |
| Smith, Benjamin.....        | 648 Dundas Street, "       |
| Waller, G. H.....           | 13 St. Lawrence Market, "  |
| McKnight, William.....      | W. Toronto Junction        |
| Woolings, J. & J.....       | "                          |
| Winter, J., Jr.....         | Windsor                    |
| Dickle, R., & Son.....      | Woodstock                  |

## Prince Edward Island.

|                        |               |
|------------------------|---------------|
| Saunders & Newcom..... | Charlottetown |
|------------------------|---------------|

## Quebec.

|                          |             |
|--------------------------|-------------|
| Campbell, D.....         | Bedford     |
| Senechal, E., & Bro..... | Fraserville |
| Dacust & Belanger.....   | Hull        |



, ETC.

Perth  
Peterboro'  
Petrolia  
Port Arthur  
Port Elgin  
Preston  
Portage  
Catherine's  
St. Mary's  
St. Thomas  
" "  
Sarnia  
Ste. Marie  
Seaforth  
Stayner  
Stratford  
" "  
Toronto  
" "  
" "  
" "  
" "  
Junction  
" "  
Windsor  
Woodstock  
" "  
Charlotte  
" "  
Bedford  
Fraserville  
Hull

Quebec (Continued).

|                        |              |
|------------------------|--------------|
| Carrier, George.....   | Levis        |
| Trudel, J. B.....      | Nicolet      |
| Tozer & Co.....        | Quebec       |
| Benoit, M.....         | St. Henri    |
| Ames, A. J.....        | Sherbrooke   |
| Aubichon, E.....       | Sorel        |
| Magnan, M.....         | " "          |
| Nanert, A. & J.....    | Terrebonne   |
| Ladone, A.....         | Valleyfield  |
| Taillefer, T.....      | " "          |
| Deragon, O.....        | Waterloo     |
| Archambault, J. B..... | West Farnham |

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| <b>OLEO OIL,</b>        | <b>FERTILIZERS,</b> |
| <b>Etc., Etc.</b>       |                     |

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etc.—Steam  
Agitators for  
w, etc.—Im-  
er.—Extract  
Pans for mak-  
ing Soap. Makers'  
and H. Com-  
approved Soap  
Horse Power  
Soap Frames.  
etc.

Soap Makers'  
Machinery,  
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|                                |                                       |
|--------------------------------|---------------------------------------|
| Armour Packing Co.....         | Mobile, Alabama                       |
| Maupin, R. L., Packing Co..... | " "                                   |
| Armour Packing Co.....         | Little Rock, Arkansas                 |
| Jones, T. H., & Co.....        | " "                                   |
| Martin & Porter.....           | " "                                   |
| Whittemore & Co.....           | " "                                   |
| Fowler, L.....                 | Pine Bluff, "                         |
| Marsh & Atkinson.....          | " "                                   |
| Feldbusen, Claus.....          | 801-903 L St., Sacramento, California |
| Sermonet, Geo.....             | 8th & G Streets, "                    |
| Weber & Co.....                | 1217-1219 L Street, "                 |
| Tucker, R. H., & Co.....       | Aspen, Colorado                       |
| Adams, J. W.....               | Deer Trail, "                         |
| Armour Packing Co.....         | 1520, 20th Street, Denver, "          |
| Chicago Packing Co.....        | 2522 Market St., "                    |
| Cudahy Packing Co.....         | " "                                   |
| Geib & Hodgson.....            | 1348 Larimer Street, "                |
| Rall, John, Mercantile Co..... | Idaho Springs, "                      |
| Reid Bros. Pack. Co.....       | 108 S. Union St., Pueblo, "           |
| Columbia Land & Cattle Co.,    |                                       |
| Third & Main Streets,          | " "                                   |

### CONNECTICUT.

|                            |                              |
|----------------------------|------------------------------|
| Gregory, S.....            | 321 Water Street, Bridgeport |
| Hurd, E. G.....            | 88 Hill Street, Ansonia      |
| Chamberlin, S. D.....      | 179 State Street, Hartford   |
| Hartford Provision Co..... | 169 Commerce Street, "       |
| Hellman, L.....            | 962 Main Street, "           |
| Hurlburt, E. E.....        | 130 Church Street, "         |
| Kashman, S.....            | 46 Summer Street, "          |
| Kibbe, E. S., Co.....      | 137 State Street, "          |



## CONNECTICUT (Continued).

Levy, Lewis, ..... 126 Clark Street, Hartford  
 Payne, Cornwall & Co. .... 405-407 Allyn Street, "  
 Whittlesey, E. G., & Co ..... 140 State Street, "  
 Burr, Geo. A. .... Meriden  
 Pomeroy, C. L. .... Pomeroy Avenue, "

## New Haven.

Andrew, F. S., & Co ..... City Market  
 Andrew, V. L., & Co ..... 18 City Market  
 Andrews, C. C., & Co. .... 27 Long Wharf  
 Armour Packing Co. .... 379 Chapel Street  
 Caplan & Co. .... 305 State Street  
 Fitzpatrick & Ross ..... 112 State Street  
 Galvin, T., & Son ..... 17 Orchard Street  
 Lee & Hoyt ..... 38-40 Union Street  
 Magg, H. W. .... 95 Foster Street  
 Merriam, S. E., & Son ..... 354 State Street  
 New Haven Beef Co. .... 54 Union Street  
 Robinson, T. E., & Co. .... 146-148 State Street  
 Rosin, Brownstein & Co. .... 10 George Street  
 Russell, Wm. C. .... 248 Cedar Street  
 Seaman, Allan. .... 265 Ferry Street  
 Sperry & Barnes ..... 114 State Street  
 Strong, Barnes, Hart & Co ..... 165 Long Wharf  
 Williams, John H. .... 316 Wooster Street

Holmes, Keeler & Selleck Co ..... 9 Wall Street, Norwalk  
 Wood, Chas. N. .... 32 Main Street, "  
 Stiles & Harrington. .... 654 Main Street, Willimantic

Pancoast, Charles W. .... Delaware City, Delaware  
 Auth, N., Mfg. Co. .... Washington, D. C.  
 Buttner, N. .... " "  
 Carl Bros. .... " "

Washington, D.C. (Continued).

Cast, O. F. .... Washington, D.C.  
 Cronin, R. A. .... " "  
 Emrich, C. M. .... " "  
 Gaegler, John .... " "  
 Goetsinger, J. .... " "  
 Armour & Co. 1904 W. Bay Street, Jacksonville, Florida  
 Cudahy Packing Co. Viaduct Street, " "  
 Hale, T. N. .... 329 Equitable Building, Atlanta, Georgia  
 Oglesby, G. W. .... Dalton, "  
 Armour Packing Co. 70 W. Broad St., Savannah, "  
 Dixon, James M., & Co. 141 Bay St., " "  
 Haynes & Elton. 20 Montgomery St., " "  
 Herman & Kayton. 139 Bay Street, " "  
 Hull & Peoples. 128 Bay Street, " "

ILLINOIS.

Cudahy Packing Co. .... Aurora  
 Hayward, L., & Sons. 13 N. Broadway, "  
 Rayston, F. E. & Co. 27 N. Broadway, "  
 Haw, Mich. 2935 Main Street, Bloomington

Chicago.

Brown, D. G. 134 Van Buren Street  
 Chicago Stock Yards Provision Co. 10231 Avenue K  
 Cudahy, John. 113 Rialto Street  
 Cudahy Packing Co. 1546 State Street  
 Cudahy Packing Co. N. Sheffield Avenue  
 Davis Provision Co. 60 Board of Trade  
 Endicott, E. M., & Co. 19 Wabash Avenue  
 Fadrbank, N. E., Co. 60 Wabash Avenue  
 Forbes Bros. 47 Market Street  
 German American Provision Co. 15 S. Jefferson Street  
 Goulard, Thomas, & Co. 73 Traders' Building  
 Gano, Daniel, & Son. 169 Jackson Street



## Chicago (Continued).

|                                    |                                          |
|------------------------------------|------------------------------------------|
| Keller, J. ....                    | 134 S. Centre Avenue                     |
| Loeb, Herman & Co. ....            | 515 Royal Insurance Building             |
| Loeffler, William. ....            | 2, 19th Place                            |
| Nash, James T., & Co. ....         | 39th and Wright Streets                  |
| Rapp, John H. ....                 | 83 Jackson Street                        |
| Schwantke, F. ....                 | 4213 Wabash Avenue                       |
| Stauffer, F. J. ....               | 113 S. Western Avenue                    |
| Stevens & Co. ....                 | 218 La Salle Street                      |
| Sunderland, I. T. ....             | 63 Board of Trade Building               |
| Taylor, W. H., & Co. ....          | 156 S. Water Street                      |
| Thorp, O. A., & Co. ....           | 218 La Salle Street                      |
| Vestey, E. H., Canning Co. ....    | 620 Rialto Street                        |
|                                    |                                          |
| Jalageas, J. C. ....               | 311-313 E. Broadway, East St. Louis      |
| Armour Packing Co. ....            | Water and Liberty Streets, Peoria        |
| Oakford & Fahnestock. ....         | " "                                      |
| Sinclair, T. M., & Co. ....        | 120 Main Street, "                       |
| Armour Packing Co. ....            | Randall                                  |
| Standard Grocery and Meat Co. .... | 1439 Charles St., Rockford               |
| Swedish Meat and Sausage Co. ....  | 1103 Seventh St., "                      |
| Armour Packing Co. ....            | 103-115 Perry Davenport St., Rock Island |
| Schindler, T. E., & Co. ....       | 1817 Second Avenue, "                    |
| Tri-City Packing & Prov. Co. ....  | 1928 Fourth Ave., "                      |
| Armour Packing Co. ....            | Monroe Street, Springfield               |
| Franz, B., & Bro. ....             | 302 N. 5th Street, "                     |
|                                    |                                          |
| Gans, A. G., & Co. ....            | 9 S. 5th Street, Richmond, Indiana       |
| Burlington Produce Co. ....        | 100 S. 5th St., Burlington, Iowa         |
| Cudahy Packing Co. ....            | Clinton, "                               |
| Schmidt & Hook. ....               | Rockingham Road, Davenport, "            |
| Blom Collier Co. ....              | Keokuk, "                                |
| Armour Packing Co. ....            | 4th and Santa Fé R. R., Topeka, Kansas   |
| Dold, Jacob, Packing Co. ....      | Wichita, "                               |
| Dumser, A., & Co. ....             | 103 Poydras St., New Orleans, Louisiana  |

**New Orleans, La. (Continued).**

McCloskey Bros.,  
 Magazine and Poydras Streets, New Orleans, Louisiana  
 Ruch, Louis, & Son. 212 Poydras St, " "  
 Schwabacher, J. & M. (Ltd.), " "  
 Magazine and Poydras Streets, " "  
**Trepagnier & Bros. 81 Magazine St., New Orleans, La.**  
 Brimmer & Gilmore ..... 71 Main Street, Bremer, Maine  
 Doane, F. W., & Co. .... Main Street, " "  
 Nickerson & Barstow. Main and Wilson Sts., " "  
 Cross, E. W. .... Lewiston, " "  
 Hain, J. B., & Co. .... Grand Trunk Yard, " "  
 Vigne, J. .... 23 Hines Alley, " "

Kingan & Co. (Ltd.) 102 South St., Baltimore, Maryland  
 Kriel, Chas. G. 7-23 W. Henrietta St., " "  
 Lamb, G. M., & Bro. 108 South St., " "  
 Miller & Miller .. 12-14 N. Paca St., " "  
 Morris, Nelson & Co. 500 North St., " "  
 Swift Provision Co.,  
 405-407 W. Camden Street, " "  
 Swift, G. F. & E. C. .... " "  
 Vickery, H. G., & Co.,  
 111-113 Light Street, " "  
 Orrick, J. C., & Son Co. Union St., Cumberland, " "

**MASSACHUSETTS.**

**Boston.**

Atwood, A. H., & Co. .... 48 North Street  
 Armour & Co. .... 39 Commercial Wharf  
 Baldwin, C. A., & Co. .... 70 S. Market Street  
 Batchelder, Francis, & Co. .... 55 Blackstone Street  
 Knight & McIntyre ..... 52 Chatham Street  
 Ladensack, J. N., & Co. .... 24 Clinton Street  
 North Packing & Prov. Co. .... 33 and 34 N. Market St.

**Boston (Continued).**

Park Sausage and Provision Co.....31 Fulton Street  
 Pool Bros.....20 S. Market Street  
 Roberts, J. W., & Co.....83 S. Market Street  
 Robinson, C. H., & Co.....77 S. Market Street  
 Rogers, Albert D.....46 N. Market Street  
 Squire, John P., & Co.....39 and 40 N. Market Street  
 Squire, Joseph, & Co.....39 North Street  
 Westworth, Harvey & Crosby.....472 Harrison Avenue

Dyer, F. H., & Co.....13 Harvard Square, Brookline  
 Anthony, D. M.....83 Davol Street, Fall River  
 Cudahy Packing Co....."  
 Davis & Fish....."  
 Fall River Provision Co....."  
 Hawkins, H. C., & Bro.....36, 2d Street,  
 Lee, Daniel.....122, 2d Street, "  
 Slade, Allen & Co.....16 Bedford Street, "  
 Burt, W. M.....Greenfield  
 Holmes Prov. and Cold Storage Co...18 Main St., Holyoke  
 Leadbetter, I. S.....91 Wall Street, Lynn  
 Porter, Hanson & Co.....8 City Hall Square, "

**New Bedford.**

Ashley, C. S.....31 S. 2d Street  
 Baylies, William.....8 Union Street  
 Brownell, S. A.....School Street  
 Driscoll, Church & Hall.....78-82 Union Street  
 Gauthrie, E.....714 Acushment Avenue  
 Potter, W. F., & Co.....3-17 Union Street  
 Swift, Anthony, & Co.....Bridge Square  
 Viall, W. G. B.....Parker's Wharf  
 Wood, John A., & Co.....40-50 Union Street

**MASSACHUSETTS (Continued).**

Graham, John, & Sons.....Newburyport  
 North Packing and Provision Co..... "  
 Roof, George M.....5 Ferry Wharf, "  
 Thomas, J. B.....45 Water Street, "  
 Anerill, George H.....20 Central Street, Salem  
 Thomas, J. B.....25 Derby Square, "  
 North Packing and Prov. Co...61 Medford St., Somerville  
 Squire, John P., & Co.....Somerville Avenue, "

Clark, H. J.....108 N. 2d Street, Alpena, Michigan  
 Moore, George...501 W. Chisholm St., "  
 Stevens, Robert...807 W. Chisholm St., "  
 Mich. Beef & Prov. Co.25 Cadillac Sq., Detroit, "  
 Mosquera, Julia, Food Co. P. O. Box 128, "  
 Cooley, E. C.....Penn Bank Block, Ishpeming, "  
 Winter & Sness, 301 Iron Negaunee St., "  
 Hurd, George R., & Son.....Monroe, "  
 Armour Packing Co.R.R. and 6th Sta., Duluth, Minnesota  
 Bates Commission Co..... "  
 Cudahy Packing Co.431 W. Mich. St., "  
 Cox Bros. Provision Co..... "  
 Minnesota Packing & Provision Co.,  
 S. 6th Avenue, "  
 Messick & Macauley..... "  
 Minneapolis Stock Yards and Pack. Co.,  
 R. R. and Lake Avenues, "  
 St. Paul Meat & Provision Co.,  
 Stewart Avenue, St. Paul, "  
 Searles, E. J., Co.....Vicksburg, Mississippi

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Goulard, Thomas, & Co.....1231 Union Ave., Kansas City  
 Moran, John, Packing Co.....St. Joseph

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Ande, George.....2869 S. Jefferson Street  
 Armour Packing Co.....2030 Clark Avenue  
 Barnes Bros.....1022 S. 2d Street  
 Belle Bros. Provision and Commission Co.....702 N. 3d St.  
 Bodenheimer, Landan & Co.....527 N. 2d Street  
 Byrne, James V.....825 N. 4th Street  
 Cudahy Packing Co.....2207 Scott Avenue  
 Francis, D. B., & Bro. Commission Co.... 3d and Pine Sts.  
 Home Provision and Commission Co.....Pine Street  
 Kraeger, Charles G.....1826 Cherokee Street  
 Kretschmar, E.....2700 Cherokee Street  
 Krey, John, & Son.....3825 N. 21st Street  
 Lowell, John.....307 N. Lence Street  
 Luth, Frederick L., & Co... ..800 Manchester Avenue  
 McDonnell, John.....2d and Bremen Avenue  
 Neibert, John.....1004 Missouri Avenue  
 Niggemann & Sayers.....1304-1310 N. Main Street  
 Reid Bros. Packing Co. (Ltd.).....1201 Collins Street  
 Sells & Co.....27 S. 2d Street  
 Spiegel & Sons, A.....725 Chouteau Avenue

McIntyre & Carroll..316 N. Main Street, Butte, **Montana**  
 Dickerman & Co., Bridge St., Concord, **New Hampshire**  
 Goldsmith, J. B. Wash'n Place, " "  
 Robie, John H. Wash'n Place, " "  
 Woodworth & Co..Hills Ave., " "  
 Foss, Charles B....11, 4th Street, Dover, "

**NEW JERSEY.**

Brakely, Asher.....Bordentown  
 Coxey, William J., & Son.....Camden  
 Jamison, John.....10 Market Street, "  
 Bender, John C.....E. Broad Street, Elizabeth  
 Fowler Bros. (Ltd.).....Hoboken



**NEW JERSEY (Continued).**

Hyka, William ..... Hoboken  
 Lohman, H., & Son ..... "  
 Pfeiffer, L. .... "

**Jersey City.**

Ammon & Person ..... 138 Ninth Street  
 Bender, William ..... 359-369, 1st Street  
 Bush Bros. .... 327 Henderson Street  
 Cordes, A. .... 184 New York Avenue  
 Frankenstein Bros. .... 192 New York Avenue  
**Jersey City Packing Co. .... 138-154 Ninth Street**  
 McIlhinney, James ..... 619 Grand Street  
 Seibel, F. .... 131 Linden Avenue  
 Staples, C. F. .... 96 Waverly Street

Armour Packing Co. .... Newark  
 Bimblar, Van Wagenen & Co. .... "  
 Dill, Charles ..... 126 Barclay Street, "  
 Hasenauer, E. .... 494 S. 12th Street, "  
 Klenert & Kuepferle ..... 59-61 S. Orange Avenue, "  
 Wilkinson, Gaddis & Co. .... 866 Broad Street, "  
 Rosenstock, Jacob, & Son ..... 54 Mount Street, Red Bank  
 Parks, G. D., & Co. .... 1109 Division Street, Trenton

**NEW YORK.**

Albany Beef and Provision Co. .... 699 Broadway, Albany  
 Albany Sliced Smoked Beef Co. .... 8 Pruyn Street, "  
 Capron, John D., & Co. .... 359 Broadway, "  
 McIntyre & Co. .... 18 Hudson Avenue, "  
 Smith, W. V. H. .... 380 Broadway, "  
 Brewster, W. J. .... 243 Water Street, Binghamton  
 Mills, Ely S. . . . Prospect Avenue and N. Depot, "  
 North & Beecher. .... 180 State Street, "  
 Taylor & Niven. .... 134 State Street, "



## Brooklyn.

Bartels, Otto.....7 Wallabout Market  
 Figge & Bro.....289 Atlantic Avenue  
 Grahls, Hermann.....59-61 Prospect Street  
 Heymann, Henry.....56 Grand Street  
 Hutwelker, C., & Co.....80 Ewen Street  
 Hutwelker Bros.....691, 5th Avenue  
 International Provision Co.....33-39 Degraw Street  
 Stoll, Louis.....370 N. 2d Street  
 Stutz, Louis.....817 Broadway  
 Wallabout Pork Packing Co.....278 Flushing Avenue

Beck, August.....186 Genesee Street, Buffalo  
 Dormer & Co.....6 Lock Street, "  
 Goembel, P., & Son.....306 Broadway, "  
 Jones, M. N.....1023 Ellicott Street, "  
 Klinck, C.....11-13 Elk Street Market, "  
 Manner, Jacob.....Hickory and Genesee Streets, "  
 Soergel, J. G.....1550 Main Street, "  
 Thompson Packing Co.....36 Lewis Street, "  
 Weppner, F. A.....5 Hanover Street, "  
 Weppner's, A., Sons .. Guilford and Sycamore Sts., "  
 Armour & Co.....6-10 Front Street, Newburgh  
 Barnes, E. C.....42 S. Water Street, "  
 Bull, S. M.....Front and 5th Streets, "  
 Matthews, J. W., & Co.....16-26 Front Street, "  
 Newburgh Beef Co.....Front and Erie Depot, "  
 Skidmore Mercantile Co.....80-84 Front Street, "

## New York City.

Abenheim, S.....2-4 Stone Street  
 Armour & Co.....182 Duane Street  
 Armour Packing Co.....Manhattan Market  
 Bacharsch, Joseph.....347 Greenwich Street  
 Baker, Carver & Morrell.....75 Front Street

New York City (Continued).

|                                    |                                |
|------------------------------------|--------------------------------|
| Bauer, D .....                     | 33 Front Street                |
| Bechstein, F., & Son .....         | 152 West Street                |
| Becker Bros. ....                  | 1530, 2d Avenue                |
| Beinecke & Co. ....                | 196 Fulton Street              |
| Bohnet, John .....                 | 188 Monroe Street              |
| Brewster, A. H. ....               | 211 Washington Street          |
| Butler, Chas. ....                 | 165, 1st Avenue                |
| Clark, Wm. E., & Bro. ....         | 164 Elizabeth Street           |
| Cole, Edward .....                 | 21 Spring Street               |
| Coles, B. G., & Co. ....           | 109 Forsyth Street             |
| Cudahy Packing Co. ....            | 37 N. Moore Street             |
| Dougherty, E. H., & Co. ....       | 355 Produce Exchange           |
| Fackiner, John .....               | 133 Eldridge Street            |
| Ferris, F. A., & Co. ....          | 202 Mott Street                |
| Fowler Bros. ....                  | 111 Produce Exchange           |
| Frohman, M. ....                   | 205 E. 45th Street             |
| German American Provision Co. .... | 207 Duane Street               |
| Glick Bros. ....                   | 60 Pearl Street                |
| Halsted & Co. ....                 | 200 Forsyth Street             |
| Hammond, G. H., Co. ....           | 309 Greenwich Street           |
| Hansen, P. F. T., & Sons. ....     | 336 Greenwich Street           |
| Hatch, A. H. ....                  | 400 Greenwich Street           |
| Heyer, A. Lester .....             | 622, 3d Avenue                 |
| Jones, A. A. ....                  | 154 E. 43d Street              |
| Kanenbley Bros. ....               | 35 Columbia Street             |
| Kastens, F. H. ....                | 670, 10th Avenue               |
| Ketcham, F. A. ....                | 33 Front Street                |
| King, Chas. A. ....                | 33 Avenue C and 49, 1st Avenue |
| Kingan Prov. Co. (Ltd.) .....      | 20-22 Manhattan Market         |
| Lindner, Chas. ....                | 47, 1st Avenue                 |
| Link, Fred .....                   | 129 Christopher Street         |
| Martin, James .....                | 164 West Street                |
| Mattlage, C. F. ....               | 337 Greenwich Street           |
| Moore, James, Jr. ....             | 45 Water Street                |

## New York City (Continued).

|                                               |                                     |
|-----------------------------------------------|-------------------------------------|
| North Packing & Provision Co.                 | 444-448 Produce Exchange            |
| Pebler's, Chas., Sons                         | 224 Stanton Street                  |
| Reed, C. H.                                   | 185, 1st Avenue                     |
| Rohe & Bro                                    | 268 W. 33d and 344 Produce Exchange |
| Rohe & Bro                                    | 523 W. 36th Street                  |
| Ross, W. P.                                   | 273, 7th Avenue                     |
| Schaue, C. F., & Co.                          | 2060, 3d Avenue                     |
| Silberhorn Bros.                              | 92 Chrystie Street                  |
| Sinclair, John, & Co.                         | 1 Broadway                          |
| Sinclair Provision Co.                        | Manhattan Market                    |
| Squire, John P., & Sons.                      | 20 Harrison Street                  |
| Stevens & Benedict                            | 20 Pearl Street                     |
| Stokes, Thomas                                | 323 Greenwich Street                |
| Stokes, Wm.                                   | 13 Jay Street                       |
| Swift & Co.                                   | 105 Barclay Street                  |
| Swift Provision Co.                           | 18th Street and 11th Avenue         |
| Thompson & Adams Co.                          | 44 Broad Street                     |
| Webber, Richard                               | 120th Street and 3d Avenue          |
| Williams & Co.                                | 54 New Street                       |
| Wright, Depew & Co.                           | 103 Murray Street                   |
| <i>Inspectors and Weighers of Provisions.</i> |                                     |
| Goulard, Thos., & Co.                         | Whitehall Street                    |
| <i>Importers and Exporters of Provisions.</i> |                                     |
| Warden, Wm., & Sons                           | 4 Stone Street                      |
| Truesdell, J. H.                              | Depot Square, Sing Sing             |
| Mowry & Barnes                                | 101 Lock Street, Syracuse           |
| Wente, H. J.                                  | 1810 W. Fayette Street, "           |
| Fuhrman, Otto                                 | Youkers                             |
| Armour Packing Co.                            | 301 E. 5th Street, Charlotte, N. C. |
| Voilers & Hashagen                            | " "                                 |

OHIO.

Gerals, F.....Saybrook Street, Ashtabula  
 Hough, H. B.....East Side, "  
 Murberger, George... 77 Main Street, "  
 Cleveland Provision Co...C. C. and S. R. R. Depot, Canton

Cincinnati.

Anglo-American Provision Co.....49 Walnut Street  
 Becker, William.....36 Findley Street  
 Chicago Packing and Provision Co.....49 Walnut Street  
 Cudahy Packing Co..... Front and Main Streets  
 Derrick Louis..... 57 Poplar Street  
 Geringer, William.....1135 Colerain Avenue  
 German-American Packing Co.....327 Broadway  
 Grant & Co..... 46 Chamber of Commerce  
 Hopkins, J. W..... 270 Sycamore Street  
 Kuhn's, M., Sons ..... 351 McMicken Street  
 Lake Erie Packing Co.....49 Walnut Street  
 Lowenstein, A., & Sons.....John and Livingston Streets  
 O'Neill, James (*Provision Inspector*)... 3 College Building  
 Roots, G. Y., Co..... 12 Chamber of Commerce Building  
 Shiver, George ..... 43 Public Landing  
 Sibley, J. W., & Co..... 40 Walnut Street  
 Stewart, Dunbolter & Co..... 45 Walnut Street  
 Taylor & Bros..... 1007 Neane Building  
 Treiber, J..... 12 McMicken Avenue

Cleveland Provision Co.....40 Spruce Street, Columbus  
 Slyh, C. H. & J. R.....2664 N. High Street, "  
 Becker, Philip..... 23 E. High Street, Springfield  
 Sheppey, A. N., & Co..... Warren

Cudahy Packing Co..... Portland, Oregon  
 Hammond, G. H., Co..... Oak Street, " "

## PENNSYLVANIA.

Buckley, John J. .... 36-40 W. 2d Street, Chester  
 Woolf, John A. .... 1141 Edgmont Avenue, "  
 Houck, C. E. .... 838 Ferry Street, Easton  
 Rice, G. O. .... 130 Delaware Street, "

## Philadelphia.

Ammon & Person ..... 215 Callowhill Street  
 Anglo-American Provision Co. .... 3 S. Front Street  
 Armour Packing Company ..... 146 N. Delaware Avenue  
 Bower, John, & Co. .... 24th and Brown Streets  
 Boysen, John A., & Bro. .... 1805-1809 Cuba Street  
 Buck, A. R., & Son ..... 2733 Church Building  
 Collins & Burrows ..... 134 N. Front Street  
 Escherick & Co. .... 115 S. 3d Street  
 Fowler, George, Son & Co. (Ltd.) .... 128 S. Front Street  
 Hand, Joseph ..... 153 N. Front Street  
 Jamison, John ..... Water and Market Streets  
 Kingan & Co. (Ltd.) .... Delaware Avenue and Vine Street  
 Mealey, M., & Co. .... 358 N. 2d Street  
 Michener, J. H., & Co. .... 956 N. Front Street  
 Roesch, Charles & Sons ..... 838 N. 2d Street  
 Schober, John G. .... 1913 N. 21st Street  
 Tenbrook & Co. .... 1731 N. 12th Street  
 Troth, Wm. J. .... 1701 S. 4th Street  
 Twining's Sons, H. M. .... 1914 N. 5th Street  
 White, Oscar W. .... 104 Callowhill Street  
 Woerner, F. .... 2012 Mascher Street  
 Wright, J. P., Provision Co. .... 1718 Uher Street

Brown, Wesley, & Co. .... Pittston  
 Ulmer, Jacob, Packing Co. .... Front Street, Pottsville  
 Steelton Store Co. .... Steelton  
 Miner, A. D. .... East Greenwich, Rhode Island  
 Armour Packing Co. .... Providence, "



Armour Packing Co.,  
 381 Meeting Street, Charleston, South Carolina  
 Patermann, & Son, J. H.,  
 182 E. Bay Street, Charleston, S. C.  
 Armour P'king Co. 300 Carter St., Chattanooga, Tennessee  
 Armour Packing Co. 115 Hardee St., Knoxville, "  
 Knoxville Provision and Sugar Co.,  
 127 Jackson Street, " "  
 Goyer Cold Storage Co.,  
 McCall and Clinton Streets, Memphis, "  
 Kney Chas. .... 193 Front Street, " "  
 Reid Bros. P'king Co. (Ltd.) Front St., " "  
 Sites & Ames ..... " "  
 Cudahy Packing Co. .... 6 Gaston Building, Dallas, Texas  
 Cleveland, Wm. D., & Co. .... Houston, "  
 Hoefling, Wm., & Son. .... San Antonio, "  
 Cudahy Pack. Co. .... 374 W. 2d St., Salt Lake City, Utah  
 Bendheim, L. .... 1311 King Street, Alexandria, Virginia  
 Hellmuth Bros. .... 801 King Street, " "  
 Nalls, Jas. W. .... 535 Queen Street, " "  
 White, T. H., & Co. .... 1331 King St., " "  
 Royster, F. S., & Co. .... 66 Water Street, Norfolk, "  
 Verdier, C. S., & Co. .... 113 Water Street, " "  
 Woodard & Goodridge Co. .... 28 Water St., " "  
 Armour & Co. .... Union and Grace Sts., Richmond, "  
 Forbes, W. S., & Co. .... 900 Byrd Street, " "  
 Kingan & Co. (Ltd.) .... 1427-29 Cary St., " "  
 Patrick, F. E., Co. .... 200 S. 10th St., " "  
 Valentine's Meat Juice Co., 601-605 Cary St., Richmond, Va.  
 Cudahy Packing Co. .... 1833 Pacific Ave., Tacoma, Wash.  
 Miller, O., & Co. .... Beloit, Wisconsin  
 Arnst, Hermann. 485 American Av., Milwaukee, "  
 Armour Packing Co. Tower Avenue, Superior, "  
 Cudahy Packing Co. .... " "  
 Minnesota P'king and Prov. Co. West Superior, "



## CANADA.

## Ontario.

|                                 |                          |
|---------------------------------|--------------------------|
| Fisher, John.....               | Dundas                   |
| Mallett, Jacob.....             | "                        |
| Maude, William.....             | Galt                     |
| Hopgood, E. H.....              | Hamilton                 |
| Campbell, D. D.....             | Listowel                 |
| Denne, Charles.....             | Newmarket                |
| Coleman, H.....                 | Paisley                  |
| Wethey, J. H. (Mince Meat)..... | St. Catherine's          |
| Graham, McLean & Co.....        | Colborne Street, Toronto |

## Quebec.

|                                                |                             |
|------------------------------------------------|-----------------------------|
| Alexander, James.....                          | 66 McGill Street, Montreal  |
| Armour & Co.....                               | "                           |
| Aubin, M.....                                  | 335 Commissioners Street, " |
| Basinet, C.....                                | 25 Bonsecours Market, "     |
| Belanger, J.....                               | 32 Bonsecours Market, "     |
| Benoit, F. X.....                              | 103 Commissioners Street, " |
| Beriant, J.....                                | 22 Bonsecours Market, "     |
| Bonigala, J.....                               | 10 Bonsecours Market, "     |
| Bouchard, Charles.....                         | 2 Bonsecours Market, "      |
| Can. Meat Pack. Co., Murray & Wellington Sta., | "                           |
| Champagne, W.....                              | 167 W. Paul Street, "       |
| Chaput, L., Fils & Cie.....                    | 2 De Breeseles Street, "    |
| Cusson, A., & Son.....                         | 210 St. Paul Street, "      |
| Daigie, J. & P.....                            | 100 St. Paul Street, "      |
| Delorme, P.....                                | 2 Bonsecours Market, "      |
| Duckett, Haage & Co.....                       | 104 Grey Nun Street, "      |
| Fond, J. P.....                                | 4 Bonsecours Market, "      |
| Gascon, J. Bte.....                            | 49 St. Ann's Market, "      |
| Gaucher, G. O.....                             | 91 Commissioners Street, "  |
| Hudson, Hebert & Co.....                       | 304 St. Paul Street, "      |
| Hunt, Barnes & Co.....                         | 94 McGill Street, "         |
| Hurtubise, A. L., & Co.....                    | 42 Jacques Cartier Sq., "   |
| Johnston's Fluid Beef Co.....                  | 27 W. Peter Street, "       |

Quebec (Continued).

|                              |         |                       |          |
|------------------------------|---------|-----------------------|----------|
| Jubenville, G. ....          | 423     | Dorchester Street,    | Montreal |
| Langlois, C., & Co. ....     | 241     | St. Paul Street,      | "        |
| Laporte, Martin & Co. ....   | 2548    | Notre Dame Street,    | "        |
| Lebel, J. P. ....            | 67      | Commissioners Street, | "        |
| Leduc, J. P. ....            | 19      | Bonsecours Market,    | "        |
| Macaulay, C. C. ....         | 41      | St. Ann's Market,     | "        |
| McCarey, S. ....             | 26      | St. Peter Street,     | "        |
| McGillis, A. D. ....         | 343     | Commissioners Street, | "        |
| McGrail, M. T., & Son. ....  | 87      | King Street,          | "        |
| McLean & Campbell. ...       | 20      | Foundling Street,     | "        |
| McPherson, D. A., & Co. ...  |         | King & William Sta.,  | "        |
| McShane, The Hon. James. ... | 107     | St. James St.,        | "        |
| McShane, Richard. ....       | 109-115 | McGill Street,        | "        |
| McTanish & Co. ....          | 30      | St. Peter Street,     | "        |
| Manchard & Co. ....          | 121     | St. Paul Street,      | "        |
| Mayrand, J. H. ....          | 51      | Common Street,        | "        |
| Poirier, Z. ....             | 18      | Bonsecours Market,    | "        |
| Pringle, G. W. ....          |         | St. Ann's Market,     | "        |
| Quellon, J., & Co. ....      | 15      | Joseph Street,        | "        |
| Robertson, D., & Co. ....    | 71      | W. Peter Street,      | "        |
| Rolland, T. L. ....          | 3       | Bonsecours Market,    | "        |
| Savard & McDuff. ....        | 15      | Bonsecours Market,    | "        |
| Shaw, Thomas. ....           | 34      | W. Peter Street,      | "        |
| Smith, W. Howe, & Co. ...    | 16      | W. Sacramento St.,    | "        |
| Steel & Williamson. ....     | 341     | Commissioners Street, | "        |
| Vaillancourt, J. A. ....     | 333     | Commissioners Street, | "        |
| Vipond, J. J., & Co. ...     | 259     | Commissioners Street, | "        |
| Vipond, McBride & Co. ...    | 263     | Commissioners St.,    | "        |
| Vipond, T. S., & Son. ...    | 291     | Commissioners St.,    | "        |
| Ward, Joseph, & Co. ...      | 321     | Commissioners Street, | "        |
| Belanger, Francis. ....      |         |                       | Quebec   |
| Bouchard, G. ....            |         |                       | "        |
| Daly, J. J. ....             |         |                       | "        |
| Dombrowski, A. ....          |         |                       | "        |

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IV

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RENDERERS OF LARD AND LARD REFINERS

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Swift & Co..... Union Stock Yards, Chicago, Ill.  
Armour & Co..... 220 La Salle Street, " "  
Salzenstein Bros. Co..... Peoria, "

### COTTOLENE.

Fairbank, N. E., Co.,  
Head Office: 56-62 Wabash Avenue, Chicago, Ill.  
Other Principal Offices: Rialto Building, St. Louis,  
Mo.; "M," Produce Exchange, New York City;  
132 N. Delaware Avenue, Philadelphia, Pa.; 224  
State Street, Boston, Mass.  
Pfan, George, & Son..... Jeffersonville, Indiana  
Sinclair, T. M., & Co..... Cedar Rapids, Iowa  
Cassard, G., & Son, 517-525 W. Baltimore St., Baltimore, Md.  
Fairbank, N. K., Co..... 303 Exch. Place, " "  
George, P. T., & Co., 210 E. Lombard St., " "  
Kriel, C. G..... 7 W. Henrietta Street, " "  
North Packing and Provision Co.,  
33-34 N. Market Street, Boston, Mass.  
Penney, S. S..... Washington Market, " "  
Squire, John P., & Co.,  
39 & 40 N. Market Street, Boston, Mass.  
Wilcox, W. J., Lard and Refining Co.... Guttenberg, N. J.  
Jersey City Packing Co..... Jersey City, N. J.  
Central Lard Co..... 323 Produce Exch., New York City  
Eastmans' Company,  
56th Street and 11th Avenue, New York City  
Eastern Refining Co.... 801 Greenwich St., "



**New York City (Continued).**

Heyer, Lester A. . . . . 629, 3d Avenue, New York City  
 Napheys, George C., & Son..6 Harrison St., " "  
 Rohe & Bro. . . . . 533 W. 23th Street, New York City  
 Webber, Richard . . . 120th St. and 3d Ave., "  
 Wilcox, W. J., Lard and Refining Co.,  
                     Produce Exchange, "  
 Jacob Packing Co., The,  
                     Findlay and Plum Streets, Cincinnati, O.  
 Morrison, Jas., & Co. . . Bank and Riddle Sts., " "  
 Proctor & Gamble Co., The,  
                     3d and Walnut Streets, " "  
 Moloney, M. . . . . 837 N. 3d Street, Philadelphia, Pa.  
 Napheys, Geo. C., & Son..310 Spruce St., " "  
 Warthman, Adam H., Company,  
                     35-45 Poplar Street, " "

INNERS.

New York City

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New York City

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Cincinnati, O.

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Philadelphia, Pa.

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V

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OLEOMARGARINE AND BUTTERINE AND  
OLEO OIL MANUFACTURERS.

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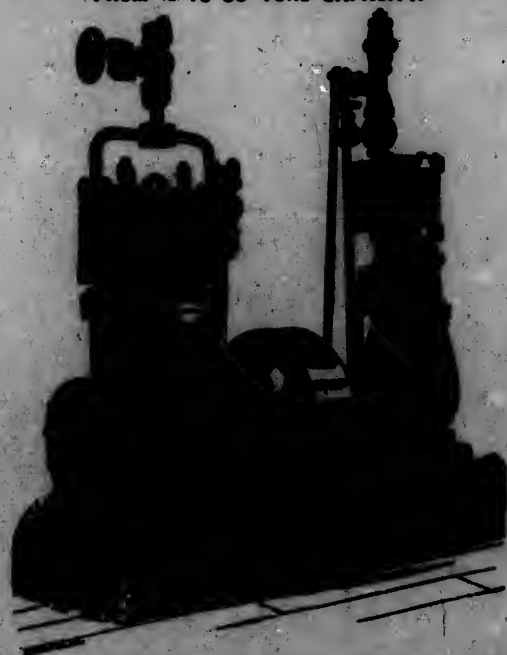
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## Refrigerating and Ice Making Machinery

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Brann & Fitts. .... 187 N. Union Street, " "  
Dragorius, G., & Son ... 240 S. Water St., " "  
Fairbank, N. K., Co. .... 60 Wabash Ave., Chicago, Ill.  
Friedman Mfg. Co. .... Union Stock Yards, " "  
Moxley, Wm. J., Mfg. Co. ... 63 W. Monroe St., " "  
Murray, J. J. .... 367 W. Randolph Street, " "  
Sallady, J. W., & Co. .... 199 S. Water Street, " "  
Swift & Company ... Union Stock Yards, Chicago, Ill.  
Hammond Company, The G. H. ... Hammond, Indiana  
Moser, L. A., & Co. .... 8 W. 7th St., Covington, Kentucky  
Moxley, Wm. J. ... 436 Madison Ave., " "  
Dold, Jacob, Packing Co. .... Kansas City, Missouri  
Schwarzschild & Sulzberger Co. ... Kansas City, Mo.  
Ammon & Person ... 138, 9th St., Jersey City, New Jersey  
Schwarzschild & Sulzberger Company,  
45th Street and 1st Ave., New York City  
Capital City Dairy Co. .... Columbus, Ohio  
Chicago Butter Co. .... 535 Liberty Street, Pittsburg, Pa.  
Goshen Mfg. Co. .... Providence, Rhode Island  
Oakdale Mfg Co. .... " "  
Providence Dairy Co. .... " "  
Vermont Mfg. Co. .... " "  
What Cheer Dairy Co. .... " "  
Woodlawn Dairy Co. .... Pawtucket, "  
Paris Oil and Cotton Co. .... Paris, Texas  
Kingan Butterine Co. .... Richmond, Virginia

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| "Swift Extra," Swift & Co.....                                         | "              |
| "Nelson Morris Extra," Nelson Morris & Co.....                         | "              |
| "Wells Extra," International & Wells Packing Co..                      | "              |
| "Eastman Extra," Eastmans Co.....                                      | New York City  |
| "Harrison," Schwarzschild & Sulsberger Co.                             | "              |
| "United," United Dressed Beef Co.....                                  | "              |
| "Modoc," Joseph Stern & Sons.....                                      | "              |
| "Girard," Hughs, Cook & Co.....                                        | Philadelphia   |
| "Harvey Extra," D. B. Martin.....                                      | "              |
| "Brighton Extra," Learnard & Bird.....                                 | Boston         |
| "Reardon H," John Reardon & Sons.....                                  | "              |
| "Helmet," Armour Packing Co.....                                       | Kansas City    |
| "Harrison," Schwarzschild & Sulsberger Co...                           | "              |
| "Calumet," The G. H. Hammond Co.,<br>Hammond, Ind., and S. Omaha, Neb. |                |
| "Cudahy Extra," Cudahy Packing Co.....                                 | Cudahy, Wis.   |
| "Queen City," N. Wolf.....                                             | Buffalo, N. Y. |
| "White Rose Extra," Jacob Dold Pack. Co.                               | "              |
| "Winter Extra," Pittsburg Provision Co....                             | Pittsburg, Pa. |

OLEO REFINERY.

Wenersburg Oleo Refinery..273 Causeway St., Boston, Mass.



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Madison, Wis.  
Albany, N. Y.  
"  
Harrisburg, Pa.  
Boston, Mass.

VI

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TALLOW RENDERERS AND DEALERS.

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INCORPORATED 1887.

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### TALLOW RENDERERS AND DEALERS.

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#### CALIFORNIA.

|                              |                       |
|------------------------------|-----------------------|
| Grandin, J. L.....           | Oakland               |
| Knights, W. R., & Co.....    | Sacramento            |
| Bay View Tallow Works.....   | Guiana, San Francisco |
| Bayle, John, & Co.....       | 7 California Market,  |
| Cohen Bros.....              | 41 Clay Street,       |
| California Tallow Works..... | "                     |
| Foley, F., & Co.....         | 7th and Channel Sts., |
| Knights, W. R., & Co.....    | 604 Front Street,     |
| Nichols, A. C., & Co.....    | 402 Battery Street,   |
| Ohlandt, N., & Co.....       | "                     |
| Platahek & Harris.....       | 410 Townsend Street,  |
| Prose, A.....                | De Haro Street,       |
| Sumner, W. B., & Co.....     | "                     |
| Waldeck, Herman.....         | 58 Clay Street,       |
| Wasserman, E., & Co.....     | 310 Sansome St.,      |

#### COLORADO.

|                       |            |
|-----------------------|------------|
| Frank, B.....         | Alamosa    |
| Brown, J. L.....      | Denver     |
| McLean, B., & Co..... | Durango    |
| Krille & Nichols..... | Trinidad   |
| Newman, Sig.....      | Walsenburg |

#### CONNECTICUT.

|                      |                              |
|----------------------|------------------------------|
| Downs & Griffin..... | North Main Street, Ansonia   |
| Downs & Griffin..... | Birmingham                   |
| Plumb & Winton.....  | 42 Middle Street, Bridgeport |
| Williams, A. W.....  | Box 443, New Britain         |

**CONNECTICUT (Continued).**

Coe & Brown. . . . . 202 Green Street, New Haven  
 Ensign, Thomas, & Son. . . . . 246 George Street, "  
 Frisbie, L. T., Co. . . . . 77-79 Talcott Street, "  
 Hemingway, L. R., & Co. . . . . 14 Union Street, "  
 Lederer & Wolf. . . . . 133 Park Street, "  
 Maloney, John. . . . . 217 Chatham Street, "  
 Anderson, W. H. . . . . Putnam  
 Gallagher, J. F. . . . . 276 Wolcott Street, Waterbury

Wilmington Hide and Tallow Association,  
 Tatnall Street, Wilmington, Delaware  
 Dee & Turkey. . . . . Caldwell, Idaho  
 Cramer, Ernest. . . . . Hailey, "

**ILLINOIS.**

Lamkin, J. B. . . . . Champaign

**Chicago.**

Adler & Oberndorf. . . . . 77 Kinzie Street  
 Baker, Tschappat, & Co. . . . . 407 Illinois Street  
 Berndt, Charles. . . . . 123 Kinzie Street  
 Bolles & Rogers. . . . . 141 Kinzie Street  
 Darling & Co. . . . . Union Stock Yards  
 Dettenmicier & Hagenberg. . . . . 3200 S. Robey Street  
 Dwyer, E. . . . . 256 Kinzie Street  
 Elkin, H., & Co. . . . . 203 Michigan Avenue  
 Epstein, N. . . . . 149 Kinzie Street  
**Fairbank, N. K., Co.** . . . . . **60 Wauvash Avenue**  
 Friend, H., & Co. . . . . 127-129 Michigan Avenue  
 Holbrook, A. P., & Co. . . . . 142 Kinzie Street  
 Hoosick, H. M., & Co. . . . . 192 Michigan Avenue  
 Leonard, George H., & Co. . . . . 122 Michigan Avenue  
 Lichtenstein, A. . . . . 133 Kinzie Street  
 Lister, Joseph. . . . . 1158-1160 Elston Avenue  
 McDanel, D. H., & Co. . . . . 52 Dearborn Street

## Chicago (Continued)

|                                                                               |                           |
|-------------------------------------------------------------------------------|---------------------------|
| Mayer, D., & Co.....                                                          | 190 E. Kinzie Street      |
| Northrop, C. T., & Co.....                                                    | 14-16 Pacific Avenue      |
| Oberndorf, Lindheimer & Co.....                                               | 196 Kinzie Street         |
| Oberne, George, & Co.....                                                     | 383-401 N. Halsted Street |
| Sawyer, L.....                                                                | 300 Kinzie Street         |
| Sawyer, F.....                                                                | 44 Dearborn Street        |
| Sayers, H., & Co.....                                                         | 126 Michigan Avenue       |
| Smith, J. S., & Co.....                                                       | 131 Kinzie Street         |
| Thompson & Edwards Fert. Co.....                                              | Union Stock Yards         |
| Weil, Isaac.....                                                              | 126 Michigan Avenue       |
| Wolf, A. S., & Co.....                                                        | 145 E. Kinzie Street      |
| Cohen & Barnard.....                                                          | Danville                  |
| East St. Louis Rendering Works,<br>St. Louis Nat. Stock Yards, East St. Louis |                           |
| Duncan & Kingsoliver.....                                                     | Mattoon                   |
| Orth, William.....                                                            | Mendota                   |
| Faber, J. F., & Co.....                                                       | Peoria                    |
| Salsenstein Bros.....                                                         | "                         |
| Mooney, W. W., & Sons.....                                                    | Columbus, Indiana         |
| Falls, D.....                                                                 | Fort Wayne, "             |
| Allerdice, Joseph, & Co... ..                                                 | Indianapolis, "           |
| Indianapolis Abattoir Co.....                                                 | "                         |
| Rauh, E., & Sons.....                                                         | "                         |
| Clendenen, H., & Co.....                                                      | Richmond, "               |
| Minnors, S.....                                                               | "                         |
| Weidner, G.....                                                               | "                         |
| Smith, H.....                                                                 | Terre Haute, "            |
| Crockett & Osau.....                                                          | Clinton, Iowa             |
| Wadleigh, E. A.....                                                           | "                         |
| Willard, H.....                                                               | Marshalltown, "           |
| Hosick, H. M., & Co.....                                                      | Atchison, Kansas          |
| Behrens, Herman.....                                                          | Arkansas City, "          |
| Watson, T. C., & Co.....                                                      | Emporia, "                |

**KANSAS (Continued).**

|                                               |                                              |   |   |
|-----------------------------------------------|----------------------------------------------|---|---|
| Gluns, John .....                             | Fort Scott, Kansas                           |   |   |
| Johnson, L. J. ....                           | Independence,                                | " |   |
| Stephens, A. B. ....                          | Junction City,                               | " |   |
| Carpenter, R. ....                            | Lawrence,                                    | " |   |
| Peterson, Anton .....                         | Ottawa,                                      | " |   |
| Finley, J. ....                               | Salina,                                      | " |   |
| Cain, Solomon .....                           | Bowling Green, Kentucky                      |   |   |
| Nohm, Samuel .....                            | "                                            | " |   |
| Louisville Butchers' Hide and Tallow Assn.,   | Louisville,                                  | " |   |
| Ohio Falls Hide and Tallow House,             | 1840 Story Avenue,                           | " | " |
| Dahl & Groesinger .....                       | Owensboro',                                  | " |   |
| Butchers' Hide, Tallow and Stearine Mfg. Co., | 120 St. Peter Street, New Orleans, Louisiana |   |   |
| Doullot, M. P. ....                           | Peters Street,                               | " | " |
| Law, Samuel C .....                           | Deer Isle, Maine                             |   |   |
| Phillips, H. B. ....                          | Ellsworth,                                   | " |   |
| Cary, Frank .....                             | East Hampden,                                | " |   |
| Harris, F. M. ....                            | Farmington,                                  | " |   |
| Hopkins, A. ....                              | Gardiner,                                    | " |   |
| Pope, Robert, & Co. ....                      | "                                            | " |   |
| N. E. Dressed Meat and Wool Co. ....          | Houlton,                                     | " |   |
| Merry, H. A. ....                             | North Anson,                                 | " |   |
| Gardner, B. B., & Co. ....                    | Rockland,                                    | " |   |
| Barry Bros. & Co. ....                        | 602 Buren Street, Baltimore, Md.             |   |   |
| Butchers' Hide and Tallow Association,        | Buren and Fall Streets,                      | " | " |
| Caffery, P. ....                              | 602 Buren Street,                            | " | " |
| Martin, D. B., & Co. Claremont Abattoir Co.,  | "                                            | " | " |
| United Butchers' Assn.,                       | McKimm & Neighbor,                           | " | " |
| Rosenthal, S., & Co. ....                     | Cumberland,                                  | " | " |



## MASSACHUSETTS

|  |                                       |                                   |        |
|--|---------------------------------------|-----------------------------------|--------|
|  | Barret Hide Co., The....              | 231-233 Congress Street,          | Boston |
|  | Buck, Charles, & Son..                | 39 Merchant Row,                  | "      |
|  | Dickerman, B.....                     | 19 Exchange Place,                | "      |
|  | Furbush & Co.....                     | Furbush Court, Charleston,        | "      |
|  | Geller, C. W.....                     | 116 Broad Street,                 | "      |
|  | Haven, S. F.....                      | Hopkinton Street,                 | "      |
|  | Leonard, George H., & Co....          | 201 Purchase Street,              | "      |
|  | Loftus, J. D., & Co.....              | 118 Broad Street,                 | "      |
|  | Martin, C. W.....                     | 579 Atlantic Avenue,              | "      |
|  | Morse, J. D., & Co.....               | 66-68 Norfolk Avenue,             | "      |
|  | Osborn, A., & Co.....                 | 25 Central Wharf,                 | "      |
|  | Ward, N., & Co.....                   | 448 Federal Street,               | "      |
|  | Ware, William M., & Co....            | 19 Broad Street,                  | "      |
|  | Whittaker, Lewis.....                 | 64 Norfolk Avenue,                | "      |
|  | Pratt, C. H.....                      | East Weymouth                     | "      |
|  | Pratt, S. A. R.....                   | "                                 | "      |
|  | Sinclair, H. W.....                   | "                                 | "      |
|  | Butchers' Rendering Co.....           | Fall River                        | "      |
|  | Nutton, J. G.....                     | Norwood's Wharf, Gloucester       | "      |
|  | Dickinson, W. A.....                  | Lowell                            | "      |
|  | Haggett, Charles H.....               | Natick                            | "      |
|  | Herson, Thos., & Co. ....             | 11-13 Commercial St., New Bedford | "      |
|  | Bancroft, George W., & Co.....        | Peabody                           | "      |
|  | Burbeck, J. N.....                    | "                                 | "      |
|  | Parmenter & Polsey Fertilizer Co..... | Peabody                           | "      |
|  | Glidden, W. H.....                    | Salem                             | "      |
|  | Nicholas, B. H.....                   | Woburn                            | "      |
|  | Bartlett, C. A.....                   | 34 Orient Street, Worcester       | "      |
|  | Sawin, J. J.....                      | 220 Shrewsbury Street,            | "      |
|  | Bomen, Henry.....                     | Adrian, Michigan                  | "      |
|  | Brueck, F.....                        | East Saginaw,                     | "      |
|  | Cappon & Bertsch Leather Co. ....     | Grand Rapids,                     | "      |
|  | Perkins & Hess.....                   | Grand Rapids,                     | "      |



## MICHIGAN (Continued).

Saile, James ..... Manistee, Michigan  
 Twin City Hide and Tallow Co. New Brighton, "  
 Kelly, C. S. .... Niles, "  
 Aberle, F. .... Owosso, "  
 Kuhn, H. .... Port Huron, "  
 Howland, J. N. .... Ypsilanti, "

Stubbs, A. L. .... Mankato, Minn.  
 McMillan, Jas., & Co. 212 1st Ave. N. Minneapolis, "  
 Twin City Hide and Tallow Co.,  
 116, 3d Avenue " "

Goodrich, C. T. .... Stillwater, "  
 Kilty, T. C. .... " "  
 Union Refining Co. .... South St. Paul, "

Greenwald, S. .... Meridian, Mississippi  
 Metzger & Co. .... " "

McCants, J. E. .... Butler, Missouri  
 Rose & Schnetz. .... Canton, "  
 Mayfield, J. .... Fulton, "  
 Dumment, H. .... Kansas City, "  
 Lowenstein, H., & Co. .... Marshall, "  
 Morris, Samuel. .... Mexico, "  
 Haas, B. .... Neosho, "  
 Laupheimer, H. .... Sedalia, "

## St. Louis.

Flynn & Winter. .... 5341 Hall Street  
 Fank, J. P., & Co. .... Benedict and Hall Streets  
 Halste, F. .... Hall Street  
 Hellman-Godlove Mercantile Co. .... 120 N. Main Street  
 Kriekhaus, A., & Co. .... 410-414 S. Main Street  
 Sayers, H., & Co. .... 216 N. Main Street

**St. Louis (Continued).**

St. Louis Melting Co. .... 3110 N. 9th Street  
 St. Louis Hide and Tallow Co. .... 3115 N. Broadway  
 Ziegenbalg, C. .... 3865 Café Brillante Avenue

Davidson, A. J., & Co ..... Helena, **Montana**  
 McMillan, Jas. & Co. .... " "

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 Mealey, P., & Bro. .... Gloucester, "

Phillips, P. .... " "  
**Jersey City Packing Co.,**  
 133-154 Ninth Street, Jersey City, **New Jersey**

Kenly, P. .... 85 Oxford Avenue, Jersey City, "

Mahlenbrock, D. .... 26 Wales Ave., " "

Snyder & Sons. 667 Henderson St., " "

Taffey, D., & Co. .... 6th Street, " "

Enoch, Edw. .... New Brunswick, "

Arbuckle, J. N. .... 258 Washington St., Newark, "

Fitzpatrick, C. .... 150, 13th Avenue, " "

Maybaum, Alex. .... S. Orange Avenue, " "

Schroeder, F. .... Lockwood Street, " "

Wolf, G., & Schwab. .... 123 Howard St., " "

Kelcher, T. F. .... Albuquerque, **New Mexico**

Friedman, Myer & Bro. .... Las Vegas, "

Hayward, T. W. .... " "

McLean, B., & Co. .... Santa Fé, "

**NEW YORK.**

Spicer, E. D. .... Adams

Sonnenfeld & Son. .... 7 Hudson Avenue, Albany

Steinfeld, F., & Co. .... 6 State Street, "

**NEW YORK (Continued).**

Ten Eyck, Clinton.....Chapel and Canal Streets, Albany  
 Schwarz, Magnus.....Ballston Spa  
 Rosenberg, Joseph.....131 Vanderbilt Avenue, Brooklyn  
 Van Iderstine, F. A.....272 Hudson Avenue, "  
 Van Iderstine, Peter.....181 Huron Street, "  
 Woolf, N.....32 Lloyd Street, Buffalo  
 Reily, M. J.....Chatham  
 Schwartz, F.....Elmira  
 Hollett, J. H.....Gloversville  
 Miller, A.....Hornellville  
 Brown, J. A.....Jamestown  
 Doyle Brothers....."  
 Newburg Rendering Co.....Newburg  
 Brand, Herman.....431 E. 51st Street, New York City  
 Donohue, P., & Son.....658 W. 39th Street, "  
**Eastmans Co. 59th St. and 11th Ave., New York City**  
 Ferris & Ketcham....67 Kemble Bldg., "  
 Gröll, Charles.....548 W. 40th Street, "  
 Haberman, Joseph.....625 W. 40th St., "  
**Hecht, Jos., & Sons...92-98 Cliff St., New York City**  
 Levy, Jacob.....111 E. 95th Street, "  
 Levy & Sons.....423 E. 56th Street, "  
 Salomon, Felix, & Co....99 Nassau St., "  
**Schwarzschild & Sulzberger Co.,**  
**45th Street and 1st Avenue, New York City**  
 Stern, Joseph...616-620 W. 40th Street, "  
 Stevenson, Walter.....4 Jacob Street, "  
**United Dressed Beef Co.,**  
**43d Street and 1st Avenue, New York City**  
 U. S. Oil and Tallow Co...32 Liberty St., "  
 Vandenhove, G...311-313 Produce Ex., "  
 Van Brunt, S.....321 Produce Ex., "  
 Welles & Knight.....84 Gold Street, "  
 Welch, Jos. H., & Co...214 Produce Ex., "

## NEW YORK (Continued).

Welch, James, & Co. .... L 2 Produce Ex., New York City  
 Welch, Holme & Clark Co. .... 383 West St., "  
 Rose, H. V. .... 13 Thomas Street, Niagara Falls  
 Reich, L. .... " Olean  
 Titus Hide, etc., Co. .... "  
 Dowdle, P. .... " Oswego  
 Dick & Dobbs. .... 360 Main Street, Poughkeepsie  
 Southwick, E. E. .... 370 Main Street, "  
 Aikenhead, W. .... 68 Front Street, Rochester  
 Fritzsche & Son. .... 128 Front Street, "  
 Hale, William S. .... 51 N. Water Street, "  
 Teller, Myron. .... " Rondout  
 Stanton, H. M. .... " Schenectady  
 Rastal, Walker. .... " Schuylerville  
 Mills Oil, C. E., Co. .... 323 E. Water Street, Syracuse  
 Golde Brothers. .... " Tonawanda  
 Tilly, A. .... 631 River Street, Troy  
 Powell, Morton C., & Son. .... " Waterford  
 Andrews, W. S., & Co. .... " Waterloo  
 Dixon, John M. .... " New Berne, North Carolina

## OHIO.

Christy's Sons, Jas. .... 244 S. Howard Street, Akron  
 Kittleberger, C., & Son. .... 114 South Main Street, "  
 Hull, Foster, Jr. .... " Athens  
 Butchers' Melting Assn. .... Findlay Street, Cincinnati  
 Cincinnati Desiccating Co. .... 3d and Walnut Sts., "  
 Francis & Laws. .... 575 W. 6th Street, "  
 Hickey, W. .... 34 Cleveland Street, "  
 Kennedy, J. D. .... State Street, "  
 McCabe, J. M. .... 55 Poplar Street, "  
 Marienthal Bros. .... 678-684 Central Avenue, "  
 Muller, C. .... 333 Spring Grove Avenue, "

## OHIO (Continued)

|                                    |                                 |
|------------------------------------|---------------------------------|
| Neville & Conway .....             | 16 Cleveland Street, Cincinnati |
| Smith, Amor & Co. ....             | John Street, "                  |
| White's Golden Lubricator Co. .... | 233 Walnut St., "               |
| Budd, G. A., & Co. ....            | 52-54 River Street, Cleveland   |
| Denison Bros. ....                 | 56 River Street, "              |
| Stafford, J. R. ....               | 400 Canal Street, "             |
| Thompson & Herrick .....           | Seneca Street, "                |
| Kittleberger, C., & Son .....      | Cuyahoga Falls                  |
| Rauh, E., & Son. ....              | Dayton                          |
| Weinrich, J. ....                  | "                               |
| Wolfley, S. D., & Bro. ....        | Delaware                        |
| Gardner Bros. ....                 | Newcomerstown                   |
| Richardson, J. W. ....             | Norwalk                         |
| Labold, S., & Co. ....             | Portsmouth                      |
| Carey, W. H. ....                  | Staubenville                    |
| Copeland, G. L. ....               | "                               |
| McKee, Samuel. ....                | "                               |
| McKee, Wilson. ....                | "                               |
| Swearingen, William .....          | "                               |
| Geyer, Charles J. ....             | Tiffin                          |
| Stainthrop, W. A. ....             | Toledo                          |
| Edwards, Charles .....             | Xenia                           |
| Larsen, J. H. ....                 | The Dalles, Oregon              |
| Wolf, B. ....                      | " "                             |
| Behrens, R. ....                   | Oklahoma City, Oklahoma         |

## PENNSYLVANIA.

|                              |                                        |
|------------------------------|----------------------------------------|
| Reichard, G. J., & Son. .... | 742 Lawrence Street, Allentown         |
| Hill, Alvin ....             | Grube Court, Allentown Road, Bethlehem |
| Berliner, M., & Co. ....     | Corry                                  |
| Dungan, Wallace. ....        | Pebble Hill, Doylestown                |
| Simmons, F. R. ....          | Erie                                   |
| Rindernecht Bros. ....       | Erie Stock Yards, Fair Grounds, "      |



## PENNSYLVANIA (Continued).

|                                            |                               |
|--------------------------------------------|-------------------------------|
| Marks, L.....                              | Franklin                      |
| Saunders, Samuel.....                      | Honesdale                     |
| Riley, Terence.....                        | Media                         |
| Stratman, J. H., & Co.....                 | 446 Liberty Street, Pittsburg |
| <b>Philadelphia.</b>                       |                               |
| Brown, Harry P.....                        | 3951 N. 5th Street            |
| De Long Bros.....                          | 301 N. 3d Street              |
| Hughes, Cook & Co.....                     | 36th and Gray's Ferry Road    |
| Krauskopf, L.....                          | 430 N. 3d Street              |
| Landauer & Strauss.....                    | 422 N. 3d Street              |
| Landell, E. A., Jr.....                    | 236 N. 3d Street              |
| Loeb, Elias.....                           | 449 N. 3d Street              |
| Ludy's Sons, C.....                        | 1507 Mascher Street           |
| Martin, D. B.....                          | 3012 Market Street            |
| Marquis, A., & Co.....                     | 336 N. 3d Street              |
| Massey & Janney.....                       | 355 N. 3d Street              |
| Philadelphia Butchers' Calfskin Assn.....  | 27th Street                   |
| Phila. Butchers' Hide and Tallow Assn..... | 1519 Penn. Ave.               |
| Phila. Beef Butchers' Assn.....            | Mascher and Putnam Sts.       |
| Rohrheimer, Moses.....                     | 259 N. 3d Street              |
| Simons', Benjamin, Sons.....               | 1005 Canal Street             |
| Speier, A. G., & Son.....                  | 349 N. 3d Street              |
| Spielberger, John, Bros. & Co.....         | 3729 N. 12th Street           |
| Stern, Jacob, & Sons.....                  | 428 N. 3d Street              |
| Stern, Marcus.....                         | 417 N. 3d Street              |
| Stern, Samuel.....                         | 103 Laurel Street             |
| Sternfeld, Henry, & Co.....                | 402 and 404 N. 3d Street      |
| Long, S. J.....                            | Norristown                    |
| Bodenheimer, W.....                        | Scottsdale                    |
| Forsyth, James L., & Co.....               | Sharpsburg                    |
| Bettridge, O.....                          | Shenandoah                    |
| Dunham, A. M.....                          | Union City                    |
| Entertine & Seidle.....                    | Wilkesbarre                   |



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| Wallis, F. C.....                 | Barrington, Rhode Island                            |
| American Degras and Chemical Co., |                                                     |
|                                   | 17 Custom House, Providence, "                      |
| Bush, Chas. S....                 | 20 Exch. Pl., "                                     |
| Calef Bros.....                   | " "                                                 |
| Page Tallow Co..                  | 16 Charles St., "                                   |
| Mason Mfg. Co.....                | Woonsocket, "                                       |
| Esposito, J.....                  | Columbia, South Carolina                            |
| Halstein, Mrs. B.....             | Deadwood, South Dakota                              |
| Carney, L. A.....                 | Mitchell, "                                         |
| Wider & Blum.....                 | Sioux Falls, "                                      |
| Butchers' Hide & Melting Assoc.,  | Adams St., Nashv., Tenn.                            |
| Hayes, E. P., & Co.....           | Abilene, Texas                                      |
| Pratt Bros.....                   | " "                                                 |
| Field, H. M.....                  | Brownsville, "                                      |
| Schoots, M.....                   | " "                                                 |
| Patterson, J. K.....              | Brownwood, "                                        |
| Gussett, N.....                   | Corpus Christi, "                                   |
| Murphy, D. M.....                 | " "                                                 |
| Green, W. B.....                  | Corsicana, "                                        |
| Blassingam, J. W.....             | Denison, "                                          |
| Withers, J. A.....                | Denton, "                                           |
| Holland, V. C.....                | Gainesville, "                                      |
| Peale, C. D.....                  | Greenville, "                                       |
| Finnigan, John, & Co.....         | Houston, "                                          |
| Portier, C. G., & Co.....         | " "                                                 |
| Johnston & Hill.....              | Lampasas, "                                         |
| Behm, Joseph.....                 | Paris, "                                            |
| Cohn, A., & Co.....               | San Antonio, "                                      |
| Gentry, F. V.....                 | Victoria, "                                         |
| Burnham, R. O.....                | Waco, "                                             |
| Robinson, Joel.....               | " "                                                 |
| Black, Isaac.....                 | Weatherford, "                                      |
| Smoot, C. C., & Sons Co.,         |                                                     |
|                                   | S. Washington and Wickes Sts., Alexandria, Virginia |

## VIRGINIA (Continued)

|                                 |                                    |
|---------------------------------|------------------------------------|
| Elliott, E. T.....              | Danville, Virginia                 |
| Crew, P. J., & Co.....          | Richmond, "                        |
| Bockler's Sons J.....           | 2248 Main Street, Wheeling, W. Va. |
| Hoffmann, J. G., & Sons Co.,    |                                    |
|                                 | 2336-2350 W Street, "              |
| Horkheimer, Charles....         | 1417 Main St., "                   |
| Wheeling Butchers' Association. | 16th St., "                        |
| Anapach, H. F.....              | Stevens Point, Wisconsin           |
| Winkelmiller, R.....            | Two Rivers, "                      |
| Johnson, Christian.....         | Waupaca, "                         |
| Thomas Bros .....               | Cheyenne, Wyoming                  |

## BRITISH NORTH AMERICA

|                            |                                  |
|----------------------------|----------------------------------|
| Bornstein, L.....          | Victoria, British Columbia       |
| Ossenbruggs, Fred .....    | Winnipeg, Manitoba               |
| Hay, Thomas L.....         | St. John, New Brunswick          |
| Megoney, Richard.....      | Halifax, Nova Scotia             |
| Graham, Donald.....        | Belleville, Ontario              |
| Doan, C. S., & Son.....    | Clinton, "                       |
| Appleby & Daley.....       | Cobourg, "                       |
| O'Brien, R. W., & Co.....  | Collingwood, "                   |
| McKillop, Arch.....        | Hamilton, "                      |
| Stroud, William.....       | " "                              |
| McKay, John.....           | Kingston, "                      |
| Simons, Alfred.....        | " "                              |
| Adams, Mark.....           | Mount Forest, "                  |
| Lloyd, Samuel.....         | Owen Sound, "                    |
| Appleby, A. B.....         | Peterboro', "                    |
| John Scott's Estate.....   | St. Catherine's, "               |
| Duncan, M.....             | Stratford, "                     |
| Funnell, Jesse, Jr.....    | Trenton, "                       |
| Segmiller, J.....          | Walkerton, "                     |
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 Hartford Provision Co. .... "  
 Hurlburt, E. E. .... 130 Church Street, "  
 Roberts, Tucker & Goodwin .... "  
 Whittlesey, E. G., & Co. .... "

**ILLINOIS.**

**Chicago.**

Baldwin & Farnum .... Room 85, Board of Trade Building  
 Ball, J. L., & Co. .... Room 46, Board of Trade Building  
 Bartlett, Frazier & Co. .... Room 204, Rialto Building  
 Baxter, T. M., & Co. .... Room 40, Board of Trade Building  
 Beazley, John G. .... Room 602, Rialto Building



## Chicago (Continued).

Congdon, C. B., & Co.. Room 47, Board of Trade Building  
 Cudahy, John..... Room 113, Rialto Building  
 Eggleston & Mallette . . . . . Room 409, Rookery Building  
 Everingham, L., & Co . Room 85, Board of Trade Building  
 Gabain & Co..... Room 812, Medinah Building  
 Gaynor, John..... Room 201, 134 Van Buren Street  
 Gifford, Chas. E., & Co.... Room 45, Board of Trade Bldg.  
 Green, Irwin, & Co..... Rooms 126-131, Rialto Building  
 Gregg, Charles B., & Co..... 14 and 16 Pacific Avenue  
 Gregg, William, & Co..... Room 613, 218 La Salle Street  
 Hamill, C. D..... Room 73, Board of Trade Building  
 Hartog, John H., & Co..... Royal Insurance Building  
 Harvey, William O., & Co..... Room 22, 6 Sherman Street  
 Hatly Bros. & Co.... Room 911, Royal Insurance Building  
 Higgins, George W..... Room 412, Rialto Building  
 Hoagland, A. J..... Room 92, Board of Trade Building  
 Holder & Co..... Room 40, Traders' Building  
 Hopkins, Kennet & Co..... Room 1, Board of Trade Bldg.  
 Howe, C. M..... Room 69, Board of Trade Building  
 How, G. M., & Co..... Room 59, Bro. Jonathan Building  
 Huffman, R. M., & Co. .... Board of Trade Building  
 Kirkwood, Geddes & Co.. Room 903, Royal Insurance Bldg.  
 Lamson Bros..... Room 6, Board of Trade Building  
 Lamson, J. V., & Co..... Room 15, Rialto Building  
 Loeb, Herman, & Co..... Royal Insurance Building  
 Logan, F. G., & Co... Rooms 4-5, Board of Trade Building  
 McCrea, W. S., & Co.. Rooms 41-42, Board of Trade Bldg.  
 McIntyre & Wardell..... Room 109, Board of Trade Bldg.  
 Nash, Samuel J..... Room 509, Royal Insurance Building  
 Nash & Wright Co..... Room 517, Rialto Building  
 Nelson, Murray & Co..... Room 317, Rialto Building  
 Northrop, C., & Co..... Room 51, 16 Pacific Avenue  
 Norton & Worthington..... Room 3, Board of Trade Bldg.  
 Poole & Sherman ..... Room 69, Board of Trade Building

Chicago (Continued).

Pope & Lewis..... Room 223, Western Union Building  
 Raymond, Chas..... Room 52, 4 Sherman Street  
 Roloson, R. W., & Co..... Room 49, Board of Trade Bldg.  
 Rogan, J. B., & Co..... Room 635, Rialto Building  
 Rumsey, Lightner & Co..... Room 501, 226 La Salle Street  
 Schultz, M. M..... Room 93, Board of Trade Building  
 Schwarz, Dupee & Co..... Room 2, Board of Trade Building  
 Schwarz & Co..... Room 356, Sherman Street  
 Steever, J. B..... Room 103, Rialto Building  
 Steever, J. G., & Co..... Room 103, Rialto Building  
 Sterling, W. H..... Room 602, Royal Insurance Building  
 Sterne, G. M..... Room 12, Rialto Building  
 Stone, G. W..... 169 Jackson Street  
 Vankirk, C. B., & Co.. Room 617, Royal Insurance Building  
 Van Nostrand, J. J..... Room 35, 16 Pacific Avenue  
 Van Rossem & Co..... Room 308, 134 Van Buren Street  
 Weare Commission Co..... Room 220, 218 La Salle Street  
 Young & Nichols..... Room 304, Royal Insurance Building

Boniface, W. H..... Peoria

INDIANA.

Carson, P. P., & Co..... 106 Upper 2d Street, Evansville  
 Goddard, H. J..... 208 Upper 1st Street, "  
 Hof, Wm. A..... 124 Upper Water Street, "  
 Reynolds, Lewis J..... 221 Upper 1st Street, "  
 Viele, Edward N..... 216 Upper 1st Street, "  
 Warder, J. W.. .... 217 Upper 1st Street, "  
 Wright & Mannheim..... 23 Upper 1st Street, "  
 Indianapolis Commis'n Co. Com'l Club Bldg., Indianapolis.  
 Weaver, O. D., & Co.. 39 Bd. of Trade Bldg., "

KENTUCKY.

Stout & Heaton..... 811 W. Nelson Street, Louisville

**LOUISIANA.**

|                                       |                        |
|---------------------------------------|------------------------|
| Del Bondio, E. F.....                 | New Orleans            |
| Dumser, A., & Co.....                 | "                      |
| McCloskey Bros.....                   | 64-72 Magazine Street, |
| Pfeifer, S., & Co.....                | "                      |
| Schwabacher, J. M., & Co. (Ltd.)..... | "                      |
| Trepagnier & Bres.....                | 81 Magazine Street,    |
| Watson, T. H.....                     | 108 Poydras Street,    |

**MARYLAND.**

|                                |                             |
|--------------------------------|-----------------------------|
| Bay & Heine.....               | 115 South Street, Baltimore |
| Butler, Chas., & Sons.....     | 121 Cheapside,              |
| Cassard, G., & Son.....        | 517 W. Baltimore Street,    |
| George, P. T., & Co.....       | 210 E. Lombard Street,      |
| Harvey, W. P., & Co.....       | 355 North Street,           |
| Hofstetter, Philip.....        | 15-17 N. Fremont Avenue,    |
| Jones, R. M., & Co.....        | Fulton and Pa. Avenues,     |
| Kriel, Chas. G.....            | 7-23 N. Henrietta Street,   |
| Lauth, G. M., & Bro.....       | 106 South Street,           |
| Miller & Miller.....           | 1214 N. Paca Street,        |
| Pfefferkorn, Leopold.....      | 215 N. Paca Street,         |
| Riemaier, Doyle, & Co.....     | 315-317 W. German St.,      |
| Schaeffer, Jacob C., & Co..... | 520 W. Lexington St.,       |
| Travers & Co.....              | 211 S. Sharp Street,        |
| Vickery, H. G., & Co.....      | 111-113 Light Street,       |

**MASSACHUSETTS.**

|                         |                                       |
|-------------------------|---------------------------------------|
| Galt, Robert A., & Co., | Room 606, Chamber of Commerce, Boston |
| Aloni, James S.....     | 410 Main Street, Worcester            |
| Baldwin Bros. Co.....   | "                                     |

**MICHIGAN.**

|                           |          |
|---------------------------|----------|
| Asman, J. O., & Sons..... | Bay City |
| Knopfel, A. A.....        | "        |
| Persons, L. M.....        | "        |

**MICHIGAN (Continued).**

Skinner & Chapman.....Bay City  
**Baird & West**.....**Detroit**  
 Skinner & Chapman.....Saginaw

**MISSOURI.**

Dummert, Henry.....Kansas City  
 Goodlett, Robert....."  
 Griffith, S. P., & Co....."  
 Menderson, Henry....."  
 Bartlett & Concannon.....507 N. 2d Street, St. Louis  
 Bowles, M. A.....118 N. 3d Street, "  
 Chamberlin, E. C., & Co.,  
     Room 515, Chamber of Commerce, "  
 Ens, E. B....Room 503, Chamber of Commerce, "  
 Ferguson, Hugh, & Co.....205 N. 3d Street, "  
 Glover, A. B., & Co., Room 215; Chamber of Com., "  
 Gorman, A. A. Room 301, Chamber of Commerce, "  
 Louderman, H. B., Jr....Room 322, Roe Bldg., "  
 Martin, M. E. Room 220, Chamber of Commerce, "  
 More, James B.....610 N. 2d Street, "  
 Ring, John...Room 213, Chamber of Commerce, "  
 Ring, James J.....Room 9, Security Building, "

**NEW YORK.**

Banker, William S.....65 Hudson Avenue, Albany  
 Hartwell, D. J....."  
 Pope, L. J.....Rochester  
 Barrie, R. S., & Co.....345 Produce Ex., New York City  
 Brew, James.....129 Broad Street, "  
 Calef, Horace W...327 Produce Exchange, "  
 Church, William S....Produce Exchange, "  
 Churchman, Alfred....312 Produce Ex.; "  
 Cinnamon, John.....15 Whitehall Street, "  
 Dougherty, E. H., & Co..355 Produce Ex., "

**NEW YORK (Continued).**

Draper, J. K. . . . . 424 Produce Exchange, New York City  
 Ege & Otis . . . . . West Washington Market, "  
**Elbert & Gardner. Kemble Building, New York City**  
 Ferris & Ketcham . . . . . 25 Whitehall Street, "  
 Frankfeld, L. . . . . 351 Produce Exchange, "  
 Frankfort, M. . . . . C 22 Produce Exchange, "  
 Faith Cotton Oil Agency, C 22 Produce Ex., "  
 Goggin, John . . . . . 439 Produce Exchange, "  
 Haebler & Co. . . . . 71 Wall Street, "  
 Hatch, A. H. . . . . 400 Greenwich Street, "  
 Hopkins, Dwight & Co. . . . . 52 Cotton Ex., "  
 Jackson, Joseph . . . . . 453 Produce Exchange, "  
 Kimball, C. A. . . . . 346 Produce Exchange, "  
 Libman, M. . . . . F 23 Produce Exchange, "  
 Link, David C. . . . . 411 Produce Exchange, "  
 Link, F., Jr. . . . . 411 Produce Exchange, "  
 Lincoln Manufacturing Co. . . . . 18 Broadway, "  
 Loeb, Herman & Co. . . . . 18 Broadway, "  
 Marc, T. M., & Co. . . . . 359 Produce Exchange, "  
 Massey's, J., Sons . . . . . 191 Front Street, "  
 Marples, S. S. . . . . 415 Produce Exchange, "  
 Squier, L. B. . . . . 159 Front Street, "  
 Tainter, C. B. . . . . 2 and 4 Stone Street, "  
 Teschendorff, Paul . . . . . 2 Stone Street, "  
 Van Brunt, S. . . . . 342 Produce Exchange, "  
 Valk, Edward . . . . . Produce Exchange, "  
 Vandenhove, S. . . . . 311 Produce Exchange, "  
 Wessells, C. H. . . . . 440 Produce Exchange, "  
 Whitman Bros. . . . . 302 Produce Exchange, "  
 Zann, H. C. . . . . 409 Produce Exchange, "

**NORTH CAROLINA.**

Godfrey, H. C., & Co. . . . . Elizabeth City  
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**TEXAS.**

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|---------------------------|--------|
| Coughnard & Co.....       | Dallas |
| Doughty, S.....           | "      |
| McClelland, M., & Co..... | "      |
| Sturges & Co.....         | "      |

**VIRGINIA.**

|                                   |          |
|-----------------------------------|----------|
| Capers, J. H., & Co.....          | Richmond |
| Forbes, W. S., & Co.....          | "        |
| Harwood, Daniel.....              | "        |
| Hobson, Angus, & Co.....          | "        |
| Lefew, W. W.....                  | "        |
| Patrick, F. E., Co.....           | "        |
| Smith, C. E., & Co.....           | "        |
| Smith, R. M., & Co.....           | "        |
| Union Brokerage and W. H. Co..... | "        |
| Young, A. C., Co.....             | "        |
| Southgate, J. T., & Co.....       | Norfolk  |

**WASHINGTON.**

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|--------------------------|---------|
| Cook, A. F.....          | Seattle |
| Dally, S. W. R.....      | "       |
| Gaze, E. B.....          | "       |
| Kelly, Sutthoff, Co..... | "       |

**WISCONSIN.**

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|--------------------|-----------------------------|
| Booth, D. D.....   | 178, 12th Street, Milwaukee |
| McAlpine, Jas..... | 35 Chamber of Com. Bldg., " |

**BRITISH NORTH AMERICA.****Manitoba.**

|                             |          |
|-----------------------------|----------|
| Griffith, J. Y., & Co.....  | Winnipeg |
| The Parsons Produce Co..... | "        |

**Newfoundland.**

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|-----------------|-----------|
| Hearn & Co..... | St. Johns |
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Quebec.

Bell, Simpson & Co....287 Commissioners Street, Montreal  
 McGillis, A. D.....343 Commissioners Street, "  
 Pherson, D. A., & Co.....23 William Street, "  
 Shaw, Thomas.....St. Peter Street, "  
 Vaillancourt, J. A....333 Commissioners Street, "  
 Vipond, McBride & Co...261 Commissioners St., "  
 Vipond's, T. S., Son...291 Commissioners Street, "  
 Ward, Joseph, & Co...325 Commissioners Street, "  
 Wait, George, & Co.....9 William Street, "

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### ALABAMA.

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| Eufaula Oil and Fertilizer Co.....           | Eufaula       |
| Farmers' Alliance Co.....                    | Florence      |
| Fort Deposit Oil Co.....                     | Fort Deposit  |
| Etowah Alliance Cotton-Seed Oil Mfg. Co..... | Gadsden       |
| Myrich & Son.....                            | "             |
| Greenville Oil and Fertilizer Co.....        | Greenville    |
| Huntsville Cotton Oil Co.....                | Huntsville    |
| Tredegar Oil Mill Co.....                    | Jacksonville  |
| Jacksonville Oil Mill Co.....                | "             |
| Conchardie Oil Mills.....                    | Lincoln       |
| Sulphur Springs Co.....                      | "             |
| Marion Oil Co.....                           | Marion        |
| Newberne Oil Mill.....                       | Newberne      |
| Opelika Cotton Oil Mills.....                | Opelika       |
| Southeast Alabama Oil and Fertilizer Co..... | Ozart         |
| Roanoke Cotton-Seed Oil Mill.....            | Roanoke       |
| Campbell & Wright, Jr.....                   | "             |
| Scottsville Oil Co.....                      | Scottsville   |
| Troy Fertilizer Co.....                      | Troy          |
| Tuscaloosa Cotton-Seed Oil Mills.....        | Tuscaloosa    |
| Tuskegee Oil Mills.....                      | Tuskegee      |
| Bullock County Mfg. Co.....                  | Union Springs |
| Canebrake Oil Mill.....                      | Uniontown     |
| Elsie Mill Co.....                           | Walnut Grove  |
| Woodley Oil Works.....                       | Woodley       |

### ARKANSAS.

|                                   |               |
|-----------------------------------|---------------|
| Crescent Cotton Oil Co.....       | Argenta       |
| Eureka Cotton Oil Co.....         | Arkansas City |
| Conway Cotton Oil and Gin Co..... | Conway        |



182 COTTON-SEED OIL MANUFACTURERS AND REFINERS.

**ARKANSAS (Continued).**

Arkansas Cotton Oil Co..... Fort Smith  
 Planters' Mill Co..... Helena  
 Arkansas Cotton Oil Co..... "  
 Crescent Cotton Oil Co..... Little Rock  
 Southern Cotton Oil Co..... "

**FLORIDA.**

Loomis Mfg. Co..... Fernandina  
 High Springs Oil Co..... High Springs  
 G. M. Whetstone..... "  
 Lloyds Oil Mill Co..... Lloyds  
 Florida Mfg. Co..... Madison  
 Mikesville Oil Mill Co..... Mikesville  
 Orlando Oil Mill Co..... Orlando

**GEORGIA.**

Americus Oil Co..... Americus  
 Athens Oil and Fertilizer Co..... Athens  
 Gate City Oil Co..... Atlanta  
 Georgia Cotton Oil Co..... "  
 Commercial Oil Co..... "  
 Attalla Compress and Fertilizer Co..... Attalla  
 Farmers' and Fertilizer Co..... Barnesville  
 A. P. Brantley Co..... Blackshire  
 Clayton Oil Co..... Clayton  
 Conyers Oil and Fertilizer Co..... Conyers  
 Dawson Oil Mills Co..... Dawson  
 Elberton Oil Mills Co..... Elberton  
 Co-operative Mfg. Co..... Forsythe  
 Farmers' and Merchants' Oil and Guano Co.... Fort Gaines  
 Farmers' Co-operative Mfg. Co..... Griffin  
 Griffin Oil and Fertilizer Co..... "  
 Hartwell Oil Co..... Hartwell

REFINERS.

.. Fort Smith  
 ..... Helena  
 ..... "  
 .. Little Rock  
 ..... "  
 .. Fernandina  
 High Springs  
 .. "  
 ..... Lloyds  
 ..... Madison  
 ..... Mikesville  
 ..... Orlando  
 .. Americans  
 ..... Athens  
 ..... Atlanta  
 ..... "  
 ..... "  
 ..... Attalla  
 .. Barnesville  
 .. Blackshire  
 ..... Clayton  
 ..... Conyers  
 ..... Dawson  
 ..... Elberton  
 ..... Forsythe  
 .. Fort Gaines  
 ..... Griffin  
 ..... "  
 ..... Hartwell

COTTON-SEED OIL MANUFACTURERS AND REFINERS. 183

GEORGIA (Continued).

Lathrop Oil Mill Co.....Hawkinsville  
 Hawkinsville Oil Co..... "  
 Middle Georgia Oil and Fertilizer Co.....Hogansville  
 Jackson Oil Mill Co.....Jackson  
 Lagrange Mill Co.....Lagrange  
 Farmers' Cotton Oil and Mfg. Co.....Locust Grove  
 Middle Georgia Oil and Fertilizer Co.....Love Joy Station  
 Macon Oil and Ice Co.....Macon  
 Georgia Mills and Elevator Co..... "  
 Planters' Oil, Guano, and Ice Co..... "  
 Farmers' Oil and Fertilizer Co.....Mason  
 Milledgeville Oil and Fertilizer Co.....Milledgeville  
 Monroe Guano Co.....Monroe  
 Farmers' Alliance Co.....Montezuma  
 Robert McBride & Co.....Newman  
 Pelfam Oil Co.....Pelfam  
 Smithsonia Cotton-Seed Oil Mills.....Smithsonia  
 Walton Oil Co.....Social Circle  
 Talbott Anti-Trust Mfg. Co.....Talbott  
 Thomasville Guano Co.....Thomasville  
 Excelsior Mfg. Co.....Washington  
 Waterville Oil Co.....Waterville  
 Waynesboro' Oil Mill and Fertilizer Co.....Waynesboro  
 Planters' Oil Mfg. Co.....West Point  
 Winterville Oil Mill Co.....Winterville

ILLINOIS.

Chicago.

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 G. R. Jenkins & Co.....12-14 Franklin Street

184 COTTON-SEED OIL MANUFACTURERS AND REFINERS.

**INDIAN TERRITORY.**

Ardmore Cotton Oil Co.....Ardmore

**KENTUCKY.**

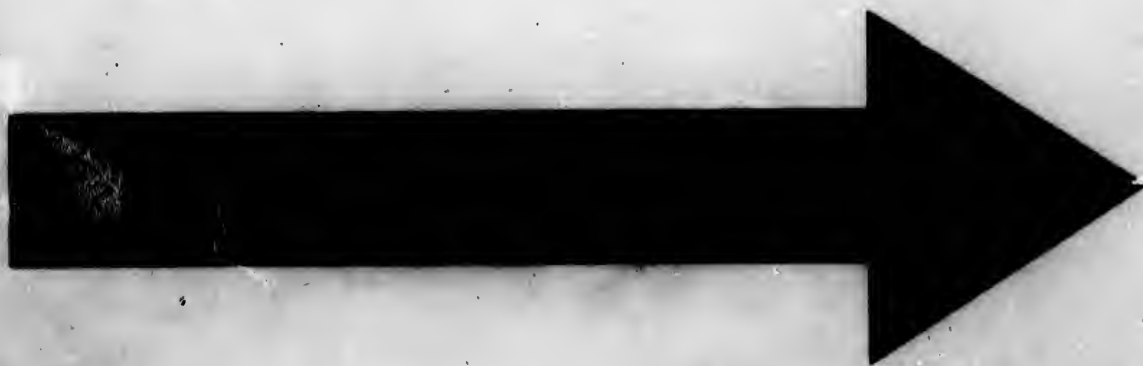
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Globe Refining Co.....“

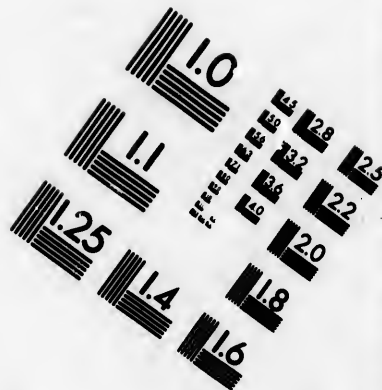
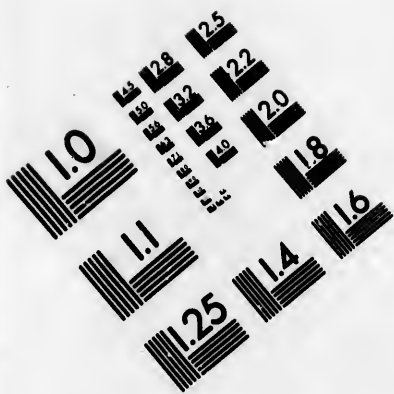
**LOUISIANA.**

Red River Oil Co. (Ltd.).....Alexandria  
Capital City Oil Co.....Baton Rouge  
Felicians Cotton-Seed Oil Mill Co.....Bayou Sara  
Campti Oil Mills Co.....Campti  
Haynes & Freeman.....“  
Armistead Oil Mill Co.....Coushatta  
Planters' Crescent Oil Co.....Gretna  
M. B. Phillips.....Lakeland  
Lakeland Oil Co.....“  
Planters' Oil Mill Co.....Monroe  
Union Oil Co.....“  
Givenovich Chepic Oil Co. (Ltd.).....Natchitoches  
Iberia Oil Mills Co.....New Iberia  
Independent Cotton Oil Co. (Ltd.)...New Orleans  
A. A. Maginnis Sons.....“  
Standard Cotton-Seed Oil Co.....“  
Rousseau Latour.....“  
St. Martins Oil Works.....“  
Armbruster Oil Refining Co.....“  
Steinhardt & Co.....“  
Lawler & Chaery.....“  
Dupois Refining and Mfg. Co.....“  
Planters' Oil Co.....“  
Union Oil Co.....“  
Crescent Oil Co.....“

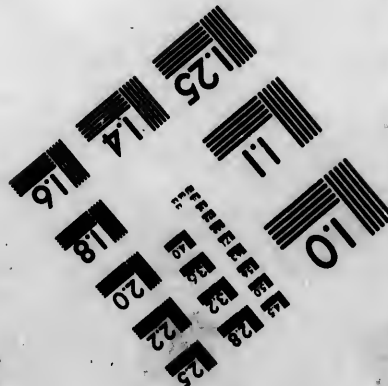
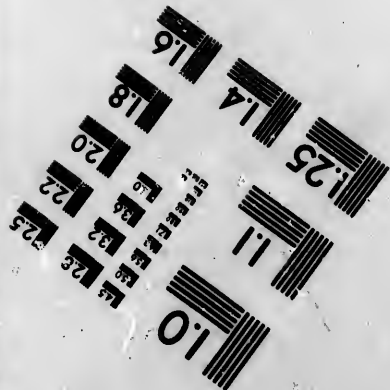
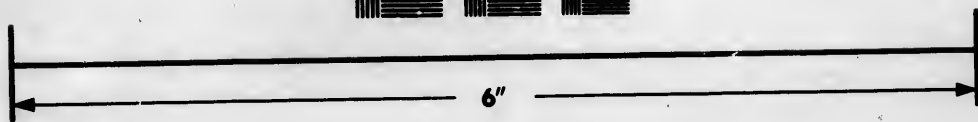
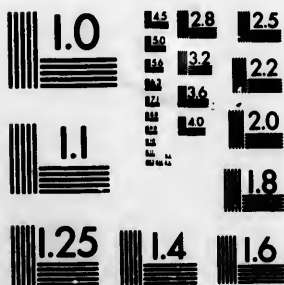
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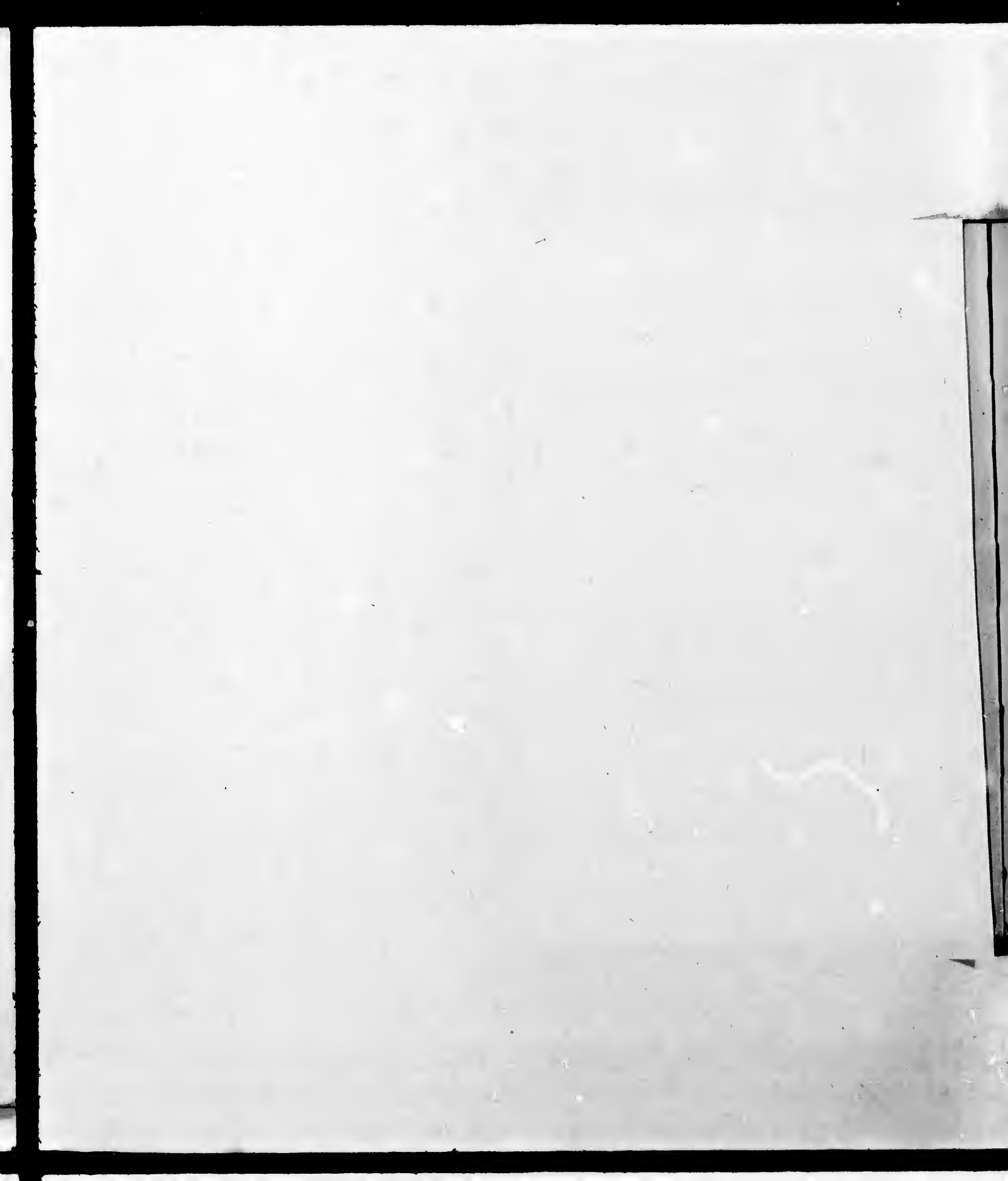


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LOUISIANA (Continued).

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| David Mfg. Co. (Ltd.)              | ..... | New Orleans      |
| Excelsior Refining Co.             | ..... | "                |
| Opelousas Oil Mill Co.             | ..... | Opelousas        |
| Rush Point Cotton Oil and Mfg. Co. | ..... | Rush Point       |
| Union Cotton Oil Co.               | ..... | Shreveport       |
| St. Martinsville Oil Co. (Ltd.)    | ..... | St. Martinsville |
| Cotton-Seed Oil Mill Co.           | ..... | Smithland        |
| Pelican Oil Mill Co.               | ..... | Washington       |

MAINE.

|                  |       |          |
|------------------|-------|----------|
| The Winthrop Co. | ..... | Portland |
|------------------|-------|----------|

MISSISSIPPI.

|                                        |       |               |
|----------------------------------------|-------|---------------|
| Hope City Compress and Mfg. Co.        | ..... | Aberdeen      |
| Baird Cotton Oil Mill Co.              | ..... | Baird         |
| Chatawa Cotton Oil Co.                 | ..... | Chatawa       |
| Sun Flower Oil Co.                     | ..... | Clarksdale    |
| Friar's Point Oil Mill and Mfg. Co.    | ..... | Friar's Point |
| Planters' Cotton-Seed and Crushing Co. | ..... | Greenville    |
| Planters' Oil Mill and Mfg. Co.        | ..... | Greenwood     |
| Capital City Oil Works                 | ..... | Jackson       |
| Planters' Independent Oil Co.          | ..... | Little Rock   |
| Meridian Oil Mill and Mfg. Co.         | ..... | Meridian      |
| Eagle Cotton Oil Co.                   | ..... | "             |
| American Cotton Oil Co.                | ..... | Natchez       |
| Mississippi Cotton Oil Co.             | ..... | Port Gibson   |
| Port Gibson Oil Works                  | ..... | "             |
| Rodney Cotton-Seed Oil Mills           | ..... | Rodney        |
| Hill City Oil Mills                    | ..... | Vicksburg     |
| Refuge Oil Mill Co.                    | ..... | "             |
| Vicksburg Oil Mills Co.                | ..... | "             |

186 COTTON-SEED OIL MANUFACTURERS AND REFINERS.

**NEW YORK.**

**New York City.**

American Cotton Oil Co.....29 Broadway  
American Seed Pressing Co.....114 Broad Street  
Occidental Oil Mills.....539-545 W. 24th Street  
Lincoln Mfg. Co.....18 Broadway

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Swift Creek Mfg. Co.....Battleboro'  
Charlotte Oil and Fertilizer Co.....Charlotte  
Conetoe Oil Mills.....Conetoe  
Fayetteville Oil Mill Co.....Fayetteville  
State Line Oil and Fertilizer Co.....Gibson Station  
Goldsboro' Oil Co.....Goldsboro'  
Kingston Oil Mills Co.....Kingston  
Laurinburg Cotton-Seed Oil Mill and Mfg. Co..Laurinburg  
Rowland Oil and Fertilizer Co.....Rowland  
Farmers' Co-operative Mfg. Co.....Tarboro'  
Tarboro' Oil Mills Co....."  
Edgecombe County Oil Co....."

**OHIO.**

Corona Oil Co.....Cincinnati

**PENNSYLVANIA.**

Southern Cotton Oil Co.....116 So. 3d Street, Philadelphia  
West Branch Refining Co.....Williamsport

**RHODE ISLAND.**

Union Oil Co.....Providence

**SOUTH CAROLINA.**

Abbeville Cotton-Seed Oil and Fertilizer Co.....Abbeville  
Allendale Oil Mill Co.....Allendale

**SOUTH CAROLINA (Continued).**

|                                                  |               |
|--------------------------------------------------|---------------|
| Anderson Oil and Fertilizer Co.....              | Anderson      |
| Appleton Oil Mill Co.....                        | Appleton      |
| Barnwell Oil Co.....                             | Barnwell      |
| Belton Ginning, Fertilizer and Oil Co.....       | Belton        |
| Marlboro' Mill Co.....                           | Bennettsville |
| Mutual Refining Co.....                          | Charleston    |
| Oliver Oil Co.....                               | Columbia      |
| Darlington Seed Oil Co.....                      | Darlington    |
| Dillon Cotton-Seed Oil Co.....                   | Dillon        |
| Easley Oil Mills.....                            | Easley        |
| Edgefield Oil Co.....                            | Edgefield     |
| Florence Cotton Oil Mill Co.....                 | Florence      |
| Greenwood Cotton Oil Co.....                     | Greenwood     |
| Laurens Oil and Fertilizer Co.....               | Laurens       |
| Marion Oil Mills.....                            | Marion        |
| Newberry Cotton-Seed Oil and Fertilizer Co.....  | Newberry      |
| Nat Gist.....                                    | "             |
| Ninety-six Mfg. Co.....                          | Ninety-six    |
| Orangeburg Oil Mill Co.....                      | Orangeburg    |
| Ridge Springs Mfg. and Banking Co.....           | Ridge Springs |
| The Produce Mills.....                           | Spartanburg   |
| Seneca Oil Mills and Mfg. Co.....                | Seneca        |
| St. Matthews Mfg. and Warehouse Co.....          | St. Matthews  |
| Summerton Cotton-Seed Oil and Fertilizer Co..... | Stone         |
| Union Oil and Mfg. Co.....                       | Union         |
| Wateree Oil Mill Co.....                         | Wateree       |
| Fairfield Oil and Fertilizer Co.....             | Winnsboro'    |

**TENNESSEE.**

|                                           |             |
|-------------------------------------------|-------------|
| Chattanooga Cotton Oil Co.....            | Chattanooga |
| Covington Oil Mill and Fertilizer Co..... | Covington   |
| Dyersburg Oil and Fertilizer Co.....      | Dyersburg   |
| Diamond Oil and Huller Co.....            | Memphis     |

29 Broadway  
114 Broad Street  
5 W. 24th Street  
18 Broadway

Battleboro'  
Charlotte  
Conetoe  
Fayetteville  
Gibson Station  
Goldsboro'  
Kingston  
Co. Laurinburg  
Rowland  
Tarboro'

Cincinnati

Philadelphia  
Williamsport

Providence

Abbeville  
Allendale

188 COTTON-SEED OIL MANUFACTURERS AND REFINERS.

**TENNESSEE (Continued.)**

|                                             |           |
|---------------------------------------------|-----------|
| De Soto Oil Works.....                      | Memphis   |
| Gayoso Oil Works.....                       | "         |
| Planters' Oil Mill Co.....                  | "         |
| National Cotton-Seed Oil and Huller Co..... | "         |
| Valley Oil Mills.....                       | "         |
| Tennessee Cotton Oil Co.....                | "         |
| John F. McCallum & Co.....                  | "         |
| Crescent Cotton Oil Co.....                 | "         |
| Hanauer Cotton Oil Mill Co.....             | "         |
| Tennessee Cotton Oil Co.....                | Nashville |
| Trenton Cotton-Seed Oil Mills.....          | Trenton   |

**TEXAS.**

|                                       |                |
|---------------------------------------|----------------|
| Alvarado Cotton Oil Co.....           | Alvarado       |
| Austin Oil Mfg. Co.....               | Austin         |
| Bastrop Cotton Oil Co.....            | Bastrop        |
| Belcherville Cotton Oil Co.....       | Belcherville   |
| Belton Oil Mills Co.....              | Belton         |
| Blooming Grove Oil Mill Co.....       | Blooming Grove |
| Bonham Oil and Cotton Co.....         | Bonham         |
| Bowie Cotton-Seed Oil Co.....         | Bowie          |
| Brenham City Mfg. Co.....             | Brenham        |
| Brenham Compress Oil and Mfg. Co..... | "              |
| Texas Standard Cotton Oil Co.....     | "              |
| Brownwood Cotton-Seed Oil Co.....     | Brownwood      |
| Bruceville Cotton Oil Co.....         | Bruceville     |
| Bryan Cotton-Seed Oil Co.....         | Bryan          |
| Caldwell Oil Mill Co.....             | Caldwell       |
| Burleson County Oil Mill Co.....      | "              |
| Calvert Cotton Oil Co.....            | Calvert        |
| Milan County Oil Mill Co.....         | Cameron        |
| Kennesaw Refining Co.....             | Carterville    |
| Cleburne Light Oil and Ice Co.....    | Cleburne       |

## REFINERS.

## COTTON-SEED OIL MANUFACTURERS AND REFINERS. 189

## TEXAS (Continued).

|                    |                                                 |               |
|--------------------|-------------------------------------------------|---------------|
| ..... Memphis      | Comanche Cotton-Seed Oil Mill Co.....           | Comanche      |
| ..... "            | Corsicana Cotton Oil Co.....                    | Corsicana     |
| ..... "            | National Cotton Oil Co.....                     | "             |
| ..... "            | Cuero Cotton Oil Co.....                        | Cuero         |
| ..... "            | Trinity Cotton-Seed Oil Mill Co.....            | Dallas        |
| ..... "            | Texas Cotton-Seed Crushers' Association.....    | "             |
| ..... "            | Decatur Cotton-Seed Oil Co.....                 | Decatur       |
| ..... "            | National Oil Mill Co.....                       | Denison       |
| ..... Nashville    | Denton Cotton-Seed and Oil Co.....              | Denton        |
| ..... Trenton      | The Dublin Cotton-Seed Oil Mill Co.....         | Dublin        |
|                    | Ennis Cotton Oil Co.....                        | Ennis         |
|                    | Farmersville Cotton Oil Co.....                 | Farmersville  |
|                    | Flatonia Oil Mill Co.....                       | Flatonia      |
| ..... Alvarado     | Correlly & Co.....                              | Fort Worth    |
| ..... Austin       | Gainesville Cotton-Seed Oil Mill and Gin Co.... | Gainesville   |
| ..... Bastrop      | National Cotton Oil Co.....                     | Galveston     |
| ..... Belcherville | Georgetown Cotton Oil Co.....                   | Georgetown    |
| ..... Belton       | Goliad Oil Mill Co.....                         | Goliad        |
| Blooming Grove     | Grand View Oil Mill Co.....                     | Grand View    |
| ..... Bonham       | Greenville Cotton Oil Co.....                   | Greenville    |
| ..... Bowie        | Planters and Merchants' Oil Co.....             | Groesbeck     |
| ..... Brenham      | Lavacca Oil Co.....                             | Hallettsville |
| ..... "            | Havasto Oil Mill Co.....                        | Havasto       |
| ..... "            | National Cotton Oil Co.....                     | Hearne        |
| ..... Brownwood    | Hempstead Cotton-Seed Oil Co.....               | Hempstead     |
| ..... Bruceville   | Hillsboro' Oil Co.....                          | Hillsboro'    |
| ..... Bryan        | Honey Grove Cotton Oil Co.....                  | Honey Grove   |
| ..... Caldwell     | Southern Cotton Oil Co.....                     | Houston       |
| ..... "            | National Cotton Oil Co.....                     | "             |
| ..... Calvert      | Consumers' Cotton Oil Co.....                   | "             |
| ..... Cameron      | Merchants and Planters' Oil Co.....             | "             |
| ..... Carterville  | Houston Oil Refining and Mfg. Co.....           | "             |
| ..... Cleburne     | Texas Cotton-Seed Oil Co.....                   | "             |



190 COTTON-SEED OIL MANUFACTURERS AND REFINERS.

**TEXAS (Continued).**

|                                              |                 |
|----------------------------------------------|-----------------|
| Italy Cotton Oil Co .....                    | Italy           |
| Itasca Cotton-Seed Oil Co.....               | Itasca          |
| Jefferson Cotton Oil and Refining Co.....    | Jefferson       |
| Kaufman Oil Mill Co.....                     | Kaufman         |
| Kyle Oil Mill Co.....                        | Kyle            |
| Ladonia Cotton Oil Co.....                   | Ladonia         |
| La Grange Oil Mill Co .....                  | La Grange       |
| Lockhart Oil and Power Co .....              | Lockhart        |
| Longview Cotton-Seed Oil Co.....             | Longview        |
| Luling Mfg. Co.....                          | Luling          |
| Marlin Oil Co.....                           | Marlin          |
| McKinney Cotton Oil Mill Co.....             | McKinney        |
| Moulton Oil Mill Co .....                    | Moulton         |
| Navasota Oil Mill Co .....                   | Navasota        |
| Landa Cotton Oil Co.....                     | New Braunfels   |
| New Braunfels Cotton-Seed Oil Mill Co....    | "               |
| Palestine Cotton-Seed Oil Mill Co.....       | Palestine       |
| Paris Oil and Cotton Co.....                 | Paris           |
| Rockdale Oil Co.....                         | Rockdale        |
| Rockwall Oil Co .....                        | Rockwall        |
| San Antonio Oil Co .....                     | San Antonio     |
| Western Cotton Oil Mfg. and Cotton-Seed Co.. | "               |
| San Marcos Cotton-Seed Oil Co.....           | San Marcos      |
| Schulenberg Oil Mill Co .....                | Schulenberg     |
| Baumgarten's Oil Mill Co .....               | "               |
| Sherman Oil and Cotton Co .....              | Sherman         |
| Sulphur Springs Oil Co .....                 | Sulphur Springs |
| Taylor Cotton-Seed Oil Co.....               | Taylor          |
| Temple Oil Mfg. and Refining Co.....         | Temple          |
| Empire Oil Co .....                          | "               |
| Central Texas Cotton Oil Co.....             | "               |
| Terrell Cotton Oil Mfg. and Refining Co..... | Terrell         |
| National Cotton Oil Co.....                  | Texarkana       |

TEXAS (Continued).

|                                               |             |
|-----------------------------------------------|-------------|
| Velasco Cotton-Seed Oil Mill and Mfg. Co..... | Velasco     |
| National Cotton Oil Co.....                   | Waco        |
| Consumers' Cotton Oil Co.....                 | "           |
| Waco Oil Mill Co.....                         | "           |
| Ellis County Cotton-Seed Oil Co.....          | Waxachie    |
| Planters' Oil Co.....                         | Weatherford |
| Weatherford Cotton Oil Co.....                | "           |
| Weimar Oil Works.....                         | Weimar      |
| Hillge Bros. Oil Mill Co.....                 | "           |
| Whitewright Cotton Oil Co.....                | Whitewright |
| Wolf City Oil Co.....                         | Wolf City   |
| Yoakum Oil Mill and Mfg. Co.....              | Yoakum      |

REFINERS.

..... Italy  
 ..... Itasca  
 ..... Jefferson  
 ..... Kaufman  
 ..... Kyle  
 ..... Ladonia  
 ..... La Grange  
 ..... Lockhart  
 ..... Longview  
 ..... Luling  
 ..... Marlin  
 ..... McKinney  
 ..... Moulton  
 ..... Navasota  
 New Braunfels  
 "  
 ..... Palestine  
 ..... Paris  
 ..... Rockdale  
 ..... Rockwall  
 ..... San Antonio  
 " "  
 ..... San Marcos  
 ..... Schulenberg  
 "  
 ..... Sherman  
 Sulphur Springs  
 ..... Taylor  
 ..... Temple  
 " "  
 " "  
 ..... Terrell  
 ..... Texarkana

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Haag & Bachmann ..... 1066 Howard Street  
Harbold & Co ..... 108, 6th Street  
Heineman & Stern ..... 916 Larkin Street  
Heinz, C ..... 362, 3d Street  
Lenkes & Co ..... 123, 6th Street  
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Schiller, A ..... 26 Centre Market  
Vall, H ..... 37 Centre Market  
Wilfert Bros ..... 1390 Market Street

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Davis, A. A ..... "

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Nuckolls Packing Co ..... Pueblo  
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Englehart, Geo ..... 235 E. Main Street, "  
Renz & Kettner, ..... 77 Hamilton Street, "



## CONNECTICUT (Continued).

|                             |      |                                   |
|-----------------------------|------|-----------------------------------|
| Renz, John.....             | 77½  | Hamilton Street, Bridgeport       |
| Wundrack, R.....            | 574½ | Main Street, "                    |
| Luchsinger, Thomas.....     |      | Bristol                           |
| File, D. W.....             | 65   | West Street, Danbury              |
| Goos, F.....                | 300  | Main Street, "                    |
| Blumenthal, B.....          | 229  | Market Street, Hartford           |
| Hurlburt, E. E.....         | 130  | Church Street, "                  |
| Maurer, T.....              | 162  | Front Street, "                   |
| Ramisch, A.....             | 516  | Main Street, "                    |
| Buechler, John.....         |      | Meriden                           |
| Drechler, J.....            | 24   | North Street, "                   |
| Fox, C. F.....              | 26½  | E. Main Street, "                 |
| Hunter, James F.....        | 194  | W. Main Street, "                 |
| Meriden Provision Co.....   | 101  | S. Colony Street, "               |
| Schuerer, E.....            |      | Southington Avenue, "             |
| Doerr, O. E.....            |      | Shuttle Meadows Road, New Britain |
| Giersch, A. F. W.....       | 213  | Linwood Street, "                 |
| Malecke, Theodore.....      | 105  | Jubilee Street, "                 |
| Merz, G. S.....             | 357  | Arch Street, "                    |
| Ramm Bros.....              | 353  | Arch Street, "                    |
| Basserman, Peter.....       | 900  | State Street, New Haven           |
| Maylinger & Hugo.....       | 120  | Crown Street, "                   |
| Merwin, S. E., & Son.....   | 354  | State Street, "                   |
| Richards, J. P.....         | 59   | Union Street, "                   |
| Reinwald, Charles.....      | 145  | Washington Street, "              |
| Sperry & Barnes.....        | 114  | State Street, "                   |
| Bingenheimer & Willing..... | 6    | Market Street, Rockville          |
| Grote, John.....            |      | Ward and Union Streets, "         |
| Kernan, P. H.....           | 25   | Market Street, "                  |
| Norton, W. J.....           | 98   | W. Main Street, "                 |
| Petig, William.....         | 89   | W. Main Street, "                 |
| Strong, W. E.....           | 10   | Windsor Avenue, "                 |
| Bohl, V.....                | 56   | S. Willow Street, Waterbury       |
| Dreher, W.....              | 785  | Bank Street, "                    |

)  
 et, Bridgeport  
 et, "  
 ..... Bristol  
 Street, Danbury  
 Street, "  
 Street, Hartford  
 Street, "  
 Street, "  
 Street, "  
 ..... Meriden  
 Street, "  
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 Street, "  
 Avenue, "  
 d, New Britain  
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 et, "  
 et, New Haven  
 et, "  
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 et, "  
 Street, Rockville  
 Streets, "  
 Street, "  
 Street, "  
 Street, "  
 Avenue, "  
 Street, Waterbury  
 Street, "

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## Chicago (Continued).

Silberhorn, W. H., Co..... Union Stock Yards  
 Singer, M. D..... 3650 Forrest Avenue  
 Smietanke, Frank..... 703 W. 18th Street  
 Stallman, G. H..... 54 N. Peoria Street  
 Swift & Company..... Union Stock Yards  
 Tanner, Anton..... 601, 31st Street  
 Thiede, H. A..... 2032 N. Paulina Street  
 Viles & Robbins..... Union Stock Yards  
 Wendt, H., & Son..... 329 S. Jefferson Street

Kostner, J..... Galena  
 Peterson, Adolph..... Harlem  
 Brandso, Frederick..... Hillsboro'  
 Wurth, William..... Jerseyville  
 McCammon, W. E..... Jonesborough  
 Polster, Charles F..... 117<sup>th</sup> Green Street, Peoria  
 Loekle, E..... Centre Street, Peru  
 Boelmer, George, & Son..... Springfield  
 Groesch, Chs..... "  
 Heiger, Charles, & Bro..... "  
 Stroma, Frank..... "

## INDIANA.

Anderson Dressed Beef Co.. Main & Grand Aves., Anderson

## Evansville.

Becker, C. H..... 524 Upper 4th Street  
 Beiling, Jacob..... 1021 Fulton Avenue  
 Beiling, Adam.....  
 Friedric, August..... 8th and Chestnut Streets  
 Gutling, Frederick.....  
 Hanssermann, C. J..... 121, 3d Avenue  
 Hess, Peter..... 1104 W. Franklin Street

## Evansville (Continued).

|                                     |                             |
|-------------------------------------|-----------------------------|
| Lubitz, Henry .....                 |                             |
| Mohr, Casper .....                  |                             |
| Marmón, A. ....                     |                             |
| Mouer, M .....                      |                             |
| Newman, L., & Bro .....             | 412 Upper 4th Street        |
| Rasper, J. ....                     |                             |
| Schneider, J. P., & Son .....       | 2000 Main Street            |
| Schneip, Anton .....                | 900 Division Street         |
| Waldschmidt, F. H .....             | 301 Fountain Avenue         |
| Weil, B. ....                       | 919 Main Street             |
|                                     |                             |
| Gottlieb, Haller .....              | Fort Wayne                  |
| Leikauf Bros. ....                  | 15 Hanover Street, "        |
| Murchel, Martin .....               | "                           |
| Old Fort Spice and Extract Co. .... | "                           |
| Rosscan & Pfeiffer .....            | "                           |
| Row, J. ....                        | "                           |
| Yobat, A. ....                      | "                           |
| Hammond, G. H., Co. ....            | Hammond                     |
| Adams Packing Co. ....              | Indianapolis                |
| Bettcher, Rud .....                 | "                           |
| Coffin, Fletcher & Co. ....         | "                           |
| Derleth, W. ....                    | 189 W. Washington Street, " |
| Kingan & Co. (Ltd.) .....           | "                           |
| Moore Packing Co. ....              | "                           |
| O'Mahburey, T. J. ....              | 176 Shelby Street, "        |
| Reiffel, Martin .....               | "                           |
| Sindlinger, P. ....                 | 207 W. Michigan Street, "   |
| Sitz, John .....                    | "                           |

## IOWA.

|                                        |              |
|----------------------------------------|--------------|
| Sinclair, T. M., & Co. ....            | Cedar Rapids |
| Dubuque Packing and Provision Co. .... | Dubuque      |
| Dubuque Packers' Association .....     | "            |

## IOWA (Continued).

|                                           |            |
|-------------------------------------------|------------|
| Hoffnar, Conrad .....                     | Dubuque    |
| Reincke, Chas .....                       | "          |
| Klein, John .....                         | "          |
| Ryan, Wm., & Co. ....                     | "          |
| Sohl, John .....                          | "          |
| West, G. W. ....                          | "          |
| Wimmer, G. ....                           | "          |
| Cudahy Bros. Co .....                     | Sioux City |
| Heller, A., & Son. ....                   | "          |
| Karo, Aug. ....                           | "          |
| Silberhorn, Camp. ....                    | "          |
| Sioux City Packing and Provision Co. .... | "          |

## KENTUCKY.

## Louisville.

|                             |                            |
|-----------------------------|----------------------------|
| Busch, R. D. ....           | 937 Geiger Street          |
| Conrad Provision Co. ....   | 1492 Story Avenue          |
| Fischer, W. H. ....         | Hancock and Market Streets |
| Louisville Packing Co. .... | 1318 Story Avenue          |
| Leib, F., & Son .....       | 122 W. Main Street         |
| Morris, Birch & Co .....    | 226 W. Main Street         |
| Pfaffinger & Co. ....       | 922 E. Market Street       |
| Vissman, H. C., & Co. ....  | 417 Beckel Avenue          |

## LOUISIANA.

|               |                                             |
|---------------|---------------------------------------------|
| Rohm, J. .... | St. David and Toledano Streets, New Orleans |
|---------------|---------------------------------------------|

## MAINE.

|                              |                            |
|------------------------------|----------------------------|
| Carr, William S., & Co. .... | 51-55 Broad Street, Bangor |
| Cobb & Nash. ....            | Valley Avenue, "           |
| Reagan & Dalton. ....        | Ohio Street, "             |
| Rice, C. H. ....             | Central Market House, "    |
| Finson & Brown .....         | Bucksport                  |

**MARYLAND.****Baltimore.**

|                          |                               |
|--------------------------|-------------------------------|
| Ashauer, H.....          | Vanderhorst Lane              |
| Baltz, William.....      | 23 Hanover Market             |
| Barringer, S. W.....     | City Market                   |
| Bien, John.....          | McElderry and Madeira Streets |
| Blumhardt, Rosa.....     | 70 Wilkins Street             |
| Bossert, Anton.....      | City Market                   |
| Erdman, F. S.....        | Balch Market                  |
| Esig, F.....             | City Market                   |
| Gebelein, G.....         | Belair Market                 |
| Gunser, C.....           | City Market                   |
| Haas, Anton.....         | 53 Hanover Market             |
| Haase, Dora.....         | 83 Centre Market              |
| Haase, E. W.....         | Lexington Market              |
| Heinz, P. E.....         | City Market                   |
| Hettchen, E.....         | 4 Fell's Point Market         |
| Horn, G. W.....          | 100 Hartford Road             |
| Isenberg, I., & Son..... | 627 W. Fayette Street         |
| Kaiser, H.....           | City Market                   |
| Klos, J.....             | 126 Lexington Market          |
| Lambrecht, A.....        | 149 Lexington Market          |
| Meister, H.....          | Belair Market                 |
| Ottenheimer Bros.....    | City Market                   |
| Reinhardt, A.....        | 1843 Frederick Avenue         |
| Ritz, C.....             | 30 Fell's Point Market        |
| Roemer, H.....           | 111 Hanover Market            |
| Schaefer, Mrs. J. H..... | 204 Lexington Market          |
| Schleus, J. C.....       | Hollins Market                |
| Sellendyer, L.....       | 1-3 Fell's Point Market       |
| Snyder, A.....           | City Market                   |
| Spuck, C.....            | 4 Jenkins Lane                |
| Temperle, Mary.....      | 101-103 Lexington Market      |
| Volkert, F.....          | City Market                   |

**Baltimore (Continued).**

Waldeck, F. C. .... Vonderhurst Lane  
 Waters, R. C. .... 34 Lexington Market  
 Weber, John. .... 19 Fell's Point Market  
 Wetzler, J. .... City Market

**MASSACHUSETTS.**

Bell, A. S. .... Beverly

**Boston.**

Berlo Bros. .... 322 W. Broadway  
 Erath, H. .... 4 Boylston Avenue  
 Firrohr, Frederick. .... 23 Station Street  
 Globe Sausage and Provision Co. .... 103 Fulton Street  
 Goessel, Joseph. .... 106 Linden Park Street  
 Haarer, F. .... 75 Shawmut Avenue  
 North Packing and Provision Co. .... 31 North Street  
 Park Sausage and Provision Co. .... 31 Fulton Street  
 Spiegel, A. S. .... 143 Eliot Street  
 Squire, John P., & Co. .... 39 and 40 N. Market Street

Benz, Charles F. .... 75, 6th Street, Cambridge  
 Wiedemann, S. & M. .... 181 Broadway, "  
 Weitze, Gustave. .... 170 Thorndike Street, "  
 Furbush & Co. .... Furbush Court, Charleston  
 Cornell, D. H. & W. C. .... Fall River  
 Graves, J. H. .... "  
 Griswold, Thomas E. .... 12 Park Street, Fitchburg  
 Beausoleil, P., & Son. .... S. Main and Planche Sts., Holyoke  
 Beyer, R. .... 637 Summer Street, "  
 Brewham, H. .... 517 High Street, "  
 Cloutier, F. .... 46 Cabot Street, "  
 Kuengel, E. .... 13 James Street, "  
 Spamer, George. .... 305 Park Street, "  
 Trepanier, O. .... 51 Cabot Street, "



**MASSACHUSETTS (Continued).**

|                           |                        |             |
|---------------------------|------------------------|-------------|
| Furneau, S.               | 633 Essex Street,      | Lawrence    |
| Reeves, P.                | 113 Essex Street,      | "           |
| Schvenland, H. C.         | 34 Park Street,        | "           |
| Slingsley, S.             | 106 Cross Street,      | "           |
| Yunggebauer, P. E., & Co. | 87 Exchange St.,       | "           |
| Ingham Bros.              | 63 Lincoln Street,     | Lowell      |
| Martel, E.                | 161 Hale Street,       | "           |
| Glidden, William H.       | 92 Union Street,       | Salem       |
| Porter, F., & Son         | 5 Central Street,      | "           |
| Hagen, Sophia             | 22 South Street,       | Somerville  |
| Hunnell, G. G.            | 536 Somerville Avenue, | "           |
| Jenks & Co.               | 22 Bennett Street,     | "           |
| Merrill, L. E.            | 5 Concord Avenue,      | "           |
| Handy, H. L.              | 27 Hampden Street,     | Springfield |
| Hunt, A. C., & Co.        | 18 Sandford Street,    | "           |
| Sheldon, E. C., & Son     | 31 Bridge Street,      | "           |
| Springfield Provision Co. | Brightwood,            | "           |
| Wespiser, A.              | 65 Water Street,       | "           |
| Bertels, B. J.            | 15 Church Street,      | Worcester   |
| Boepple, George           | 20 Millbury Street,    | "           |
| Raboin, B.                | 222 Shrewsbury Street, | "           |
| Weichman, Frank           | 68 Southgate Street,   | "           |
| White, Pevey & Dexter Co. | 13 Bridge Street,      | "           |

**MICHIGAN.**

Smialek Bros. . . . . 308, 12th Street, Bay City

**Detroit.**

Barlenn, Thomas, & Son . . . . . 6-8 Centre Market  
 Broeg, Max, Jr. . . . . 615 Gratiot Avenue  
 Farnam, M. . . . . 371 Michigan Avenue  
 Hammond, Standish & Co. . . . . Hammond Building  
 Hatch & Boyle . . . . . 135 Jefferson Avenue  
 Hempel, P., & Co. . . . . 3-7 Farmer Street

## Detroit (Continued).

|                          |                                    |
|--------------------------|------------------------------------|
| Jaisle, John.....        | 6 Catharine Street                 |
| Karle, A.....            | 403 Riopelle Street                |
| Kramka, J.....           | 603, 23d Street                    |
| Loeffler, A.....         | 385 St. Aubin Avenue               |
| Marx, Adolph.....        | 39 Cadillac Square                 |
| Nette, R.....            | 536 Hasting Street                 |
| Orling, E.....           | Chene Street, and Cleveland Avenue |
| Parker, Webb & Co.....   | 62 Grand River Avenue              |
| Reim, E.....             | 636 St. Aubin Avenue               |
| Reinowski, S.....        | Linden and 23d Streets             |
| Schimmel, Joe.....       | 331 Orleans Street                 |
| Stroh, Joe.....          | 883, 24th Street                   |
| Tappert, Charles W.....  | 512 Gratiot Avenue                 |
| Taube, Leo.....          | 407 Chene Street                   |
| Webb, Standish & Co..... | 269 Grand River Avenue             |
| Weise, Samuel.....       | 408 Gratiot Avenue                 |
| Wiciakowski, A. S.....   | 263 Tillman Avenue                 |
| Wolanski, L.....         | 721 Hasting Street                 |
| Wolanski, Th.....        | 877 Riopelle Street                |

Kimmel, F. J..... 216 Germania Avenue, Saginaw

## MINNESOTA.

|                       |        |
|-----------------------|--------|
| Bell, John N.....     | Duluth |
| Frank, J. J.....      | "      |
| Schmauss, L. F.....   | "      |
| Coons & Uncapher..... | "      |
| Witt & Young.....     | "      |

## St. Paul.

|                          |  |
|--------------------------|--|
| Berg, Philip.....        |  |
| Cassidy Packing Co.....  |  |
| Columbia Packing Co..... |  |
| Dickhardt, H.....        |  |

**St. Paul (Continued).**

|                                         |                        |
|-----------------------------------------|------------------------|
| Eisenmenger, L.....                     | 455 Wabash Street      |
| Etermantrant Bros.....                  |                        |
| Farwell, Ozmun, Rink & Co.....          | 213-223 E. 3d Street   |
| Houck, Charles.....                     |                        |
| Janssen, C. A.....                      |                        |
| Luley, F. W., & Son.....                | 382 Jackson Street     |
| Maylour & Co.....                       |                        |
| McMillan, J. T.....                     | High Bridge            |
| Memer & Becker.....                     |                        |
| Minneapolis Provision Co.....           |                        |
| Minnesota Packing and Provision Co..... | 44 E. Chicago Ave.     |
| O'Leary, J. J., & Sons.....             | 60-64 W. 10th Street   |
| Ptowaty, N.....                         |                        |
| Rochler & Henrichs.....                 |                        |
| Schwitz, H.....                         | 492 Mississippi Street |
| St. Paul Provision Co.....              |                        |
| Twin City Packing and Provision Co..... | 213 Eagle Street       |
| Weyl & Vuckel.....                      |                        |

**MISSOURI.**

|                                                |                                  |
|------------------------------------------------|----------------------------------|
| Conrad, Peter.....                             | California                       |
| Marold, Oscar.....                             | 1417 Grand Avenue, Kansas City   |
| McComas, S.....                                | Platte City                      |
| Sauer, William.....                            | 2137 Bartlett Street, St. Joseph |
| St. Joseph Sausage Works, Lence and Jule Sts., | "                                |

**St. Louis.**

|                                       |                       |
|---------------------------------------|-----------------------|
| Ammermann, F.....                     | 1859 S. 12th Street   |
| Babon, John.....                      | 34 Union Market       |
| Boepple, John.....                    | 617 S. 2d Street      |
| Fritz, George.....                    |                       |
| Gewinner, J. S., Sausage Mfg. Co..... | 1429-1431 S. Broadway |
| Grant, W. D.....                      |                       |
| Grapp, George.....                    | 118 Union Market      |

## St. Louis (Continued).

|                                      |                     |
|--------------------------------------|---------------------|
| Greiner, F.....                      | 1241 S. Broadway    |
| Henssler, E. F.....                  | .....               |
| Landauer, A., & Co.....              | .....               |
| Laux, A.....                         | .....               |
| Max, John.....                       | 2617 Broadway       |
| Rose, G. & L.....                    | .....               |
| Schonchow, Maria.....                | 15 French Market    |
| Tamme, Chas.....                     | .....               |
| Waldeck, J. C. C., Provision Co..... | .....               |
| Wehrle, F.....                       | 2611 S. Broadway    |
| Weinig, John.....                    | 1900 S. 12th Street |
| Werner, Andrew.....                  | .....               |

## NEBRASKA.

|                        |       |
|------------------------|-------|
| Aust, Aug.....         | Omaha |
| Harris & Fischer.....  | "     |
| Heller & Liver Co..... | "     |
| Omaha Packing Co.....  | "     |
| Schnouber, Henry.....  | "     |

## NEW HAMPSHIRE.

|                        |                              |
|------------------------|------------------------------|
| Riedel, F., & Son..... | 53 Walker Street, Manchester |
| Schonland, W. F.....   | 14 Walker Street, "          |

## NEW JERSEY.

|                           |                                        |
|---------------------------|----------------------------------------|
| Jacoby, J. C.....         | Board Walk and Ark Ave., Atlantic City |
| Cohn, Louis.....          | 267, 22d Street, Bayonne               |
| Butler, John P.....       | 433 Elizabeth Avenue, Elizabeth        |
| Lang, Wm.....             | 175 Smith Street, Evergreen            |
| Schwoppe, A.....          | 91 Hudson Street, Hackensack           |
| Eckhardt, P., & Paul..... | 73 Patterson Avenue, Hoboken           |
| Futterer, J.....          | 180 Washington Street, "               |
| Haeg, C.....              | 182, 1st Street, "                     |
| Hirtler's Sons, C.....    | ....., "                               |
| Kathmeyer, P.....         | 21 Jackson Street, "                   |

## NEW JERSEY (Continued).

Bender, Wm .. Railroad Avenue and 1st Street, Jersey City  
 Busch Bros ..... "  
 Busch, A ..... 65 Hudson Street, "  
 Fleckenstein Bros..... 190 New York Avenue, "  
 Atchison, Thos..... 447 Central Avenue, Newark  
 Bailey, H. E ..... 101 S. Orange Avenue, "  
 Beck, M. J..... 124 Adams Street, "  
 Brown, H..... 368 Springfield Avenue, "  
 Buechler & Seidler ..... 291 W. Kinney Street, "  
 Burkhardt, G..... 62 Broome Street, "  
 Knorr, J. H..... 245 Ferry Street, "  
 Reitzel, G., & Co.... 28th St. and S. Orange Ave., "  
 Baier, Geo..... 193 Nelson Street, New Brunswick  
 Dienzer, Geo. H..... 54 Dennis Street, "  
 Dienzer, John ..... 45 Dinners Street, "  
 Hausermann Bros... 112 Rip Van Winkle Avenue, Paterson  
 Price, S. W..... 26 Chambers Street, Trenton  
 Schlicher, Wm ..... Perrine Street, "

## NEW YORK.

Bauer, Wm..... 373 Washington Avenue, Albany  
 Bush, Daniel ..... Elizabeth and Osborn Streets, "  
 Lemon, R., & Son..... 12 Main Street, Attica  
 Black, R..... 3 Ferry Street, Binghamton  
 Schoenrock, E..... 91-95 Hawley Street, "

## Brooklyn.

Babiak, A..... 686, 3d Avenue  
 Bruens, G. H..... 284 Stagg Street  
 Deilmuth, H..... 9 Debévoise Street  
 Figge Bros..... Atlantic Avenue and Smith Street  
 Greenburg, L..... 23 Moore Street  
 Holfield, F. M..... 656, 3d Avenue  
 Jilhe, John..... 691 Flushing Avenue

## Brooklyn (Continued).

Koehler, F.....273, 3d Avenue  
 Lochman, William.....120 Union Avenue  
 Ludwig & Kieler.....1281 Broadway  
 Luther, J.....1081 Broadway  
 Neef, Adolph.....274 Humboldt Street  
 Rau, Frank J.....435 Graham Avenue  
 Rothlein, John.....183 Graham Avenue  
 Scheller, H.....1823 Broadway  
 Schmidt, August.....2718 Atlantic Avenue  
 Stone, Jennie.....135 Osborn Street  
 Stutz, Louis.....817 Broadway  
 Weinberg, B.....45 Belmont Avenue

Becher, F.....718 Genesee Street, Buffalo  
 Dold, Jacob, Packing Co.....745 William Street, "  
 Elsheimer, William.....779 Genesee Street, "  
 Klein, Andrew.....230 Sherman Street, "  
 Manner, Jacob.....Hickory and Genesee Streets, "  
 Bruehl, Julius.....College Point  
 Kurtz, J.....100, 2d Avenue, "  
 Frair & Hovey.....13 James Street, Homer  
 Catchpole, J. G., & Son.....93 Seneca Street, Geneva  
 Hofman, F. C.....73 Seneca Street, "  
 Van Huben & Baumgartner.....346 Exchange St., "  
 Wilkins, C.....28 Castle Street, "  
 Huber Bros.....113 Main Street, Lockport  
 Huber, J. & G.....27 Locust Street, "  
 McArthur, W. D.....Millerton

## New York City.

Albert, William, & Co.....335 E. 48th Street  
 Albert, William.....783, 9th Avenue  
 Bacharach, Joseph.....347 Greenwich Street  
 Bacher, S.....193 Eldridge Street



## New York City (Continued).

|                        |                             |
|------------------------|-----------------------------|
| Barchau, J.....        | 187 Division Street         |
| Belada, V.....         | 1374 Avenue A               |
| Bergener, William..... | 633 E. 11th Street          |
| Bextusch Bros.....     | 997, 2d Avenue              |
| Bischoff, Jacob.....   | 417 W. 39th Street          |
| Born, P.....           | 973, 1st Avenue             |
| Brigil, M.....         | 55 Stanton Street           |
| Bruhm, J.....          | 531, 9th Avenue             |
| Buchta, G.....         | 2986, 3d Avenue             |
| Butler, C.....         | 165, 1st Avenue             |
| Butow, Paul.....       | 201 Hester Street           |
| Campioni, William..... | 516 Cortlandt Avenue        |
| Cineman, Herman.....   | 293 Stanton Street          |
| Cole, E.....           | 21 Spring Street            |
| Diamon, M.....         | 111 Delancey Street         |
| Decker, H.....         | 67, 1st Avenue              |
| Dicker, S.....         | 200 Delancey Street         |
| Dittmere, D.....       | 46 Carmine Street           |
| Dorfmueller, S.....    | 500, 11th Avenue            |
| Dosch, S.....          | 1206, 2d Avenue             |
| Drabkin, Louis.....    | 174 Rivington Street        |
| Dreyfus & Co.....      | 100 Essex Street            |
| Droller, Jacob.....    | 613, 6th Street             |
| Durler, Anton.....     | 157 Essex Street            |
| Eastmans Company.....  | 59th Street and 12th Avenue |
| Edelstein, B.....      | 1519, 3d Avenue             |
| Egner, William.....    | 337 W. 39th Street          |
| Eisele, A.....         | 1998, 3d Avenue             |
| Enoch, J.....          | 322 E. 63d Street           |
| Enser, G.....          | 628 W. 55th Street          |
| Enteen Bros.....       | 215 Rivington Street        |
| Feldman, Louis.....    | 139 Delancey Street         |
| Flory, Frank.....      | 646, 2d Avenue              |
| Fraenznick, F.....     | 812, 3d Avenue              |

## New York City (Continued).

|                                   |                           |
|-----------------------------------|---------------------------|
| Frey, John.....                   | 623 Courtlandt Avenue     |
| Friedman, A.....                  | 205 Delancey Street       |
| Friedman, L.....                  | 8 Bayard Street           |
| Friton, George.....               | 320, 1st Avenue           |
| Gelles, Isaac.....                | 37 Essex Street           |
| German-American Provision Co..... | 207 Duane Street          |
| Goldberg, Isaac.....              | 148 Rivington Street      |
| Goldman, I.....                   | 233 Delancey Street       |
| Goldman, G.....                   | 314 E. Houston Street     |
| Golsong, Frank.....               | 240 Stanton Street        |
| Greenberg, Frank.....             | 69 Eldridge Street        |
| Greff, August.....                | 659, 9th Avenue           |
| Greff, Joseph.....                | 546, 10th Avenue          |
| Grimm, Louis.....                 | 1427, 2d Avenue           |
| Grossmann, August.....            | 729, 9th Avenue           |
| Gruensfelder, N.....              | 526, 10th Avenue          |
| Grundler, J.....                  | 795 Columbus Avenue       |
| Haft Bros.....                    | 259 Delancey Street       |
| Hahne, R., & Son.....             | 318 Greenwich Street      |
| Halsted & Co.....                 | 194 Forsyth Street        |
| Hauff, F.....                     | 41 Avenue A               |
| Hedniger, R.....                  | 2185, 2d Avenue           |
| Heinsinger, J.....                | 373 Bowery                |
| Hengst, C.....                    | 348, 1st Avenue           |
| Herold, George.....               | 2d Avenue and 11th Street |
| Hertz, Gabriel.....               | 233 Stanton Street        |
| Hertz, Samuel.....                | 261 Rivington Street      |
| Hock, K.....                      | 1411, 2d Avenue           |
| Hoffman & Co.....                 | 869 Amsterdam Avenue      |
| Jaeger, A.....                    | 1569, 2d Avenue           |
| Keil, F.....                      | 339 E. 46th Street        |
| Keller, G.....                    | 90, 9th Avenue            |
| Knob, Jacob.....                  | 243 W. 48th Street        |
| Koelle, Charles.....              | 423 E. 15th Street        |

## New York City (Continued).

|                            |                           |
|----------------------------|---------------------------|
| Kohout, A.....             | 326 E. 71st Street        |
| Kopf, Albert.....          | 506, 1st Avenue           |
| Kroetz, Charles.....       | 996, 1st Avenue           |
| Kurasch, Gustav.....       | 85 Stanton Street         |
| Langer, Leopold.....       | 51 Delancey Street        |
| Levithan, M.....           | 126 Ludlow Street         |
| Liginger, G. F.....        | 765, 9th Avenue           |
| Lustgarten, O.....         | 44 Delancey Street        |
| Mann, Frederick.....       | 147 E. Houston Street     |
| Mase, John.....            | 146 Bleecker Street       |
| Meier & Getzog.....        | Grand Street              |
| Meier, B.....              | 64 Avenue C               |
| Metzger Bros.....          | 55th Street and 2d Avenue |
| Morgenstern, Morris.....   | 202 Rivington Street      |
| Mostovnitsky, D.....       | 74 Delancey Street        |
| New York Tripe Co.....     | W. 39th Street            |
| Nichthausser, B.....       | 21 Baxter Street          |
| Paarmann, Herman.....      | 199 Allen Street          |
| Peisachowitz, Moses.....   | 35 Canal Street           |
| Peiser, Albert.....        | 1361, 3d Avenue           |
| Poster & Aronson.....      | 61 Mott Street            |
| Recht, Rosenbaum & Co..... | 419 E. 77th Street        |
| Reiggers, O.....           | 3085, 3d Avenue           |
| Reime, C. F.....           | 2332, 3d Avenue           |
| Reiss, G.....              | 583, 11th Avenue          |
| Renvar, John.....          | 276 Broome Street         |
| Rinchter, A.....           | 3411, 3d Avenue           |
| Rippe, Nathan.....         | 191 Division Street       |
| Robl, A.....               | 516 W. 37th Street        |
| Rohe Bros.....             | 266 W. 38d Street         |
| Rohe & Bro.....            | 533 W. 39th Street        |
| Roland, Phillip.....       | 3377, 3d Avenue           |
| Ross, William P.....       | 270, 7th Avenue           |
| Ruppacht, W.....           | 405 W. 53d Street         |

## New York City (Continued).

|                             |                            |
|-----------------------------|----------------------------|
| Scheisheimer & Neuburg..... | 209 E. Houston Street      |
| Schuck, Charles.....        | 950, 1st Avenue            |
| Schwartzreich, Meyer.....   | 233 Division Street        |
| Silberman, B.....           | 42 Pitt Street             |
| Silberman, D.....           | 24 Delancey Street         |
| Simon, Abraham.....         | 51 Canal Street            |
| Sollender, Isaac.....       | 154 Rivington Street       |
| Thomas, A.....              | 418 E. 66th Street         |
| Turner, P. F.....           | 612 W. 39th Street         |
| Waska, A.....               | 426 E. 73d Street          |
| Webber, Richard.....        | 120th Street and 3d Avenue |
| Wertheimer, I.....          | 654 E. 5th Street          |
| Wertz, Frederick.....       | 89 Essex Street            |
| Widrewitz & Kroll.....      | 93 Essex Street            |
| Wolber, Philip.....         | 546, 9th Avenue            |
| Wolf, George.....           | 617, 9th Avenue            |
| Wolf, Young Louis.....      | 258 Rivington Street       |
| Zimmermann, M.....          | 318 E. Houston Street      |

|                    |                                |
|--------------------|--------------------------------|
| Dietz & Kraft..... | 139 Union Street, Poughkeepsie |
| Haberman, C.....   | 177 Union Street, "            |
| Kahler, Louis..... | 70 Church Street, "            |
| Luger, J. C.....   | Rochelle                       |

## Rochester.

|                       |                       |
|-----------------------|-----------------------|
| Bauer, M., & Son..... | 73 Front Street       |
| Brown, E. & G.....    | 61 Front Street       |
| Frey, H.....          | 152 St. Joseph Street |
| Graff, W. A.....      | 74 Front Street       |
| Gruner, V.....        | 45 Front Street       |
| Kahn, L.....          | 177 Central Avenue    |
| Porschel, F.....      | 47 Front Street       |
| Veltz, E.....         | 20 Hanover Street     |

## Rochester (Continued).

Veltz, J. .... 374 St. Joseph Street  
 Vogel, A. .... 145 N. Main Street  
 Wehle's, Casper, Son ..... 50 Mumford Street  
 Zweigle, J. G. .... 50 Front Street

Kemmer Bros. .... 742 Albany Street, Schenectady  
 Glicher, Jacob ..... Lodi and Butternut Streets, Syracuse  
 Meebold & Frey. .... 549 N. Salina Street, "  
 Capp, P., & Bro ..... 4th and Ferry Streets, Troy  
 De Forest, A. .... 97 Congress Street, "  
 Grimm, Fred M. .... 21 Jacob Street, "  
 Kehn, Chas. E., & Co. .... 24 King Street, "  
 Kehn, Elias, & Sons. .... 12 King Street, "  
 Rapp, C. W., & Sons. .... Down and River Streets, "  
 Austin, D. L., & Sons. .... 280 Odell Avenue, Yonkers  
 Eifert, David. .... 196 Ashburton Avenue, "

## OHIO.

## Cincinnati.

Alexander Bros. .... Cormany Avenue  
 Barth's, F., Sons. .... 335 McMicken Avenue  
 Blackmore, Dowson & Co. .... 40 Vine Street  
 Brenner, Chas. .... 629 Coleraine Avenue  
 Brill, Jas. .... Cormany Avenue and Camp Wosbig  
 Buck, W., & Co. .... McLean Avenue and Harrison Street  
 Buse, Henry. .... 337 Sidney Avenue  
 Bush, H. F., Packing Co. .... 440 Vine Street  
 Cincinnati Abattoir Co. .... Spring Grove Avenue  
 Davis, C., & Co. .... 8th and Sycamore Streets  
 Davis, C., Jr., & Co. .... 308 Broadway  
 Diets, H., & Co. .... 271 Sycamore Street  
 Freitsch, S., Co. .... 122 Coleman Street  
 Gehred, Casper. .... 911 Central Avenue

## Cincinnati (Continued).

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Gradolf, V.....                   | 11 Straight Street                  |
| Haskin, R., & Co.....             | 61 Walnut Avenue                    |
| Heinz, Ed.....                    | 518 Walnut Avenue                   |
| Hempel, M.....                    | 19 Bremer Street                    |
| Henz, Edw.....                    | 87 Poplar Street                    |
| Hoffman, John.....                | Central Avenue and Baymiller Street |
| Huttenbauer & March.....          | 7th Street and Walnut Avenue        |
| Ittner, T.....                    | 9 Branch Street                     |
| Jacob Packing Co.....             | Plume and Findley Streets           |
| Kaus, John.....                   | 411 Spring Grove Avenue             |
| Lohrey, Jacob.....                | 49 Kendel Avenue                    |
| Meyer, H. H., Packing Co...       | Central Ave. and Linn Street        |
| Meyer & Huschard.....             | 5 Clarkson Street                   |
| Miller, J., & Co.....             | 230 W. Pearl Street                 |
| Morrison, J., & Co.....           | Bank and Osiris Streets             |
| Ochs, John.....                   | 10 N. S. Straight Street            |
| Possiner, Wm.....                 | 645 Central Avenue                  |
| Rans, John.....                   | 411 Spring Grove Avenue             |
| Rawson, J., & Son.....            | 300 Sycamore Street                 |
| Remmers & Feld.....               | 286 Harrison Avenue                 |
| Romm, J., & Co.....               | 56 E. Pearl Street                  |
| Ruaner, Joe, & Co.....            | 33 Stark Street                     |
| Sander, A., & Co.....             | 17 Pehler Street                    |
| Santer, Jas.....                  | 66 Stark Street                     |
| Schmidt, G., & Co.....            | John and Livingston Streets         |
| Schock, B. T.....                 | 67 Harrison Avenue                  |
| Schrauder Packing Co.....         | Elder and Logan Streets             |
| Schroth, J. P., Packing Co..      | Cormany Ave. & Township St.         |
| Schumacher, S.....                | 567 Walnut Avenue                   |
| Severet, J. A., & Co.....         | Dayton Street                       |
| Verbage, H.....                   | 327 Broadway                        |
| Vogel, J., & Son.....             | 240 Colerain Avenue                 |
| Weiss, Cha.....                   | 803 Freeman Avenue                  |
| Zehler's, Geo., Provision Co..... | 35 Logan Street                     |



## Cleveland.

|                                 |                       |
|---------------------------------|-----------------------|
| Allsbacher, T.....              |                       |
| Ascher, Louis.....              | 337 Louis Street      |
| Berchtold Bros.....             | Sheriff Street Market |
| Blumsustock & Reed.....         | 1620 Pearl Street     |
| Cleveland Provision Co.....     |                       |
| Decker, John.....               |                       |
| Fix, E. A.....                  | 461 Scovill Street    |
| Flick, J. J., Provision Co..... | 521 Forest Avenue     |
| Hoberman & Hildebrandt.....     | 532 Broadway          |
| Hopwood, J.....                 | 960 Lorain Street     |
| Lake Erie Provision Co.....     | Clark Avenue          |
| Mix & Co.....                   |                       |
| Mussell, E.....                 |                       |
| Nickels, Frank.....             | 131 Hamburg Street    |
| Ohio Provision Co.....          |                       |
| Pappa, Charles.....             |                       |
| Rofrau, Joseph.....             |                       |
| Roth, Carl.....                 |                       |
| Roth & Glick.....               |                       |
| Schwarz, H.....                 | 38 Berne Street       |
| Thoering, H.....                | 126 Wade Street       |
| Thran, F.....                   | 122 Swiss Street      |
| Weissenberger, S.....           | 727 Cherry Street     |
| Weitzel, W.....                 | 1225 Lorain Street    |
| Bader, A.....                   | Columbus              |
| Berger, Joseph.....             | "                     |
| Bernhardt, C. L.....            | "                     |
| Blumer, Gabriel.....            | "                     |
| Brinkelmeyer, M.....            | "                     |
| Claney, A.....                  | "                     |
| Cloud, C. S.....                | "                     |
| Danbert, A.....                 | "                     |
| Eckert, W.....                  | "                     |

## OHIO (Continued).

|                            |                                    |
|----------------------------|------------------------------------|
| Glochner, F. L., & Co..... | Columbus                           |
| Guenther, Rudolph.....     | "                                  |
| Handley & Denton.....      | "                                  |
| Litchner, George.....      | "                                  |
| Martin, Adam.....          | "                                  |
| Puffer, Henry.....         | "                                  |
| Reinhardt, C. L.....       | "                                  |
| Sauer, Joseph.....         | "                                  |
| Schmidt, Frederick.....    | "                                  |
| Schneider, Ed.....         | "                                  |
| Siegel, William.....       | "                                  |
| Siepel, L.....             | "                                  |
| Tacter, H.....             | "                                  |
| Thurn, A.....              | "                                  |
| Unprodt, Frederick.....    | "                                  |
| Zapp, Peter.....           | "                                  |
| Burkhardt, Henry.....      | 31 Central Market, Dayton          |
| Runck, John.....           | 623 S. Summit Street, W. S., "     |
| Sucher, Charles.....       | 3d Street, "                       |
| Weingartner, A.....        | 269 W. River Dayton View, "        |
| Gottwald, John.....        | Defiance                           |
| Rittman, Charles.....      | 627 Meigs Street, Sandusky         |
| Zipfel Bros.....           | 724 Water Street, "                |
| Bellman, Macher & Co.....  | 735 Summit Street, Toledo          |
| Brown, W. O., & Son.....   | 617 Monroe Street, "               |
| Kurtz, Jos.....            | 605 Summit Street, "               |
| Meister, John.....         | "                                  |
| Meyer, Chas.....           | 512 Adams Street, "                |
| Schurtz, W. H.....         | 723 S. Clair Street, "             |
| Schwartz Bros.....         | 723 S. Clair Street, "             |
| Stevens, B. A.....         | Erie, Lafayette, and Lucas Sts., " |
| Tolger, Jacob.....         | 9-11 W. Clair Street, "            |
| Villwock, R.....           | 1320 Cherry Street, "              |

**PENNSYLVANIA.**

Schuebel, Wm..... Allegheny City  
 Weillinger, John..... "  
 Felker & Dotts..... 5th and Northampton Sta., Easton  
 Gabrell, L. C..... Main and Market Streets, Nanticoke  
 Lape & Co..... 42 N. Market Street, "  
 Oboraki, J. A..... 101 S. Main Street, "  
 Schappert, J..... "

**Philadelphia.**

Alber, Charles..... 826 Race Street  
 Alber, Gus..... 248 N. 5th Street  
 Alber, Otto..... 4247 Lancaster Avenue  
 App, Louise..... 91 Washington Market  
 Beiswanger Bros..... 4100 Lancaster Avenue  
 Bellon, Augustus..... 2917 N. 22d Street  
 Bildhauer, Robert..... 527 N. 2d Street  
 Burck, Wm. P., & Bros..... 1214 N. 3d Street  
 Fackler, Sophia..... 323 Norris Market  
 Farber, Chris..... 2500 Federal Street  
 Gregory, J. & G..... S. 2d Street Market  
 Maltz, Louis..... 510 S. 7th Street  
 Morrison, Charles..... 86, 6th Street  
 Nussle, John..... 71 Washington Market  
 Rodman, Ludwig..... 824 S. Front Street  
 Schmid, Frederick..... 27 Southwestern Market  
 Teitelbaum, Frank..... 608 S. 8th Street  
 Twining's, Henry M., Son..... 1512 N. 5th Street  
 Veit, Margaret..... 18 Washington Market  
 White, Oscar W..... New Farmers' Market

**Pittsburgh.**

Dunlevy & Bros..... 825 Liberty Avenue  
 Gloeckler, B..... 1129-1133 Penn Avenue  
 Hanna, J. P., & Co..... 543 Liberty Avenue

**Pittsburgh (Continued).**

Kirkpatrick & Stevenson.....617 Liberty Avenue  
 Hoeveler, J., & Co.....820 Penn Avenue  
 Horner & Co.....P. O. Box 535  
 Lohrey, Henry.....472-478 East Street  
 Rankin, W. W.....88 Irwin Avenue  
 Rea & Co.....2d Avenue and Panhandle R. R.  
 Rimmich, A. & F.....Diamond Market  
 Stevenson, J., & Co.....637 Liberty Avenue  
 Zoller, W., & Co.....Spring Garden Street

**RHODE ISLAND.****Providence.**

Glahn, E.....9 Page Street  
 Harber, W.....555 Westminster Street  
 Leopold, G., & Co.....45 Peck Street  
 McDonough, T. J.....98 Lilac Street  
 Sangy, A.....367 Canal Street  
 Schott, J. N.....53 Randall Street

Bass Bros.....121 Bernon Street, Woonsocket  
 Merie, Sylvester.....142 Cumberland Street, "

**SOUTH CAROLINA.**

Nelson & Munzemaier.....617 King Street, Charleston  
 Seel, Louis.....207 St. Philip Street, "  
 Streble, J. A.....Columbia

**TENNESSEE.**

Ackermann, Leo.....9-11 Carter Street, Chattanooga  
 Frank, N....."  
 Shamotulski, John.....Montgomery Avenue, "  
 Shamotulski & Rider.....214 W. 9th Street, "

**TEXAS.**

Beck, Robert.....1616 Guadalupe Street, Austin  
 Fisher, F.....Brenham  
 Pockilla, E.....Bryan  
 Hamm, George.....108 Leonard Street, Dallas  
 Glauser, F.....2709 Market Street, Galveston  
 Reisler, A.....106 Hutchins Street, Houston  
 Rohde, F., & Son.....106 Central Market, " "  
 Hoeffing, William, & Son.....San Antonio

**UTAH.**

Dickinson & Marriott...265 S. Main Street, Salt Lake City  
 Hasp, John.....230 W. 7th Street S., " "  
 Knight & Co.....101 E. 2d Street S., " "  
 White & Sons Co.....34 W. 1st Street S., " "

**VERMONT.**

Barnes, Carlos.....250 North Street, Burlington  
 Robertson, A. R.....247 Wiwooski Avenue, " "

**VIRGINIA.**

Shaner, C. P.....Lynchburg  
 Balbz, L., & Son.....1704 Franklin Street, Richmond  
 Brauer, O. L....."  
 Hechler, V., Jr., & Bro.....1708 Main Street, "  
 Hechler, W. J....."  
 Kastleberg, R.....1604 Franklin Street, "  
 Sauer, C. T., & Co....."

**WASHINGTON.**

Carstens Bros.....121 West Street, Seattle  
 Carran & Endiella.....Citizens' Market, "  
 Masel, J. C., & Sons.....806 West Street, "  
 Steinle, D.....605 West Street, "

## WISCONSIN.

Cudahy Bros. Co. .... Cudahy  
 Weise, Max. .... Fond du Lac  
 Marzluff, John. .... Janesville  
 Rackelmann, J. .... 319 Pearl Street, La Crosse  
 Hartmann & Ansel. .... 106 E. 3d Avenue, Madison  
 Krueger & Co. .... 551 W. Main Street, "  
 Piek, W. A., & Co. .... 26 E. Mifflin Street, "  
 Scherer, P. C. .... 502 State Street, "

## Milwaukee.

Buetaw, R. .... 1310, 3d Street  
 Elahner, Louis. .... 283 Reed Street  
 Frank, L., & Son Co. .... 644 Market Street  
 Gross, Frederick C., & Bros. Co. .... Muskego Avenue  
 Hoffmann, John, & Co. .... Broadway and Buffalo Street  
 Jacoby & Richter. ....  
 Krauss, Joseph. .... 420 E. Water Street  
 Kretchmar Co. .... 280 Lake Street  
 Layton & Co. .... 86-88 W. Water Street  
 Leister, H. .... 529, 8th Street  
 Loeb, Max. ....  
 Mordinger, Charles. ....  
 Phiele, Frederick. .... 385, 3d Street  
 Plankington Packing Co. ....  
 Ritter, Charles. ....  
 Schneidler, C. .... 454 National Avenue  
 Schaltz & Radlein. .... 767, 3d Street  
 Seidler, Carl. .... 454 National Avenue  
 Seyffer, O. .... 583 Island Avenue  
 Thiers, J. ....  
 Usinger, F. .... 302, 3d Street  
 Weisel, J., & Co. .... 609 E. Water Street  
 Werner, Herman. ....  
 McDowell Packing Co. .... Oconomowoc



## CANADA.

## Ontario.

|                              |                            |
|------------------------------|----------------------------|
| Besold, Conrad.....          | 302 S. 3d Street, Hamilton |
| Clair, R. A.....             | "                          |
| Cherrier, E.....             | "                          |
| Cox, William.....            | "                          |
| Fearman, F. W.....           | "                          |
| Green, George M.....         | "                          |
| Lawry, T., & Son.....        | "                          |
| Migan, D.....                | "                          |
| Tshann, Joseph.....          | "                          |
| Schroder, J.....             | Kingston                   |
| Evans, Samuel.....           | Ottawa                     |
| Kimpton & Co.....            | "                          |
| Leclair, O.....              | "                          |
| Matthews, George.....        | "                          |
| Slattery & Terrance.....     | "                          |
| Thorbahn, Herman.....        | "                          |
| Almond, Robert.....          | Toronto                    |
| Atkinson Bros.....           | "                          |
| Bell, A.....                 | "                          |
| Busse, Paul.....             | "                          |
| Davis, William Co., The..... | "                          |
| Fox Bros. & Co.....          | "                          |
| Griffith, Arthur.....        | "                          |
| Herson & Co.....             | "                          |
| Murray, C.....               | "                          |
| Park, Blackwell & Co.....    | "                          |
| Park, W. W., Co.....         | "                          |
| Rogers, T. J.....            | "                          |
| Rupitz, E.....               | "                          |
| Schubert, William.....       | "                          |
| Steivle, Charles.....        | "                          |
| Wilson, C., & Son.....       | "                          |

Quebec.

|                                     |          |
|-------------------------------------|----------|
| Bourbonniers, L. ....               | Montreal |
| Canada Meat and Packing Co.....     | "        |
| Clark, W.....                       | "        |
| Currier, C. N.....                  | "        |
| Fischer, George F.....              | "        |
| Harper, James.....                  | "        |
| Harper, W. H.....                   | "        |
| Idler, W. G.....                    | "        |
| Laing Packing and Provision Co..... | "        |
| Masterman, A. S. & W.....           | "        |
| McGarny, Bland & Co.....            | "        |
| Oruevillon, Joseph, & Co.....       | "        |
| Sey, John.....                      | "        |
| Ruthman, H. G.....                  | Quebec   |
| Ruthman, R., Sr.....                | "        |
| Segny, J. A.....                    | "        |

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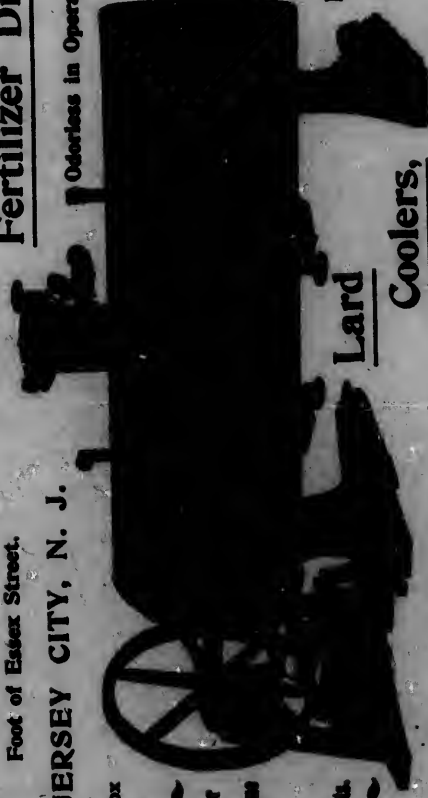
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- Enfauila Oil and Fertilizing Co....."
- Huntsville Milling and Fertilizing Co.....Huntsville
- Mobile Phosphate and Chemical Co.,  
117 N. Commerce Street, Mobile
- Zimmerus, J., Co.....113 N. Commerce Street, "
- Alabama Fert. Co..Lee and Montgomery Sts., Montgomery
- Montgomery Fert. Co.....22-24 Moses Bldg., "
- Vandever, W. F., & Co..104-110 Commerce St., "

#### CALIFORNIA.

- Baruch & Woodbridge.....Los Angeles
- Riverside Fertilizing Co.....Riverside
- California Fert. Works...527 Merchant St., San Francisco
- Franco-American Tallow and Fertilizing Co.,  
De Haro and El Dorado Sts., "
- Fowler & Smith.....South Riverside, "
- Golden Gate Plaster Mills..215 Main Street, "
- Haas, A....."
- National Fert. Co.....328 Montana Street, "
- Nevada Gypsum and Fert. Co..216 Bush St., "
- Newhall, H. M., & Co..309-11 Sansome St., "
- Ohlandt, N., & Co.Indiana and Nevada Sts., "
- Pacific Bone and Fert. Co.....614, 7th St., "
- Downs & Griffin...North Main St., Ansonia, Connecticut
- National Fert. Co. 479 Water St., Bridgeport, "



## CONNECTICUT (Continued).

Dickerson, D. E. . . . . Cobalt St., Chatham, Connecticut  
 Danbury Fertilizing Co. . . . . Danbury, " "  
 Ellsworth, F. . . . . 44 Market St., Hartford, " "  
 Stafford, H. H. . . . . 242 State St., " "  
 Sturtevant, F. C. . . . . 216 State St., " "  
 Rogers & Hubbard Co.,  
     Pamachea Lake, near Middletown, " "  
 Miles, T. W. . . . . Milford, " "  
 Connecticut Adamant Plaster Co.,  
     10 River Street, New Haven, " "  
 Maloney, John,  
     217 Chatham St., " "  
 Nuhu, F. . . . . Waterville, Waterbury, " "

McGonigal, J. R. . . . . Dover, Delaware  
 Evans & Co. . . . . Georgetown, " "  
 Harrington, S. S. . . . . Harrington, " "  
 Hopkins, J. P., & Co. . . . . " "  
 Brown, S. S., & Co. . . . . Lewes, " "  
 Parvins & Williams Co. . . . . Middletown, " "  
 Draper, Davis & Co. . . . . Milford, " "  
 Lond & Polk Chemical Co. . . . . Odessa, " "  
 Ross, W. M., & Co. . . . . Seaford, " "  
 Delmarvia Fertilizing Co. . . . . Smyrna, " "  
 Cranston, J. A., Co. 109 King St., Wilmington, " "  
 Walton & Whann Co.,  
     203 W. Front Street, " "

Darling, L. B., Fert. Co. 26 West Bay, Jacksonville, Fla.  
 Little Bros. Fert. and Phosp. Co.,  
     1 1/2 E. Bay, " "  
 Paine Fert. Co. . . . . 50 W. Broadway, " "  
 Fuller, H. A., & Sons. . . . . Tampa, " "

|  |                                      |                                           |
|--|--------------------------------------|-------------------------------------------|
|  | Albany Fertilizing Co. ....          | Albany, Ga.                               |
|  | Shackleford, L. A. ....              | Athens, "                                 |
|  | Scott, Geo. W., Mfg. Co. ....        | Hillyer Bldg., Atlanta, "                 |
|  | Smith, A. A. ....                    | 45 Gate City Bank, "                      |
|  | Doolittle, Chas. A. ....             | 1 Library Bldg., 8th St., Augusta, "      |
|  | Georgia Chemical Works. ....         | 735 Reynolds St., "                       |
|  | Pollard, W. J. ....                  | 729 Reynolds Street, "                    |
|  | Southern Phosphate Works. ....       | Elm and 8th Sts., Macon, "                |
|  | Baldwin Fert. Co. ....               | Cotton Exch. Bldg., Savannah, "           |
|  | Commercial Guano Co. ....            | 66 Bay Street, "                          |
|  | Georgia Fertilizing Co. ....         | 106½ Bay Street, "                        |
|  | Port Royal Fert. Co. ....            | 106½ Bay Street, "                        |
|  | Savannah Guano Co. ....              | 88 Bay Street, "                          |
|  | S. E. Plaster Co. ....               | 38 River Street, "                        |
|  | Wilcox & Gibbs Guano Co. ....        | 136 Bay Street, "                         |
|  | Roberts, Smith & Co. ....            | Valdosta, "                               |
|  | Faust Bros. ....                     | 420 Ogden Avenue, Chicago, Illinois       |
|  | Heller, Hirsh & Co. ....             | 93 Traders' Bldg., "                      |
|  | Hess Bros. & Stern. ....             | 4001 Emerald Ave., "                      |
|  | Mayer, D., & Co. ....                | 190 E. Kinzie Street, "                   |
|  | National Chemical & Fertilizing Co., | 269 Dearborn Street, "                    |
|  | Northwestern Fertilizing Co.,        | 45th Street and Centre Avenue, "          |
|  | Spiegel, J., & Co. ....              | 131 Michigan Ave., "                      |
|  | Thompson & Edwards Fertilizing Co.,  | Union Stock Yards, "                      |
|  | Union Rendering Co.,                 | Exchange Bldg., U. S. Yards, "            |
|  | White, Thos. H., & Co. ....          | 134 Van Buren St., "                      |
|  | Quincy Rendering Co. ....            | Front Street, Quincy, "                   |
|  | Akin Fert. Co. ....                  | 2d and Goodsell Sts., Evansville, Indiana |
|  | Mehring, L. ....                     | 810 S. Meridan Street, Indianapolis, "    |
|  | Raub, E., & Sons. ....               | 219 S. Penn St., "                        |
|  | Starne, Wm. C. ....                  | 416 W. Wash. St., "                       |

## INDIANA (Continued).

|                                        |                             |                 |   |
|----------------------------------------|-----------------------------|-----------------|---|
| Madison Fertilizing Works.....         | Madison, Indiana            |                 |   |
| Wilson, James S.....                   | New Albany,                 | "               | " |
| Currie Fert. Co..                      | Wash. and Buchanan Sts.,    | Louisville, Ky. |   |
| Globe Fert. Co.....                    | Meriwether Avenue,          | "               | " |
| Jones, J. B., & Bro.....               | 506 Johnson Street,         | "               | " |
| N. W. Fert. Co.....                    | 246 W. Main Street,         | "               | " |
| Skene, W., & Co.....                   | 1601 High Avenue,           | "               | " |
| Speed, J. B., & Co....                 | 331 W. Main Street,         | "               | " |
| McCormick Packing & Fertilizing Co.... | New Orleans, La.            |                 |   |
| Planters Fert. Mfg. Co..               | 103 Magazine St.,           | "               | " |
| Standard Guano & Chemical Mfg. Co.,    | 14 Union Street,            | "               | " |
| Chick, E., & Co.....                   | 3 Mercantile Sq.,           | Bangor, Maine   |   |
| Craig, J. L.....                       | 7 East Street,              | "               | " |
| Farrar, F. S., & Co.....               | Valley Avenue,              | "               | " |
| Hillier, W. S., & Co....               | 4th and Parker Sts.,        | "               | " |
| Towle, J. C.....                       | 6-8 Broad Street,           | "               | " |
| Whitney & Cameron..                    | 2 Mercantile Square,        | "               | " |
| Brackette, R. F.....                   | Berwick,                    | "               | " |
| Cumberland Bone Phosphate Co.,         | 191 Middle Street,          | Portland, "     |   |
| Linthicum, J.....                      | Annapolis, Md.              |                 |   |
| Ames Phosphate Chemical Co.,           | 227 E. German Street,       | Baltimore, "    |   |
| Atlantic & Va. Co.....                 | 306 Water Street,           | "               | " |
| Baltimore Butchers' Abattoir Co.,      | Franklin Street,            | "               | " |
| Balto. Guano Co.....                   | 36 S. Charles Street,       | "               | " |
| Balto. Pulverizing Co..                | 217 S. Charles St.,         | "               | " |
| Baugh Sons Co.....                     | 412 Exchange Street,        | "               | " |
| Brown Chemical Co.....                 | 239 South Street,           | "               | " |
| Carib Guano Co.....                    | 33 S. Gay Street,           | "               | " |
| Chesapeake Guano Co.,                  | 310-312 Equitable Building, | "               | " |

MARYLAND (Continued).

|                              |                                       |   |   |
|------------------------------|---------------------------------------|---|---|
| Davison, C. H. & C. T.,      | 18 Fireman's Building, Baltimore, Md. |   |   |
| Davison, Wm., & Co.          | Fireman's Bldg.,                      | " | " |
| Detrick Fert. and Chem. Co., | Chamber of Commerce Bldg.,            | " | " |
| Equitable Fert. Co.          | 221 Bowles Wharf,                     | " | " |
| Excelsior Guano Co.          | 239 South Street,                     | " | " |
| Farmer's Fert. Co.           | 113 S. Gay Street,                    | " | " |
| Fleming's Guano Co.          | 26 South Street,                      | " | " |
| Heller, Hirsh & Co.          | 411 Exchange Place,                   | " | " |
| Hachtel, John C.             | 106 S. Gay Street,                    | " | " |
| Lazaretto Guano Co.          | 36 S. Holliday Street,                | " | " |
| Listens Chemical Co.         | 403 Exchange Place,                   | " | " |
| Maryland Fert. & Mfg. Co.,   | 30 S. Holliday Street,                | " | " |
| Monumental Chemical Co.      | 306 Water St.,                        | " | " |
| Mount Airy Mfg. Co.          | 109 Commerce St.,                     | " | " |
| Patapsco Guano Co.           | 36 S. Holliday Street,                | " | " |
| Powell Fert. and Chem. Co.,  | Patterson's Wharves,                  | " | " |
| Rasin Fert. Co.,             | 35 Chamber of Commerce Building,      | " | " |
| Smith Ames & Sons.           | 920-926 E. 1st Ave.,                  | " | " |
| Susquehanna Fertilizing Co.  | 10 Firemans' Bldg.,                   | " | " |
| Taveau, A. L., & Co.         | 33 S. Gay Street,                     | " | " |
| White, Thos. H., & Co.       | 104 Commerce St.,                     | " | " |
| Wooldridge Fert. Co.         | 1723 Thames Street,                   | " | " |
| Zell Guano Co.               | 32 South Street,                      | " | " |
| Cacy, W. H.                  | Chestertown,                          | " | " |
| Hubbard, T. R., & Son.       | Frederick,                            | " | " |
| Tyson, J., & Son.            | Hagerstown,                           | " | " |
| Huyelt & Zentmeyer.          | "                                     | " | " |
| Leablider Bros.              | "                                     | " | " |

## MARYLAND (Continued).

|                                                            |                                 |       |   |
|------------------------------------------------------------|---------------------------------|-------|---|
| Schindel & Co.....                                         | Hagerstown, Md.                 |       |   |
| Simmons, J. D.....                                         | "                               | "     | " |
| Thomas, L. A.....                                          | "                               | "     | " |
| Klivofelter, H. H. & W. E.....                             | Havre de Grace,                 | "     | " |
| White, G. W.....                                           | Salisbury,                      | "     | " |
| Lacey, Wm.....                                             | Buttonwood Road, Amesbury,      | Mass. |   |
| Doane, J. M. & R. L.....                                   | Athol,                          | "     | " |
| Burgess & Ray.....                                         | Attleboro,                      | "     | " |
| Allison, Stroup & Frost,                                   |                                 |       |   |
|                                                            | 83 Equitable Building, Boston,  | "     | " |
| Bowker Fertilizing Co. . . . .                             | 43 Chatham Street,              | "     | " |
| Bradley Fertilizing Co. . . . .                            | 92 State Street,                | "     | " |
| Breck, J., & Sons (Inc.) . . . . .                         | 49-52 N. Market,                | "     | " |
| Clark's Cove Fert. Co. . . . .                             | 92 State Street,                | "     | " |
| Cleveland Dryer Co. . . . .                                | 92 State Street,                | "     | " |
| Common Sense Fert. Co. . . . .                             | 205 A Street,                   | "     | " |
| Cumberland Bone Phosphate Co.,                             |                                 |       |   |
|                                                            | 92 State Street,                | "     | " |
| Dow, J. C., & Co. . . . .                                  | 14 Chatham Street,              | "     | " |
| Eastern Fertilizing Co. . . . .                            | 95 Milk Street,                 | "     | " |
| Felsom, B. F., & Co. . . . .                               | 17 Milk Street,                 | "     | " |
| Geller, C. W. . . . .                                      | 116 Broad Street,               | "     | " |
| Haines, J. P. . . . .                                      | 54 Kilby Street,                | "     | " |
| Live Oak Phosphate Co. . . . .                             | 82 Devonshire St.,              | "     | " |
| North Byrd Construction Co. . . . .                        | 92 State St.,                   | "     | " |
| North Packing and Provision Co.,                           |                                 |       |   |
|                                                            | 33 & 34 N. Market Boston, Mass. |       |   |
| Pacific Guano Co. . . . .                                  | 22 Broad Street,                | "     | " |
| Quinnipao Fertilizing Co. . . . .                          | 92 State Street,                | "     | " |
| St. Helena Phosphate Co. . . . .                           | 22 Broad St.,                   | "     | " |
| Squire, J. P., & Co., 39 & 40 N. Market St., Boston, Mass. |                                 |       |   |
| Standard Fertilizing Co. . . . .                           | 92 State Street,                | "     | " |
| Tucker, H. F. . . . .                                      | 13 Doane Street,                | "     | " |
| Williams & Clark Fert. Co. . . . .                         | 92 State Street,                | "     | " |

MASSACHUSETTS (Continued).

Holmes & Blanchard,  
 37-39 Charlestown Street, Boston, Mass.

Norris, Wm. H., & Son. 2d and Spruce Sts., Chelsea, "

Randall, Benjamin. . . . . " "

Hargraves Mfg. Co. . . . . Off Pleasant St., Fall River, "

Mackenzie & Winslow . . . . . 33 Pleasant St., " "

Pearse, Wm. G. . . . . 55, 2d Street, " "

Bartlett & Daw . . . . . 216 Central Street, Lowell, "

Butman, J. M. . . . . 1 Coral Street, " "

Livingston, Wm. E. . . . . 15 Thorndike St., " "

Goodridge Bros . . . . . Curtis Wharf, Medford, "

Clark's Cove Guano Co. 37 N. Water St., New Bedford, "

Hart & Aiken . . . . . 168 S. Water Street, " "

Hersom, Theo., & Co.,  
 11-13 Commercial Street, " "

Parmenter & Polsey Fertilizer Co. . . . . Peabody, Mass.

Rust, E. . . . . Peabody, " "

Bartlett, C. A. . . . . 34 Orient Street, Worcester, "

Jefferds, John G. . . . . Quinsigamond Nr., " "

Fitch, Fred., Works. . . . . Middle Ground, Bay City, Mich.

Detroit Sanitary Works. . . . . 957 River Street, Detroit; "

Lunbach, Sons & Co. . . . . 52 Congress Street, " "

Michigan Beef & Prov. Co. . . . . 27 Cadillac Sq., " "

Michigan Carbon Works . . . . . 1st Street, " "

Grand Rapids Glue Co. . . . . 7 Eris St., Grand Rapids, "

Albers, J. G. . . . . 3d St. N. of Union Depot, Muskegon, "

Castenholz Bros. & Co.,  
 Getty Avenue and R. R. track, " "

Schneidt, A., Jr. . . . . Park Avenue, " "

N. W. Bone Syndicate,  
 15 Loan Trust Building, Minneapolis, Minnesota

Union Refining Co. . . . . S. St. Paul, "

Capital City Fert. Co. . . . . Jackson, Mississippi

Meridian Fertilizing Factory. . . . . Meridian, "



|                                    |                                                        |   |   |
|------------------------------------|--------------------------------------------------------|---|---|
| Andlauer, John.....                | River Bank, Kansas City, <b>Mo.</b>                    |   |   |
| Dummert, Henry.....                | 17 Armour Bldg.,                                       | " | " |
| Empire Carbon Works....            | 220 N. 2d Street, St. Louis,                           | " | " |
| Fife, Chas. R., & Ross Com. Co.,   |                                                        |   |   |
|                                    | 503 Security Building, 4th Street,                     | " | " |
| Knoblauch, C. O.....               | 1301 S. 3d Street,                                     | " | " |
| Mathiason, P. B., & Co....         | 5310 N. 2d St.,                                        | " | " |
| Mayer, N. B., Mfg. Co....          | 1022 N. 12th St.,                                      | " | " |
| Nolte & Dolch Fert. Co....         | 5014-34 N. 2d St.,                                     | " | " |
| Silver State Fertilizing Works,    |                                                        |   |   |
|                                    | Helena Avenue and Logan Street, Helena, <b>Montana</b> |   |   |
| Bellamy Bone Mills.....            | Bellamy Road, Dover, <b>N. H.</b>                      |   |   |
| Connerse & Hammond....             | 17 Cochecho Street,                                    | " | " |
| Haley, R., & Co.....               | 516 Central Avenue,                                    | " | " |
| Mathes, V.....                     | 12 $\frac{1}{2}$ Folsom Street,                        | " | " |
| Hopler, Theo. P., & Co.....        | Belvidere, <b>N. J.</b>                                |   |   |
| Shanley & Van Brunt.....           | Beverly,                                               | " | " |
| Wentworth, J., & Sons.             | River Road, Pavonia, Camden,                           | " | " |
| Wright & Stewart....               | 46 N. Delaware Ave.,                                   | " | " |
| Bowker Fertilizing Works.....      | Bayway, Elizabeth,                                     | " | " |
| Taylor, Kachline & Worman.....     | Frenchtown,                                            | " | " |
| <b>Jersey City Packing Co.....</b> | <b>Jersey City, N. J.</b>                              |   |   |
| Glaser, T., & Son.....             | St. George's Avenue, Linden,                           | " | " |
| Ruckman, B. F., & Son.....         | New Brunswick,                                         | " | " |
| Ebeling & Bro.....                 | Clifford, Newark,                                      | " | " |
| Lister's Agricultural Works..      | Lister Avenue,                                         | " | " |
| Mapes Guano Co.....                | Ferry Street,                                          | " | " |
| Miller, H. S., & Co.....           | 22 Clinton Street,                                     | " | " |
| Newark Agricultural Co.....        | Passaic River,                                         | " | " |
| Muckel, Francis.....               | Washington Avenue, Albany, <b>N. Y.</b>                |   |   |
| Price & Reed.....                  | 516 Broadway,                                          | " | " |
| Herrick, George J.....             | 27 River Street, Amsterdam,                            | " | " |
| Baker, H. J., & Bro.,              |                                                        |   |   |
|                                    | Huntington Street and Gowanus Canal, Brooklyn,         | " | " |
| Forrester, G. B.....               | 119, 4th Place,                                        | " | " |

ETC.

Kansas City, Mo.  
 " "  
 St. Louis, "  
 " "  
 " "  
 " "  
 Helena, Montana  
 ad, Dover, N. H.  
 eet, "  
 ue, "  
 eet, "  
 Belvidere, N. J.  
 Beverly, "  
 a, Camden, "  
 Elizabeth, "  
 renchtown, "  
 ersey City, N. J.  
 ne, Linden, "  
 Brunswick, "  
 rd, Newark, "  
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 ue, Albany, N. Y.  
 ay, "  
 Amsterdam, "  
 al, Brooklyn, "  
 ce, "

NEW YORK (Continued).

Crocker Fert. & Chemical Co., 56 Pearl St., Buffalo, N. Y.  
 Harris, Jesse.....1461 Elk Street, "  
 Milson Rendering and Fertilizer Co.,  
 963 William Street, "  
 Oakfield Fertilizer Co.....35 Lewis Place, "  
 Ross, J. H.....41 Erie Street, "  
 Wilson, J. A.....Caledonia, "  
 Betts, Philip.....Canajoharie, "  
 Stebbins, Mrs. C. E.....Canastota, "  
 Hair, Uriah.....Dundee, "  
 Phelps, J. E.....Jamaica, "  
 Conklin, J.....9 Borden Ave., Long Island City, "  
 Dixon, Matthew...11 Borden Ave., "  
 Lennon, J. T.....141 Borden Ave., "  
 Peters, J. J.....39 Borden Ave., "  
 Preston Fertilizer Co...R.R. Ave., "  
 Smith, C. D.....65 Borden Ave., "  
 Wyckoff, A.....83 Borden Ave., "  
 Hallock & Duryea Fertilizer Co.....Mattituck, "  
 McDowell, W. B.....Middletown, "  
 Acme Fertilizer Co.....62 William Street, New York City  
 Allison, Stroup & Fröst...203 Broadway, "  
 Baker, H. J., & Bro....93 William Street, "  
 Barren Island Fertilizer and Oil Works,  
 22 Burling Slip, "  
 Bowker Fertilizer Co....29 Beaver Street, "  
 Campbell, Joseph.....59 Wall Street, "  
 Chambers, H. F. S...80 Pine Street, "  
 Chicopee Guano Co....140 Maiden Lane, "  
 Clark's Cove Fertilizer Co...81 Fulton St., "  
 Coe, E. Frank, Co.....133 Front Street, "  
 Davidge Fertilizer Co....121 Front Street, "  
 Eastmans Company,  
 11th Ave. and 59th Street, New York City

## New York City (Continued).

|                                        |                                    |   |
|----------------------------------------|------------------------------------|---|
| Footo Commercial Phosphate Co.,        | 39 Broadway, New York City         |   |
| Forrester, George B . . . . .          | 169 Front Street,                  | " |
| Garrigues, Charles F. . . . .          | 153 Front Street,                  | " |
| German Kali Works. . . . .             | 93-99 Nassau Street,               | " |
| Heller, Hirsh & Co.,                   | 184 Front Street, New York City    |   |
| International Phosphate Co.,           | 1 and 3 Union Square,              | " |
| Kinney & Co. . . . .                   | 203 Broadway,                      | " |
| Kuh, E. S. . . . .                     | 455 Produce Exchange,              | " |
| Lippmann, Clarence H. . . . .          | 136 Water Street,                  | " |
| Lister's Agricultural Chemical Works,  | 159 Front and foot W. 38th Street, | " |
| Ludlum, Frederick. . . . .             | 140 Pearl Street,                  | " |
| Malcomson, Alfred S. . . . .           | 172 Pearl Street,                  | " |
| Manurine Mfg. Co. . . . .              | 1001, 1st Avenue,                  | " |
| Mapes Formula and Peruvian Guano Co.,  | 143 Liberty Street,                | " |
| Natchaug Chemical Co. of New York,     | 135 Broadway,                      | " |
| New York Fertilizer Co.,               | 130 Fulton Street,                 | " |
| New England Dressed Meat and Wool Co., | 664 W. 39th Street,                | " |
| New York and Eastern Chemical Co.,     | 135 Broadway,                      | " |
| Oneonta Fertilizer and Chemical Co.,   | 66 Broad Street,                   | " |
| Pacific Guano Co. . . . .              | 81 Fulton Street,                  | " |
| Peck, Henry A., & Co.,                 | 1st Avenue, corner E. 38th Street, | " |
| Quinnipiac Co. . . . .                 | 83 Fulton Street,                  | " |
| Read Fertilizer Co. . . . .            | 88 Wall Street,                    | " |

New York City (Continued).

- Salmon, Hamilton H., & Co.,  
133-137 Front Street, New York City
- Schwarzschild & Sulzberger Co.,  
1st Avenue and 45th Street, " "
- Smith's, Carl, Son.....18 East Street, " "
- Stearns Fertilizer Co.....80 Pine Street, " "
- Taylor, Geo. F., & Brush...80 Pine Street, " "
- Terraccia Phosphate Co....76 Wall Street, " "
- Weidinger, Paul.....76 Pine Street, " "
- White, F. W.....159 Front Street, " "
- White, Thomas F.....41 Peck Slip, " "
- Wilkinson & Co.....54 William Street, " "
- Williams & Clark Fertilizer Co.,  
81 Fulton Street, " "
- Cross, E. A.....North Parma, N. Y. " "
- McCoy & Best ..942-944 Central Avenue, Peekskill, " "
- Chapin Fert. Works....26 Tremont St., Rochester, " "
- Peterson, A.....69 N. Clinton Street, " "
- Wilson, J. A.....405 Wilder Building, " "
- Farmer Fertilizer Co....135 Lock Street, Syracuse, " "
- Foster, D. H.....100 S. Clinton Street, " "
- Read Fert. Co.....5 Jersey Rescue Bldg., " "
- Novelty Bone Works....Lock 4, Erie Canal, Troy, " "
- Stoppenbeck, H.....Canal Street, Utica, " "
- Devins, J. H.....Albany Street, " "
- Shafer, M. A.....24 Mann Building, " "
- Iseley, W. C. & A. A.....Burlington, N. C. " "
- Durham Fertilizer Co.....Durham, " "
- Coreleigh Phosphate and Fertilizer Co.....Raleigh, " "
- Navassa Guano Co.,  
Princess and Water Streets, Wilmington, " "
- Powers, Gibbs & Co....." " " "
- Alliance Fertilizer Co.....Webb Street, Alliance, O. " "
- Biery Bros.....17-21 Mechanic Avenue, " "

## OHIO (Continued).

|                                              |                                   |      |
|----------------------------------------------|-----------------------------------|------|
| Cranen, J. C.....                            | 205 E. Market Street, Alliance,   | O.   |
| Pato, F. J....                               | Freedom Ave. & Warehouse St.,     | " "  |
| Silver, A. S..                               | Prohibition Alley, near Main St., | " "  |
| Tingle, A. H.....                            | Cambridge,                        | " "  |
| Canton Fertilizer Co.....                    | 8 N. Market Street, Canton,       | " "  |
| Ham, M., & Co.....                           | 22 W. Main Street, Chillicothe,   | " "  |
| Anderson, V. D., & Co.....                   | Landon Street, Cleveland,         | " "  |
| Bradley, F., Co..                            | 201 Society for Sav. Bldg.,       | " "  |
| Cincinnati Sanitary and Fertilizer Mfg. Co., |                                   | " "  |
| Cleveland Dryer Co..                         | Fert. Exchange Bldg.,             | " "  |
| Grasselli Chemical Co.....                   | Cleveland,                        | O.   |
| Stadler, J. L. & H.,                         |                                   |      |
|                                              | Newburgh and Jennings Streets,    | " "  |
| Western Union Chem. Co..                     | 160 Summit St.,                   | " "  |
| Flick, J. J., Provision Co....               | 521 Front St.,                    | " "  |
| Fovargue, F. P....                           | St. Clair and Doan Sts,           | " "  |
| Harrick, Harris & Co..                       | Barber and Mill Sts.,             | " "  |
| Royal Fertilizer Co.....                     | 112 Public Square,                | " "  |
| McCallum, James, & Co.....                   | 329 E. 3d Street, Dayton,         | " "  |
| Rauh, E., & Sons.....                        | N. Findlay Street,                | " "  |
| Starr, C. A.....                             | 131 S. Wayne Avenue,              | " "  |
| Vaughn, Bonsall & Co.....                    | 101 Newgarden St., Salem,         | " "  |
| Jarecki Chemical Co.....                     | 1st Street, Sandusky,             | " "  |
| Springfield Fert. Co.....                    | 265 E. High St., Springfield,     | " "  |
| Rassel, N., & Sons.....                      | Park Street, Toledo,              | " "  |
| Kaercher, F. A.....                          | Youngstown,                       | " "  |
| Kaercher, H. D.....                          |                                   | " "  |
| Metzger, F. C.....                           |                                   | " "  |
| Smith, George S.....                         |                                   | " "  |
| Alaska Oil & Guano Co..                      | 43 Concord Bldg., Portland,       | Ore. |
| Czarnicki, E. L., & Son....                  | 43, 1st Street, Allegheny,        | Pa.  |
| Scientific Fert. Co....                      | 286 North Avenue,                 | " "  |
| Walker, Stratman & Co. (Inc.)..              | 47, 3d St.,                       | " "  |
| Allentown Mfg. Co..                          | 626 Hamilton Street, Allentown,   | " "  |

PENNSYLVANIA (Continued).

|                      |                                      |                                      |  |
|----------------------|--------------------------------------|--------------------------------------|--|
| Street, Alliance, O. | Dodds & Garrett.....                 | 712, 7th Avenue, Beaver Falls, Pa.   |  |
| St., " "             | Fenner, F. E.....                    | Bethlehem, "                         |  |
| St., " "             | Schettig, Adam.....                  | Carrolltown, "                       |  |
| . Cambridge, "       | Yearsley, Isaac, Jr.....             | Coatesville, "                       |  |
| Street, Canton, "    | Burton, S. S.....                    | 9 W. 9th Street, Erie, "             |  |
| , Chillicothe, "     | Schaal, Jacob.....                   | 2406 Holland Street, " "             |  |
| et, Cleveland, "     | Simmons, F. R.....                   | " "                                  |  |
| , " "                | Blocher, D., & Co.....               | Gettysburg, "                        |  |
| , " "                | Berg Co., The.....                   | Kensington, "                        |  |
| , " "                | Bomberger, J. H.....                 | Lititz, "                            |  |
| . Cleveland, O.      | Lack Fertilizer and Chemical Co..... | Mossic, "                            |  |
| , " "                | Baugh & Sons Co.....                 | 20 S. Delaware Ave., Philadelphia, " |  |
| , " "                | Berg Co., The.....                   | Russell and Bath Sta., " "           |  |
| , " "                | Brown & Gilman.....                  | 118 S. Delaware Ave., " "            |  |
| , " "                | Cornell & Green Manure Co.....       | 972 N. 9th St. " "                   |  |
| , " "                | Dougherty, E.....                    | 3 S. Front Street, " "               |  |
| , " "                | Galbraith, D., Jr.,                  | Hedley and Richmond Streets, " "     |  |
| Street, Dayton, "    | Green, E. M.....                     | 2707 N. Broad Street, " "            |  |
| Street, " "          | Hess, S. M., & Bro.....              | 4th & Chestnut Sta., " "             |  |
| venue, " "           | Howitz, S. H.....                    | 2 Chestnut Street, " "               |  |
| en St., Salem, "     | Jones, Wm. H.....                    | 1916-1918 Market St., " "            |  |
| et, Sandusky, "      | Keegan, William.....                 | 1823 Fitzwater St., " "              |  |
| , Springfield, "     | Liebig Mfg. Co.....                  | 22 S. Delaware Ave., " "             |  |
| Street, Toledo, "    | Phillips Moro Chem. Co.....          | 131 S. 3d St., " "                   |  |
| Youngstown, "        | Quaker City Poudrette Co.,           | 19 N. Juniper Street, " "            |  |
| , " "                | Reese, John S., & Co.....            | Bullitt Building, " "                |  |
| , " "                | Sanitary Product Co.....             | 802 Girard Bldg., " "                |  |
| . Portland, Ore.     | Sanitation & Fert. Co.....           | 635 Drexel Bldg., " "                |  |
| t, Allegheny, Pa.    | Shanley & Van Brunt.....             | 14 S. Broad St., " "                 |  |
| , " "                | Sharpless & Carpenter.....           | 114 S. Del. Ave., " "                |  |
| , " "                | Shoemaker, M. L., & Co. (Ltd.),      | Venango Street Wharf, " "            |  |
| t, Allentown, "      |                                      |                                      |  |



## PENNSYLVANIA (Continued).

|                                                                               |                                                   |     |
|-------------------------------------------------------------------------------|---------------------------------------------------|-----|
| Simonius', G. F., Sons,<br>E. Clearfield and Trenton Aves., Philadelphia, Pa. |                                                   |     |
| South, A. W.....                                                              | Greenwich Place,                                  | " " |
| Spiegel, J., & Co.....                                                        | 420 Commerce St.,                                 | " " |
| Thomas, I. P., & Son Co.,                                                     | 2 S. Del. Av.,                                    | " " |
| Tygert, J. E., & Co.....                                                      | 42 S. Del. Ave.,                                  | " " |
| Tygert, Allen, Fertilizer Co.,                                                | 2 Chestnut Street,                                | " " |
| Ufford, Eugene.....                                                           | 22 S. Delaware Ave.,                              | " " |
| Van Brunt, H.....                                                             | 14 S. Broad Street,                               | " " |
| Wahls, Emil, Fancy Bone Mfg. Co.,                                             | 2335 N. 7th Street,                               | " " |
| Woodward & Dickerson..                                                        | 14 S. Del. Ave.,                                  | " " |
| Williams & Clark.....                                                         | 6200 Penn Avenue, Pittsburg,                      | " " |
| Ulmer, Jacob, Packing Co.....                                                 | Pottsville,                                       | " " |
| Hager, H. T.....                                                              | Quakertown,                                       | " " |
| Ahrens, C. K.....                                                             | Reading,                                          | " " |
| Hess, S. M., Bro.....                                                         | 539 Court Street,                                 | " " |
| Reading Chemical and Fertilizer Co. (Ltd.),                                   | 123 N. 15th Street,                               | " " |
| Granes, R.....                                                                | Tompkinsville, Scranton,                          | " " |
| Keller, Luther.....                                                           | 813 W. Lack. Avenue,                              | " " |
| Hewett, F. H., & Son ..                                                       | 1123 Diamond Ave.,                                | " " |
| Hunt & Connell Co.....                                                        | 434 Lack. Avenue,                                 | " " |
| Reilly, A.....                                                                | Smethport,                                        | " " |
| Dempwolf, C. H., & Co.....                                                    | 74 West Market, York,                             | " " |
| Darling, L. B., Fertilizer Co.,                                               | Room 7, Music Hall Bldg., Pawtucket, Rhode Island |     |
| Sumter Fertilizer Co.....                                                     | Sumter, South Carolina                            |     |
| Schols Bros.....                                                              | Long Street, Chattanooga, Tenn.                   |     |
| Dyersburg Fertilizer Co.....                                                  | Dyersburg,                                        | " " |
| Globe Oil and Fertilizer Co.,                                                 | Keel and Front Streets, Memphis,                  | " " |
| National Fertilizer Co.....                                                   | Vista Pike, Nashville,                            | " " |

| City                 | Manufacturer                             | Address                | State                 |
|----------------------|------------------------------------------|------------------------|-----------------------|
| Philadelphia, Pa.    | Pierce, A. G.                            | 190 College Street     | Vermont               |
|                      | Wheeler, M. E., & Co.,                   | 12 Pleasant Street     | Rutland               |
|                      | Johnson Bros.                            |                        | Farmville, Va.        |
|                      | American Fertilizer Co.                  | 3 Atlantic St.         | Norfolk               |
|                      | Baugh & Sons Co.                         | Dickson's Wharf        |                       |
|                      | De Jarnette, R. E.                       | 57 Main Street         |                       |
|                      | Freeman, E. B., & Co.                    | 42 Main Street         |                       |
|                      | Imperial Guano Co.                       | 263-265 Water St.      |                       |
|                      | Old Dominion Guano Co.                   | 40 Main Street         |                       |
|                      | Reid, Chas., & Sons                      | 14 Division Street     |                       |
|                      | Simpson, C. H.                           | 1 Roanoke Dock         |                       |
|                      | Standard Guano Co.                       | 86-88 Union Street     |                       |
|                      | Taylor & Tredwell                        | 40 Main Street         |                       |
| Pittsburg            | Tygart, Allen, Fert. Co.                 | 16 Union Street        |                       |
| Pottsville           | Davie & Whittle                          | 51 N. Sycamore St.     | Petersburg            |
| Quakertown           | Va. Fla. Phosp. Co.                      | 51 N. Sycamore St.     |                       |
| Reading              | Ames Fertilizer Co.                      | Lincoln                | Portsmouth            |
| Street               | Brooks, E. C., & Co.                     | 111 High St.           |                       |
|                      | Everett, J. C.                           | 520 Middle Street      |                       |
| Street               | Allison & Addison                        | 1322 Cary Street       | Richmond              |
| Scranton             | Atlantic and Va. Fert. Co.               | Crenshaw St.           |                       |
| Street               | Durham Fertilizer Co.                    | 2601 Dock St.          |                       |
| Street               | Henrico Sanitary Co.,                    | Chamber of Commerce,   |                       |
| Smethport            | James River Marl and Bone Phosphate Co., | Chamber of Commerce,   |                       |
| Market, York         | Johnson, R. H.                           | 1434 Cary Street,      |                       |
| Street, Rhode Island | Lee, Alfred S.                           | Dock and 28th Streets, |                       |
| South Carolina       | Tinsley, J. G., & Co.                    | 1326-1328 Cary St.,    |                       |
| Attanooga, Tenn.     | Travers, S. W., & Co.                    | 1321 Cary Street,      |                       |
| Dyersburg            | Somerset Fertilizer Co.                  |                        | Somerset              |
|                      | Colt, Reeves & Co.                       | 12 Johnson Street      | Stanton               |
| Memphis              | Graham, J. E.                            | 8-10 Johnson Street,   |                       |
| Nashville            | Janesville Fert. Chemical Works          |                        | Janesville, Wisconsin |

**CANADA.**

Boyd, Alf. . . . . 1 Wellington Street, Toronto, Ontario  
 Harris, W., & Co. . . . . 420 Pape Avenue, " "  
 Newell, B. L., & Co. . . . . 12 Nazareth St., Montreal, Quebec  
 Vasey, Thomas E. . . . . Box 1777, " "  
 Archibold, Samnel. . . . . Truro, Nova Scotia  
 Pidgeon & Mosher . . . . . Windsor, " "

**Animal Fertilizers**

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XI

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SOAP AND CANDLE MANUFACTURERS.

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M. E. CLARK, Sec.

**WELCH, HOLME & CLARK CO.,**

383 West Street, New York.

**SOAP \* MATERIALS,**

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### SOAP AND CANDLE MANUFACTURERS.

#### ALABAMA.

Central Mfg. Co ..... Montgomery

#### ARIZONA.

Arizona Soap Co ..... Phoenix

#### CALIFORNIA.

H. Lang ..... Fresno  
 Los Angeles Soap Co ..... Los Angeles  
 Orpital Soap Co ..... Sacramento  
 Alta Soap Co ..... 109 Oregon Street, San Francisco  
 J. J. Applegate ..... 10 Bush Street, "  
 M. Bettman ..... 121 California Street, "  
 Capital Soap Co ..... 211 Sacramento Street, "  
 M. Clark ..... Nebraska Street, "  
 Commercial Soap Co ..... 223 Sacramento St., "  
 Co-operative Soap Co ..... 211 Sacramento St., "  
 Dakin & Libbey ..... 223 Sacramento Street, "  
 Fischbeck & Gloetz ..... 307 Sacramento Street, "  
 Glassman & Co ..... 383 Montgomery Street, "  
 Globe Soap Factory ..... Nebraska Street, "  
 R. W. Heilmann ..... 708 Brannan Street, "  
 C. Laufenburger ..... 204 Clay Street, "  
 C. Lille ..... Bay Street, "  
 G. R. Lucy & Co ..... 123 California Street, "  
 Mission Soap & Candle W'ks ..... 108 Bush St., "  
 Newell & Bro ..... 221 Davis Street, "  
 N. E. Soap Co ..... 214 Sacramento Street, "  
 C. A. Peterson & Co ..... 316, 10th Street, "  
 H. W. Smith ..... 22 California Street, "  
 Standard Soap Co ..... 525 Market Street, "



**CALIFORNIA (Continued).**

F. Thornton.....14th Street, San Francisco  
 Union Soap Factory.....316, 10th Street, "  
 Stockton Soap Works.....Stockton

**COLORADO.**

R. T. Babbitt.....1633, 15th Street, Denver  
 Borax Soap Co.....3 Hughes Block, "  
 Colorado Soap Co.....1824-1833, 15th Street, "  
 Dunwoody Bros. Soap Co.....35th Street, "  
 The Geyserte Soap Co.....1824, 15th Street, "  
 R. McDonald & Son.....1452 Centre Street, "  
 Palma Root Toilet Soap Co...1037 Santa F6 Ave., "  
 Silver Leaf Soap Co.....3048-3062 Blake Street, "  
 Union Soap Co.....1824, 15th Street, "  
 T. Wollaston.....1442, 13th Street, "  
 E. L. Wheatley Soap Mfg. Co....."

**CONNECTICUT.**

E. Sharon.....Baltic  
 Fairchild & Shelton.....Housatonic Street, Bridgeport  
 Ostrom & Lincoln Co.....16-24 Knowlton St., "  
 The Pond's Extract Co.....Clinton  
 Downs & Griffin.....Derby  
 T. J. Aldrien & Co.....East Thompson  
 G. Rose.....East Windsor  
 J. T. Robertson Co.....Glastonbury  
 The J. B. Williams Co....."  
 L. C. Camp.....76 Retreat Street, Hartford  
 L. T. Frisbie & Son.....77-79 Talcott Street, "  
 E. N. Gleason.....Tower Street, "  
 Hartford Chemical Co.....30 Union Place, "  
 J. C. Rohwer.....180 Barbour Street, "  
 O. J. Bellows.....Killingly

**CONNECTICUT (Continued).**

J. T. Robertson Co.....Manchester  
 E. D. Walker.....Meriden  
 Allison Brothers.....Middletown  
 W. J. Allison....."  
 G. Sanderson & Son.....Moosup  
 J. Ambuhl.....Front Street, New Haven  
 L. R. Hemingway & Co.....14 Union Street, "  
 W. A. Govern.....(East Gt. Plain), Norwalk  
 M. E. Morse.....Norwich  
 A. Menard.....Putnam  
 D. T. Brown.....Rockville  
 A. Pelletier.....Cooke Street, Waterbury  
 J. M. Atwood.....Watertown  
 J. F. Bartlett.....West Winsted  
 J. D. Leach.....Willimantic  
 G. P. Spencer....."

**DELAWARE.**

C. B. Carter.....Delaware  
 A. Kelley & Co.....Wilmington  
 G. Krautter....."

**DISTRICT OF COLUMBIA.**

Jewell & Co.....W, corner 1st Street, Washington  
 Weaver, Kengla & Co.....3244 Water Street, "

**GEORGIA.**

Georgia Soap Co.....33 Thompson Street, Atlanta  
 Exchange Soap Co.....Columbus  
 Eureka Co.....Macon  
 Farmers' Oil and Fertilizer Co.....Madison  
 W. Hone & Co.....Savannah

## ILLINOIS.

|                               |                             |
|-------------------------------|-----------------------------|
| N. Y. Winslow .....           | Bloomington                 |
| B. T. Babbitt .....           | 39 N. State Street, Chicago |
| S. A. Baker & Co .....        | 54 W. Division Street, "    |
| Buttermilk Toilet Co .....    | 26 Rialto Building, "       |
| Colgate & Co .....            | 89 Lake Street, "           |
| I. L. Cragin & Co .....       | 246 Lake Street, "          |
| Crofts & Reed .....           | 243 S. Robey Street, "      |
| A. Curtis & Co .....          | 46 W. Quincy Street, "      |
| Dobbins Soap Mfg. Co .....    | 246 Lake Street, "          |
| Dougall Bros .....            | Division Street, "          |
| The N. K. Fairbank Co .....   | 60 Wabash Avenue, "         |
| E. W. Fairchild & Bro .....   | 118 Michigan Street, "      |
| C. Fisch .....                | 57 Willow Street, "         |
| Fitzpatrick Bros .....        | 424 S. Canal Street, "      |
| Globe Soap Co .....           | 21 River Street, "          |
| Graham Bros .....             | 421 W. Lake Street, "       |
| Haas & Humbolt .....          | 26 Churchill Street, "      |
| Holman Soap Co .....          | 1069 James Avenue, "        |
| Merchants' Soap Co .....      | 32d Avenue, "               |
| Kendall Mfg. Co .....         | 216 W. Vanburen Street, "   |
| J. S. Kirk & Co .....         | 352 N. Water Street, "      |
| E. Morgan's Sons .....        | 8 Wabash Avenue, "          |
| Oberne-Hosick Co .....        | Kingsbury Street, "         |
| The Proctor & Gamble Co ..... | 31 Michigan Ave., "         |
| Jas. Pyle & Sons .....        | 33 S. Water Street, "       |
| F. M. Schaub & Sons .....     | 33 S. Water Street, "       |
| G. A. Schmidt .....           | 405 North Avenue, "         |
| C. H. L. Sonder .....         | 85 Dearborn Street, "       |
| Union Soap Co .....           | 195, 5th Avenue, "          |
| W. Wrigley, Jr., & Co .....   | 157 Kinzie Street, "        |
| M. Werk Soap Co .....         | 33 S. Water Street, "       |
| A. B. Wisley .....            | 479, 5th Avenue, "          |
| G. A. Wisley .....            | 36 Fullerton Avenue, "      |

ILLINOIS (Continued).

The Soap Construction Co..... Chicago  
 J. R. Burks & Co..... Danville  
 F. N. Brown..... Elgin  
 D. Hoover..... Freeport  
 P. P. Brunner..... Galena  
 J. W. Graham..... Jacksonville  
 J. Henders..... Ottawa  
 R. W. Burt & Co..... Peoria  
 Mexican Amhole Soap Co..... "  
 G. A. Shoudy Soap Co..... Rockford  
 Warnock & Ralston..... Rock Island  
 E. B. Shurtleff..... Sycamore  
 N. Davis..... Urbana

INDIANA.

N. Huddleston..... Dublin  
 Melzer & Co..... Evansville  
 Summit City Soap Co..... Fort Wayne  
 E. C. Andrews & Co..... Indianapolis  
 Atkins Soap Co..... "  
 J. A. Hunt Soap and Chemical Co..... "  
 M. J. Olds..... "  
 Park & Sons..... "  
 M. & J. Schnaible..... Lafayette  
 W. Heppes..... Logansport  
 Shore, Brackett & Co..... Rochester

IOWA.

Atlantic Soap Co..... Atlantic  
 C. Matthes..... Burlington  
 C. Anthony..... Cedar Rapids  
 W. Dunkhorst..... Davenport  
 J. C. Matthes & Bro..... "

**IOWA (Continued).**

Des Moines Soap Works ..... E. 3d Street, Des Moines  
 Jas. Beach & Son ..... Dubuque  
 Hawkeye Soap Works ..... Fort Madison  
 N. Blom ..... Keokuk  
 C. H. Tondro ..... Mason City  
 Haskins Bros. & Co. .... Sioux City  
 A. W. Morrill ..... Waterloo

**KANSAS.**

Morse Soap Co. .... Atchison  
 Kansas City Soap Co. .... Kansas City  
 R. S. Craig ..... Leavenworth  
 R. M. Sheldon ..... Ottawa

**KENTUCKY.**

Kentucky Refining Co. .... 2033 Shelby Street, Louisville  
 A. Klung ..... 1651 Story Avenue, "  
 Wood-Haworth Co. .... 702 Cawthorn Street, "  
 Cornwall Bros. .... "

**LOUISIANA.**

Gates & Veazey ..... New Iberia  
 Commercial Soap C. & S. Mfg. Co. (Ltd.)  
     80 Magazine Street, New Orleans  
 J. Ellerbusch ..... 464 S. Liberty Street, "  
 A. F. L. Honold ..... Louisa Street, "  
 J. H. Keller's Soap Works .... 110 Gravier St., "  
 J. C. Kirchberg ..... Washington Avenue, "  
 H. W. Knieper ..... Lafayette Street, "  
 L. Picker ..... 4th Street, "

**MAINE.**

J. C. Whitney ..... Auburn  
 W. Hellier Co. .... Bangor  
 A. H. Jones. .... "  
 Carville Soap Co. .... Biddeford  
 B. Libby ..... Lebanon  
 F. J. Hewins ..... Manchester  
 I. E. Sherburne. .... Milo  
 D. Pike ..... Norway  
 J. Carney. .... Portland  
 E. D. Lunt & Co. .... "  
 Edward Nixon. .... "  
 Portland Soap and Chemical Co. .... "  
 A. Small ..... Richmond

**MARYLAND.**

James Armstrong & Co. .... 115 Concord Street, Baltimore  
 Barry Bros. & Co. .... 602 Buren Street, "  
 J. J. Lang & Co. .... 421 W. Pratt Street, "  
 C. Dippa ..... Hollins Street, "  
 Sillman & Myers Co. .... 8 S. Howard Street, "  
 Union Soap Co. .... 211 N. Arch Street, "

**MASSACHUSETTS.**

O. Boardman ..... Amesbury  
 O. J. Bigelow. .... Athol  
 H. A. & L. J. Thompson ..... "  
 C. Livingstone. .... Ayer  
 S. H. Atherton. .... Bernardston  
 B. T. Babbitt ..... 50 Central Street, Boston  
 Barny & Co. .... 283 Franklin Street, "  
 C. F. Bates Co. .... 123 Oliver Street, "  
 D. Blanchetti. .... Hyde Park Avenue, "  
 Boston Soap Co. .... 234 Commercial Street, "



## MASSACHUSETTS (Continued).

|                               |                                |        |
|-------------------------------|--------------------------------|--------|
| Canton Mfg. and Bleaching Co. | 322 Congress St.,              | Boston |
| Childs & Childs               | 4 Commercial Street,           | "      |
| A. H. Cobb & Co               | 97 High Street,                | "      |
| N. Collamore                  | 4 Charlestown Street,          | "      |
| Commonwealth Soap Co.         | 458 Federal Street,            | "      |
| Curtis, Davis & Co            | 136 State Street,              | "      |
| J. C. Davis & Son             | 3 Chatham Street,              | "      |
| Dobbins Soap Mfg. Co.         | 144 State Street,              | "      |
| T. Earl                       | 232 Dorchester Avenue,         | "      |
| N. K. Fairbank Co.            | 224 State Street,              | "      |
| Ford & Dennen                 | 16 Thayer Street,              | "      |
| Granite City Soap Co.         | 98 Commercial Street,          | "      |
| Gunn's Bristol Soap Co        | 133 Pearl Street,              | "      |
| Hoxie Mineral Soap Corp'n.    | 261 Washington St.,            | "      |
| C. G. Hutchinson              | 113 Water Street,              | "      |
| C. L. Jones & Co.             | 30 Commerce Street,            | "      |
| Marvelo Compound Mfg. Co.     | 118 Water Street,              | "      |
| The J. Morrill, Jr., Co.      | 8 Commercial Street,           | "      |
| J. F. Morse & Co.             | 66-68 Norfolk Avenue,          | "      |
| E. Nathan                     | 71 Prentiss Street,            | "      |
| N. E. Scap Co.                | 248 Congress Street,           | "      |
| Oakley Soap and Perfumery Co. | 67 Chauncey St.,               | "      |
| Proctor & Gamble Co.          | 190 State Street,              | "      |
| Rand & Byam                   | 6 Charles Street, Charlestown, | "      |
| Robinson Bros. & Co.          | 250 Devonshire Street,         | "      |
| Schultz & Co                  | 8 Broad Street,                | "      |
| H. R. Stevens                 | 464 W. Broadway,               | "      |
| Warren Soap Mfg. Co.          | 143 Federal Street,            | "      |
| G. F. Whitney                 | 59 Long Wharf,                 | "      |
| E. A. & W. Winchester         | 3 Chatham Street,              | "      |
| M. Wing                       | 225 Congress Street,           | "      |
| Osborn A. & Co.               | 25 Central Wharf,              | "      |
| Carr Bros                     | Cambridgeport                  | "      |

MASSACHUSETTS (Continued).

|                             |               |
|-----------------------------|---------------|
| Curtis, Davis & Co.....     | Cambridgeport |
| J. C. Davis & Son .....     | "             |
| T. M. Davis.....            | "             |
| J. Dolan.....               | "             |
| J. C. Dow & Co.....         | "             |
| C. L. Jones & Co.....       | "             |
| Kemp, Lysander, & Sons..... | Broadway,     |
| J. Reardon & Sons.....      | "             |
| F. H. Teele.....            | "             |
| W. H. Norris.....           | Chelsea       |
| P. W. Sawtelle & Co.....    | "             |
| E. B. Pond.....             | Clinton       |
| J. Henihan.....             | Dedham        |
| Aug. Hallett.....           | Dennis        |
| Z. C. Doty.....             | Everett       |
| Hargraves Mfg. Co.....      | Fall River    |
| J. Winward.....             | "             |
| Cowdin & Walker.....        | Fitchburg     |
| M. A. Torrey & Co.....      | Foxboro'      |
| R. Sommers.....             | Franklin      |
| C. Smith.....               | Georgetown    |
| John C. Wilkins & Co.....   | "             |
| A. Marchant & Son.....      | Gloucester    |
| Jesse O. Newton.....        | Greenfield    |
| A. S. Willard.....          | Hadley        |
| Beach Soap Co.....          | Haverhill     |
| E. Metras & Co.....         | "             |
| W. H. Abbett.....           | Holyoke       |
| Main Balsam Fir Co.....     | Hyde Park     |
| Stackpole & Son.....        | Ipswich       |
| J. H. Whalen.....           | Lancaster     |
| Beach Soap Co.....          | Lawrence      |
| J. Glennie & Co.....        | "             |

## MASSACHUSETTS (Continued).

|                      |                 |
|----------------------|-----------------|
| C. G. Kimball & Co.  | Lawrence        |
| D. C. Mann           | "               |
| Scollay & Rich       | "               |
| W. N. Dickinson      | Lowell          |
| D. Whithed           | "               |
| J. Hamson & Son      | Lynn            |
| C. E. Marsh & Co.    | "               |
| John C. Sargent      | "               |
| J. W. Cobb           | Mansfield       |
| Jinks Soap Mfg. Co.  | "               |
| A. S. Shepard        | "               |
| Goodrich Bros.       | Medford         |
| J. Mann              | Montague        |
| C. H. Gibbs          | Nantucket       |
| S. Emerson           | Natick          |
| Bryant & Brett       | New Bedford     |
| George M. Crossman   | "               |
| T. Herson & Co.      | "               |
| M. F. Whittemore     | "               |
| A. Stanwood & Co.    | Newburyport     |
| E. S. Barrett        | Northampton     |
| V. P. Converse       | (West Farms), " |
| R. F. Richardson     | "               |
| J. D. Sawyer         | Palmer          |
| J. N. Burbeck        | Peabody         |
| B. J. Winchester     | "               |
| C. W. Kelsey         | Pittsfield      |
| C. F. Bates Mfg. Co. | Quincy          |
| J. A. Torrey         | Rockland        |
| A. Cardinal          | Shrewsbury      |
| James & Son          | Somerville      |
| G. W. Norton         | "               |
| L. Cooley            | Springfield     |

**MASSACHUSETTS (Continued).**

|                           |               |
|---------------------------|---------------|
| Fisk Mfg. Co.....         | Springfield   |
| Fiske & Allen.....        | "             |
| Capitol Mfg. Co.....      | Brightwood, " |
| D. R. Barlow.....         | Sturbridge    |
| E. Kelley.....            | "             |
| W. Bassett.....           | Taunton       |
| H. N. White.....          | "             |
| P. M. Jefferson & Co..... | Tewkesbury    |
| D. Whithed.....           | "             |
| Boynton & Williams.....   | Wales         |
| L. Gilbert.....           | Ware          |
| G. H. Rand.....           | Warren        |
| Warren Soap Mfg. Co.....  | Watertown     |
| A. Elliott.....           | Worcester     |
| J. A. McKinstry.....      | "             |
| Charles F. Rugg.....      | "             |
| M. W. Smith.....          | "             |

**MICHIGAN.**

|                           |                          |
|---------------------------|--------------------------|
| A. Birk.....              | Ann Arbor                |
| Calver Brothers.....      | Bay City                 |
| Valley Soap Co.....       | "                        |
| Detroit Soap Co.....      | 25th Street, Detroit     |
| J. Hartness Soap Co.....  | 125 Hendricks Street, "  |
| J. Metzner & Co.....      | 194 Michigan Avenue, "   |
| Schulte & Bro.....        | Rivard Street, "         |
| Schulte Soap Co.....      | 945 Woodbridge Street, " |
| J. J. Hurley.....         | Flint                    |
| Grand Rapids Soap Co..... | Grand Rapids             |
| Central City Soap Co..... | Jackson                  |
| C. Brand & Co.....        | Lansing                  |
| H. Passolt.....           | Saginaw                  |
| H. C. Reinecke.....       | "                        |

**MINNESOTA.**

American Soap and Chemical Co. . . . . Minneapolis  
 Northwestern Soap Co. . . . . 411 S. E. Main Street, "  
 N. Olson & Co . . . . . 2519 S. 9th Street, "  
 Minnesota Soap Co. . . . . 202 Eagle Street, St. Paul  
 Twin City Compound Mfg. Co. . . . . 410 Cedar Street, "

**MISSOURI.**

E. P. Dresser Soap Co.,  
 29th Street and S. W. Boulevard, Kansas City  
 Inter-State Soap Co. . . . . 1608 Main Street, "  
 Mexican Root Soap Co. . . . . 1023 E. 19th Street, "  
 Peet Bros. Mfg. Co. . . . . 101 W. Levee Street, "  
 S. Poteet. . . . . Kirkwood Street, "  
 Robinson & Co. . . . . Mexico  
 L. P. Bresch & Bro. . . . . 403 De Soto Avenue, St. Louis  
 Herman Eidenhardt . . . . . 101 N. 2d Street, "  
 N. K. Fairbank Co. . . . . S. 3d Street, "  
 H. F. Franke. . . . . 108 S. 4th Street, "  
 Goodwin Mfg. Co. (Candles). 3332 Chouteau Ave., "  
 J. C. Haas Soap Co. . . . . 802 Washington Street, "  
 Schaeffer Bros. & Powell Mfg. Co. 325-7 N. 2d St., "  
 Theorner & Schulenberg. . . . . 610 N. Main Street, "  
 Wm. Waltke & Co. . . . . 2d Street, "

**NEBRASKA.**

Churchill & Sargent. . . . . Lincoln  
 Amer. Neftilene and Natural Soap Co. Range Block, Omaha  
 J. S. Kirk & Co. . . . . 511 S. 13th Street, "  
 W. A. Page Soap Co . . . . . 115 Hickory Street, "  
 P. J. Quealey Soap Co. . . . . 2805 Walnut Street, "

**NEW HAMPSHIRE.**

H. S. Kelsey. . . . . Claremont  
 C. Barker. . . . . Concord

NEW HAMPSHIRE (Continued).

|                        |                    |
|------------------------|--------------------|
| L. W. Robinson.....    | Concord            |
| O. N. French.....      | Penacook Street, " |
| R. G. Morrill.....     | Penacook Street, " |
| G. W. Rand.....        | Derry              |
| Beach Soap Co.....     | Dover              |
| W. Ridley.....         | Exeter             |
| J. W. Tilton.....      | "                  |
| E. & N. Worden.....    | Hinsdale           |
| J. Longee.....         | Lebanon            |
| J. H. Parker.....      | "                  |
| J. N. Anger.....       | Manchester         |
| J. S. Holt & Co.....   | "                  |
| Barrett & Wilson.....  | Mason              |
| W. S. Keith.....       | Milford            |
| C. A. Wallingford..... | Milton             |
| S. G. Chamberlin.....  | (Milton Mills), "  |
| E. F. Marsh.....       | Nashua             |
| H. E. Robey.....       | Pittsfield         |
| H. J. Freeman.....     | Portsmouth         |
| W. H. Haskell.....     | Rochester          |
| John Whipple.....      | "                  |
| H. D. Smith.....       | Sanbornton         |

NEW JERSEY.

|                                      |                              |
|--------------------------------------|------------------------------|
| P. McCuster.....                     | Burlington                   |
| J. Baxter.....                       | Camden                       |
| Camden and Philadelphia Soap Co..... | "                            |
| Billington Bros.....                 | 299, 1st Street, Jersey City |
| Colgate & Co.....                    | York Street, "               |
| Oakley Soap and Perfumery Co....     | 308, 9th St., "              |
| Stenken & Brau.....                  | 241 Newark Heights, "        |
| C. Darnell.....                      | Mount Holly                  |
| A. Heller.....                       | 279 Plane Street, Newark     |



**NEW JERSEY (Continued).**

J. C. Lyon.....4 Commercial Street, Newark  
 Alpha Soap Co.....Passaic  
 M. H. Duffy.....Paterson  
 Riverside Soap Co....."  
 J. T. Conkling & Son.....Somerville  
 Davis Bros.....Trenton  
 O. T. Neldt & Co....."

**NEW YORK.**

John M. Christian & Bros...42-44 Delaware Ave., Albany  
 D. Costigan.....168 Canal Street, "  
 C. Ten Eyck.....Chapel Street, "  
 Binghamton Soap Works.....Binghamton  
 A. Ives....."  
 H. E. Parmelee....."  
 Amalga Soap Works.....85 Sedgwick Avenue, Brooklyn  
 Borax Soap Works.....711 Kent Avenue, "  
 Domestic Mfg. Co.....98 West Street, "  
 Friedman-Dooscher Co.....108 Raymond Street, "  
 C. S. Higgins Co.....Park Avenue, "  
 Higgins Soap Co.....660-2 Atlantic Avenue, "  
 Kirkman & Son.....46-52 Bridge Street, "  
 J. Lins.....33 Bartlett Street, "  
 J. McCarthy.....527 Columbia Street, "  
 Oil Soap Co.....298 Gold Street, "  
 D. Pringle.....66 Albany Avenue, "  
 Rutherford & Barnes.....320 Driggs Street, "  
 Smith & Oetlinger Co.....67 George Street, "  
 Thurber, Whyland Co....390 Smith Street, "  
 Lefferts Vanderbilt.....14 Water Street, "  
 R. W. Bell Mfg. Co.....77 Washington Street, Buffalo  
 The Dingman Soap Co.....2-4 Lock Street, "  
 W. H. Edson.....60 Edson Street, "

NEW YORK (Continued).

Gowans & Sons.....Chicago Street, Buffalo  
 J. Harris Mfg. Co.....867 Ellicott Street, "  
 A. Hoefner.....162 Van Rensselaer Street, "  
 Hoffeld & Co.....67 Carroll Street, "  
 J. D. Larkin & Co.....659 Seneca Street, "  
 Lautz Bros. & Co.....22-44 Hanover Street, "  
 J. McComb.....176 Strauss Street, "  
 W. Roper.....1391 Niagara Street, "  
 Rice & Robinson Soap Co.....251 Seneca Street, "  
 Am. Soap & Washoline Co....140-180 Central Av., Cohoes  
 Cohoes Soap Co....."  
 F. W. Grant....."  
 P. Bigga.....Elmira  
 B. Draper.....Glens Falls  
 Willett & Hollett.....Gloversville  
 A. Gibson.....Kingston  
 Mrs. P. McCormick.....(Rondout), "  
 Middletown Soap Co.....Middletown  
 B. B. Oakley.....Newburg  
 American Progressive Product Co. (Ltd.),  
 34 Front Street, New York City  
 Am. Soap and Washoline Co..115 Pearl St., "  
 The Andrews Soap Co.....318 Broadway, "  
 B. T. Babbitt...64-84 Washington Street, "  
 Blondeau & Co.....73 Watts Street, "  
 David S. Brown & Co....8 Thomas Street, "  
 Carbolic Soap Co.....230 Pearl Street, "  
 Childs & Childs (Bon Ami).95 William St., "  
 Colgate & Co.....55 John Street, "  
 W. H. Daggitt.....124 Jane Street, "  
 Dobbins Soap Mfg. Co...77 Barclay Street, "  
 N. K. Fairbank Co....Produce Exchange, "  
 Fay Bros.....92 Monroe Street, "

**NEW YORK (Continued).**

|                            |                        |               |
|----------------------------|------------------------|---------------|
| P. Feeney.....             | 521 W. 15th Street,    | New York City |
| Fels & Co.....             | 338 Broadway,          | "             |
| Gaunt & Janvier.....       | 365 Canal Street,      | "             |
| W. Haskell.....            | 414 W. 23th Street,    | "             |
| J. G. Hay & Co.....        | ft. 38th Street,       | "             |
| Holbrook Mfg. Co....       | 470 Washington St.,    | "             |
| J. E. Luscomb.....         | 532 W. 24th Street,    | "             |
| J. McGee.....              | 618 W. 39th Street,    | "             |
| Enoch Morgan's Sons Co.... | 439 West St.,          | "             |
| N. Y. Soap Works....       | 6 Desbrosses Street,   | "             |
| The Packer Mfg. Co....     | 81-83 Fulton St.,      | "             |
| Proctor & Gamble Co.....   | 5 Worth Street,        | "             |
| J. Pyle & Sons.....        | 436 Greenwich Street,  | "             |
| D. S. Quimby.....          | 20 Vesey Street,       | "             |
| J. T. Rapelje.....         | 464 Washington Street, | "             |
| G. Reichard.....           | 539 W. 43d Street,     | "             |
| Riverside Soap Co.....     | 20 Platt Street,       | "             |
| Rosenblatt & Co.....       | 6 Desbrosses Street,   | "             |
| Schultz & Co.....          | 164 Franklin Street,   | "             |
| Scourene Mfg. Co.....      | 419 8th Street,        | "             |
| N. Sheldon & Co.....       | 154 Chambers Street,   | "             |
| C. W. Smith.....           | 121 Elizabeth Street,  | "             |
| Smith & Oetlinger Co..     | 351 Greenwich St.,     | "             |
| J. Stanley.....            | 650 W. 30th Street,    | "             |
| Achille Starace.....       | 72 Pearl Street,       | "             |
| V. L. Tenney.....          | 23 Pearl Street,       | "             |
| P. C. Thompson & Co....    | 194 Franklin St.,      | "             |
| W. & H. Walker.....        | 56 Warren Street,      | "             |
| Thomas Brennan.....        | 1267 Broadway,         | "             |
| Calif. Olive Oil Soap Co.. | 155 Chambers St.,      | "             |
| Elliott Mortimer Mfg. Co.. | 192 Water St.,         | "             |
| Manhattan Soap Co....      | 509 W. 30th Street,    | "             |
| Mingus Mfg. Co.,...        | 199 W. Houston Street, | "             |

**NEW YORK (Continued).**

|   |                             |                                 |   |
|---|-----------------------------|---------------------------------|---|
|   | Oakley Soap & Perfumery Co. | 43 Leonard St., New York City   |   |
| " | E. A. Olds.....             | 100 Fulton Street,              | " |
| " | Theo. Ricksecker.....       | 58 Maiden Lane,                 | " |
| " | Rockeach & Co.....          | 44 Suffolk Street,              | " |
| " | Royal Soap & Perfumery Co.  | 801 G'wich St.,                 | " |
| " | J. Thalheim & Co.....       | 99 Maiden Lane,                 | " |
| " | Wineburgh Bros.....         | 111-113 Fulton Street,          | " |
| " | A. A. Wellington.....       | Oswego                          |   |
| " | Dunwoody Bros.....          | Poughkeepsie                    |   |
| " | W. Scott.....               | "                               |   |
| " | W. Akinhead.....            | 68 Front Street, Rochester      |   |
| " | A. Metcalf.....             | 593 West Avenue,                | " |
| " | S. Moulson.....             | 41 N. Water Street,             | " |
| " | G. W. Scott Soap Co.....    | 103 W. Main Street,             | " |
| " | S. V. Sharp.....            | 71 Alphonse Avenue,             | " |
| " | White Swan Soap Co.....     | 500 Exchange Street,            | " |
| " | Wm. D. Worden.....          | 57 W. Main Street,              | " |
| " | C. Brodock.....             | Rome                            |   |
| " | P. Schneible.....           | "                               |   |
| " | A. L. Allen.....            | Salem                           |   |
| " | Lascalles Mfg. Co.....      | "                               |   |
| " | P. D. Whitaer.....          | Saratoga                        |   |
| " | R. Merchant.....            | "                               |   |
| " | White & Quick.....          | "                               |   |
| " | W. W. Bassett.....          | 914 Montgomery Street, Syracuse |   |
| " | Echerman & Will... ..       | 406-408 Ash Street,             | " |
| " | H. Finn & Sons.....         | 433 E. Water Street,            | " |
| " | A. S. House.....            | 885 S. Beech Street,            | " |
| " | C. L. Jones & Co.....       | 317 S. Water Street,            | " |
| " | P. F. Murray.....           | 712 Centre Street,              | " |
| " | Phoenix Candle Co.....      | 811 N. Alvord Street,           | " |
| " | Syracuse Steam Wax Works    | 811 N. Alvord St.,              | " |
| " | W. H. Ostrander.....        | 269 4th Avenue Lane, Troy       |   |

## NEW YORK (Continued).

A. Tilly.....631 River Street, Troy  
 The Tavender Soap Co.....Utica  
 Thorn & Maynard....."  
 H. F. Brahm.....Waterloo  
 D. S. Robbins.....Watertown

## OHIO.

Andrews Soap Co....233 Spring Grove Avenue, Cincinnati  
 B. T. Babbitt.....59 W. 2d Street, "  
 L. L. Barnes.....13 Logan Street, "  
 Cincinnati Soap Co.....Clarkson Street, "  
 I. L. Cragin.....105 W. 2d Street, "  
 W. Dock & Co.....106 Coleman Street, "  
 N. K. Fairbank Co.....60 W. 2d Street, "  
 Globe Soap Co.....33 Water Street, "  
 Harkness & Cowing Co....Eggleston Avenue, "  
 H. G. Hunnewell.....552-564 Plum Street, "  
 T. A. Kilduff.....20 Elizabeth Street, "  
 B. H. Lamping & Co.....135 W. Canal Street, "  
 J. M. Long.....43 E. 2d Street, "  
 McCassey Bros. & Co....146 E. Front Street, "  
 W. C. McMahon.....49 W. 2d Street, "  
 Modoc Soap Co.....13 Sycamore Street, "  
 C. Muller.....231 Spring Grove Avenue, "  
 Proctor & Gamble Co....United Bank Bldg., "  
 H. & G. A. Roever.....234 Colerain Avenue, "  
 C. Shoenhals & Co.....Clarkson Street, "  
 M. Werk Co.....11 Main Street, "  
 Buchan Soap Co.....Leonard Street, Cleveland  
 The Central Mfg. Co.....Dell Avenue, "  
 Cuyahoga Rend'g & Soap Works..Newburgh St., "  
 T. S. Davies.....1015 Scranton Avenue, "  
 T. Murray.....86 River Street, "

OHIO (Continued).

|                                      |                              |
|--------------------------------------|------------------------------|
| Peskind & Udisky .....               | 333 Willey Street, Cleveland |
| J. R. Stafford .....                 | 400 Canal Street, "          |
| Columbus Fluid Soap Co. ....         | Columbus                     |
| Columbus Soap Works .....            | "                            |
| G. Janton & Sons .....               | "                            |
| Janton & Farris .....                | "                            |
| Johnson & Co. ....                   | "                            |
| C. Skinner .....                     | Coshocton                    |
| Beaver & Co. ....                    | Dayton                       |
| L. M. Brown .....                    | "                            |
| Fansher Bros. ....                   | "                            |
| Hewitt Bros. ....                    | "                            |
| P. Schaumleffel .....                | Dresden                      |
| Union Soap Co. ....                  | East Liverpool               |
| R. Wiehle .....                      | Ironton                      |
| A. Lafourette .....                  | Marion                       |
| Marion Soap and Chemical Works ..... | "                            |
| Simpson's Soap Mfg. Co. ....         | Newark                       |
| J. Zotmann .....                     | Portsmouth                   |
| M. A. Smith .....                    | Springfield                  |
| Bonner & Kirk .....                  | Staubenville                 |
| F. L. Ludwig & Co. ....              | Sycamore                     |
| Assemblies Soap Mfg. Co. ....        | Toledo                       |
| S. W. Bell & Co. ....                | "                            |
| T. Jones .....                       | "                            |
| Thompson & Chute Soap Co. ....       | "                            |
| H. Williams .....                    | "                            |
| R. Sanders .....                     | Urbana                       |
| Ludlow Soap Mfg. Co. ....            | Washington                   |
| W. M. Hanson .....                   | Willoughby                   |
| L. D. Dillon Soap Co. ....           | Zanesville                   |
| D. Hahn .....                        | "                            |
| Schultz & Co. ....                   | "                            |



## PENNSYLVANIA.

|                           |                               |               |
|---------------------------|-------------------------------|---------------|
| William Creese Co. (Ltd.) | 124-128 Irwin Ave., Allegheny |               |
| G. Hasley & Sons          | 332 Madison Avenue,           | "             |
| Staud & Co.               | 182 East Street,              | "             |
| W. & H. Walker            | 45, 3d Street,                | "             |
| M. Garner                 |                               | Ashland       |
| J. J. East & Co.          |                               | Bellevue      |
| J. C. Gerbig              |                               | Chambersburgh |
| J. W. Swalley             |                               | Erie          |
| L. Harm                   |                               | Harrisburgh   |
| C. F. Seiber              |                               | "             |
| B. T. Babbitt             | 108 S. Delaware Avenue,       | Philadelphia  |
| Charles A. Breyer         | 2144 E. Norris Street,        | "             |
| B. Brooke & Co.           | 2314 Wood Street,             | "             |
| Bush & Co.                | 207 Ledger Place,             | "             |
| Colgate & Co.             | 700 Arch Street,              | "             |
| Columbus Soap Co.         | 607 Sansom Street,            | "             |
| F. Conway's Sons          | 119 South Street,             | "             |
| W. Conway's Sons          | 316 S. 2d Street,             | "             |
| Day & Frick               | 1760 Howard Street,           | "             |
| Dobbins Soap Mfg. Co.     | 57 Forrest Building,          | "             |
| W. Dreydoppel             | 208 N. Front Street,          | "             |
| T. Earley                 | 705 Beach Street,             | "             |
| J. Eavenson & Sons        | 313 N. 20th Street,           | "             |
| Ecker & Co.               | 212 E. Susquehanna Avenue,    | "             |
| J. S. & T. Elkinton       | 227 Chestnut Street,          | "             |
| L. M. Elkinton            | 532 St. John Street,          | "             |
| N. K. Fairbank Co.        | 138 N. Delaware Ave.,         | "             |
| Fels & Co.                | 1151 N. 3d Street,            | "             |
| Goldsmith & Co.           | 727 Sansom Street,            | "             |
| J. Good                   | 512 Hirst Street,             | "             |
| J. M. Haeberie            | 1145 Germantown Ave.,         | "             |
| R. Hamilton & Son         | 1539 Anthony Street,          | "             |
| Kendall Mfg. Co.          | 1207 Fairmount Ave.,          | "             |

PENNSYLVANIA (Continued).

|                                |                              |              |
|--------------------------------|------------------------------|--------------|
| O. Kline & Co.....             | 968 Franklin Street,         | Philadelphia |
| Lautz Bros. & Co.....          | 13-15 S. Front Street,       | "            |
| A. Leberman.....               | 2231 N. 12th Street,         | "            |
| L. M. Leberman.....            | 116 Margaretta Street,       | "            |
| Love & Donnelly.....           | 1523 Chestnut Street,        | "            |
| P. McCullough.....             | 420 Munroe Street,           | "            |
| C. I. McKeone & Co.....        | 35 S. Front Street,          | "            |
| J. McNamee.....                | 1426 Randolph Street,        | "            |
| W. T. Marks.....               | 320 N. 20th Street,          | "            |
| O. K. Soap Co.....             | 968 Franklin Street,         | "            |
| G. Parker.....                 | 1095 Germantown Avenue,      | "            |
| G. Printz & Sons.....          | 834 N. 7th Street,           | "            |
| Schultz & Co.....              | 2 S. Front Street,           | "            |
| Silliman & Myers Co.....       | 233 S. Front Street,         | "            |
| E. Smortristasky.....          | 919 Rachel Street,           | "            |
| P. C. Tompson & Co.....        | 915 Otsego Street,           | "            |
| Wallace Mfg. Co.....           | 918 Vine Street,             | "            |
| Warren Soap Mfg. Co.....       | 113 Chestnut Street,         | "            |
| Wrigley Mfg. Co.....           | Wayne Junction, Gtn.,        | "            |
| Charles W. Young & Co.....     | 1240 W. College Ave.,        | "            |
| Fels & Co.....                 | 1151 N. 3d Street,           | Pittsburgh   |
| Grayburn & Co.....             | Cherry and Strawberry Aves., | "            |
| J. D. Reiniger & Co.....       | 3018 Liberty Avenue,         | "            |
| H. C. Sawyer Soap Co. (Ltd.).. | 2606 Penn Ave.,              | "            |
| S. Stunz & Son.....            | 708 Bingham Street,          | "            |
| Wilson & Gorman.....           | 199 4th Avenue,              | "            |
| J. N. Wolfe & Co.....          | 2300-2313 Josephine St.,     | "            |
| Pottsville Soap Works.....     |                              | Pottsville   |
| W. K. Leaman.....              |                              | Reading      |
| F. K. Miller.....              |                              | "            |
| B. A. Lynde & Sons Co.....     |                              | Warren       |
| Ahlborn Bros.....              |                              | Wilkesbarre  |
| A. Beede & Co.....             |                              | Williamsport |
| Williamsport Soap Co.....      |                              | "            |

**RHODE ISLAND.**

|                                    |                                   |
|------------------------------------|-----------------------------------|
| O. M. Holmes.....                  | East Providence                   |
| E. D. Jones & Son.....             | Newport                           |
| James O. Draper & Co.....          | Pawtucket                         |
| White Rose Mfg. Co.....            | "                                 |
| Humes Mfg. Co.....                 | 82 Westminster Street, Providence |
| O. M. Humes.....                   | 35 Wood Street, "                 |
| Kendall Mfg. Co.....               | Friendship Street, "              |
| F. S. & T. M. Lincoln.....         | Allens Avenue, "                  |
| J. R. Mathewson.....               | 15 Towner Street, "               |
| B. F. Medbury.....                 | 35 Comstock Avenue, "             |
| Miley Soap Co.....                 | 8 Day Street, "                   |
| Sunnyside Washing Powder Mfg. Co., | 544 Fountain Street, "            |
| W. H. Place & Co.....              | 668 Eddy Street, "                |
| Robinson Oil Co.....               | 34 S. Water Street, "             |
| Union Oil Co.....                  | 239 Tockwotton Street, "          |
| Woodley & Leonard.....             | 303 Friendship Street, "          |
| J. E. Sisson.....                  | Westerly                          |
| Mason Mfg. Co.....                 | Woonsocket                        |

**TENNESSEE.**

|                                |                              |
|--------------------------------|------------------------------|
| H. O. Williams.....            | 10th Street, Memphis         |
| D. F. Brown.....               | N. College Street, Nashville |
| The Enterprise Soap Works..... | 224 N. Front St., "          |
| J. G. Pfeiffer.....            | N. College Street, "         |

**TEXAS.**

|                          |           |
|--------------------------|-----------|
| J. W. Lesser.....        | Austin    |
| Wagner, Dennie & Co..... | Dallas    |
| Texas Soap Co.....       | Galveston |
| A. A. F. Menger.....     | Houston   |
| G. Lodmidge.....         | Terrell   |

**UTAH TERRITORY.**

H. Snell ..... Salt Lake City  
 Utah Soap Factory ..... "

**VERMONT.**

E. Adams & Co ..... Bennington  
 E. E. Flagg ..... Brattleboro'  
 Moore & Whitney ..... "  
 J. P. Liscom ..... "  
 F. W. Powers ..... Newbury  
 J. Farr ..... St. Johnsbury  
 C. L. Bennett ..... "

**VIRGINIA.**

M. Duggan ..... Norfolk  
 Velline Mfg. Co. .... "  
 J. M. Smith & Son ..... Petersburg  
 P. Crew & Co ..... 113 N. 17th Street, Richmond  
 Garden, Ramon & Co ..... 1446 E. Franklin Street, "  
 J. A. Schloch ..... 906 Moore Street, "

**WASHINGTON.**

Seattle Soap Co. .... Seattle

**WEST VIRGINIA.**

Southern Novelty Co. .... Huntington

**WISCONSIN.**

Gross Bros. .... 953 N. Water Street, Milwaukee  
 The B. J. Johnson Co ..... 4th Street, "  
 The McCullough & Dixon Co. 411 Vliet Street, "  
 Rickers & Co. .... 52-60 3d Street, "  
 B. Senderhauf & Co. .... 103 North Avenue, "

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**WISCONSIN (Continued).**

|                               |                      |           |
|-------------------------------|----------------------|-----------|
| H. Sparch .....               | 54 Jackson Street,   | Milwaukee |
| F. Trenkamp & Co.....         | 209 Michigan Street, | "         |
| Crystal Soap Co.....          | 226 E. Water Street, | "         |
| H. & S. Seligmann.....        | 235 Broadway,        | "         |
| Seligmann Perfume & Soap Co.. | 752 Jackson St.,     | "         |
| B. E. Lichtenheld.....        |                      | Racine    |

ERS.

reet, Milwaukee  
reet, "  
reet, "  
way, "  
St., "  
..... Racine

## PORK PACKING—AB INITIO.\*

### LIVE HOGS.

THE best "bacon" hog and the most profitable and satisfactory to the packer and consumer is the "Berkshire." Yet the most popular hog with the raiser, on account of his attaining a marketable weight at a much earlier age, is the "Poland China." This latter hog, corn-fed, might truthfully be termed the "lard hog." He does not, on account of his being so quickly grown, yield as much net as his more matured brother, the "Berkshire."

To those interested in raising hogs we would suggest: A little flour of sulphur administered to the hogs in any way the most convenient once or twice per week would go far to (if not altogether) prevent cholera and other diseases peculiar to hogs, and which so often destroy such large quantities of them. These diseases cause no end of trouble and loss to all concerned, even to the consumer, and on one or two occasions have threatened to totally obliterate one of the most profitable and interesting industries in the country, viz: the pork-packing industry. We call attention to matters such as this on the basis that great results are attained by strict attention to matters seemingly of no importance. Especially does this apply to the pork-packing industry.

A few hints to those handling hogs in hot weather would not be out of place. It has always been our experience that the "first" hot days of the summer are the most fatal to the quickly grown and well-fattened hog. It seems to be the rule, too, that the finest hogs in the bunch are the first to

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succumb. In shipping be careful not to overcrowd cars, and be sure to send along a reliable man to sprinkle hogs at every opportunity, and to keep them from "piling," which term is perhaps more applicable to winter. This man should also take particular notice that he is not charged with more dead hogs than he is entitled to.

In unloading, buyers and inspectors would do well to be in no hurry to weigh during the summer months, as much trouble can be averted by placing hogs in airy sheds with well-sogged earth floors for a few hours prior to weighing. We have seen numbers of hogs die immediately after being weighed from cars, and consequently the buyer is the loser.

Some shippers (including many who have had bitter experience, too) are very careless in this matter of overcrowding hogs in hot weather and rushing them through, hence our advice to buyer and inspector.

Upon the arrival of hogs at the stock-yards they are usually taken in charge by commission men to whom they are shipped, and are weighed and assorted to different weights and grades, according to the requirements of the various buyers. The customary dockages are as follows: Stags are docked 80 pounds; pregnant sows are docked 40 pounds; cripples, rough, and undesirable hogs are bought according to their merits or demerits. The charges are as follows: Public inspection, 10c. per car; yardage, 8c. per hog; corn, \$1 per bushel; commissions, \$6 per car for single decks and \$10 per car for double decks; 30 head of hogs and over, \$6; under 30 head, 15c. per head; dead hogs are taken by stock-yards company at  $\frac{1}{4}$ c. per pound.

The inspection of hogs made by the Government inspectors at the scales before weighing is very close and their decision is final, salesmen having no appeal therefrom. All badly pregnant sows, hogs with bunches, boils, etc., also hogs with cuts on the hams and shoulders, are thrown out.

The above dockages, varied somewhat according to the

views of the buyer, are practised at country points, but the charges noted are not quite the same. The country packer usually figures to pay Chicago prices, less difference in freight and charges, and then, with an eye to outfreight and freight on supplies, etc., cuts a little more, and usually buys safe. Taking everything into consideration, the country packer is not placed at such a terrible disadvantage as we are liable to suppose. A better understanding and less antagonism between the country packer and local shipper would result much more profitably to both. But we are digressing.

Beating or otherwise exciting or disturbing hogs should always be denounced, nor should hot or excited hogs be slaughtered while in such a condition. Much of the "sour" meats complained of could be traced to the infringement of this rule. Cripples should, on this very basis, be killed at once, as they get worse, of course, instead of better, by being kept over. Cinders and such rubbish should be kept away from hogs about to be slaughtered. Stags and sows and all belligerent hogs should be kept separate, otherwise incalculable damage to hams, shoulders, and sides will follow.

The total cost of handling hogs in yards should never exceed one cent per hog, feed included. By the way, never consider feeding a needless expense when holding over. It not only prevents shrinkage, but keeps the hogs quiet and less liable to excitement. In many cases much less than one cent will cover all. If hogs are kept over a few hours prior to weighing the subsequent shrinkage does not figure, as such shrinkage would be a total loss anyhow.

We have always maintained that a fixed rate of not less than two per cent. should be the rule as dockage in favor of the packer when weighing live hogs, especially wagon hogs. Much depends upon the live-hog department of the packing business. Much can be gained and much loss and expense avoided by shrewd management.

As we previously remarked, a strict attention to small matters in this as well as other departments cannot but result highly satisfactorily to the packer.

#### HOG-KILLING.

In driving hogs to sticking pens we would again warn those thus employed not to unduly excite them or use sticks, and would also particularly call attention to the useless, brutal, and unprofitable practice of some shacklers beating hogs with shackles while in the process of shackling. We have known as high as thirty per cent. of more or less bruised hams through this and other senseless practices.

Everything in this department depends upon the foreman, and his absence for ever so short a period from the gang means loss to his employer on every side. It is utterly preposterous to assume that any killing gang will properly fulfil its duties during the absence of the foreman. They may keep up the required number per hour, but this is nothing compared to how that specified number is handled and the product therefrom, guts and casings especially. We have seen foremen stand at the gut-bench for hours, so much interest did they take in having this branch of the killing properly done.

Let us here call especial attention to one matter so frequently overlooked. In stripping the small guts—that is, pulling them through the hands to clean out the bulk of the refuse—many men destroy more small guts than would pay ten times their wages by bunching the worms therein.

Again, an incompetent or careless gutter can lose his employer a great deal in scarring guts—that is, cutting the outer skin of the bung gut in turning the knife around the crown. The same incompetent hand can also, in opening hogs, destroy whole sets of guts, and this is often done, par-

ticularly in packing-houses where the gang is addicted to "rushing."

As we have already stated, the whole success of this department depends upon an efficient and watchful foreman, who cannot afford to leave these important matters to the tender mercies of the gang. To lay out a gang to kill a stated number of hogs is a matter well-nigh impossible to put down on paper. The facilities for fast killing vary so much in the different houses that comparisons in this case are certainly out of the question. One house can handle the same quantity of hogs in less than half the time taken by another, and it is also necessary to consider the question of expense. We think that the cost should never exceed five cents per hog in primitive houses, and we have known the work done as low as one cent per hog in modern houses.

The following men are required in a killing gang :

Shacklers, hoisters, sticker, dropper, scalding and assistants, machine-tender, spot-knockers, header, gambreller, gutters, shavers, bung-gut trimmers, small-gut pullers, tonguers, gut-splitters, ham-facers, lard-pullers, markers and splitters, and as many assistants as the house calls for.

One house, for example, might handle 1,500 to 2,000 hogs with thirty-five or forty men, another might need more, and still another might do the work with less. We know of one instance where ninety men and boys put through 900 hogs in one hour.

The shackler should keep his pens well filled with hogs and do his work deftly and surely. We think the spring shackle the best and less liable to dislocate hams. The hoister will avoid jerking hogs in hoisting and see that the bar is kept well ahead of the scald tub, giving the hogs sufficient time to be well bled.

The sticker will avoid shoulder-sticking, as it is only through carelessness this happens. The scalding usually has his tub at 140° F., but this is purely at his discretion, as

the condition of the hogs and the rate of killing has much to do with this matter. He sees that his helpers scald the backs and legs.

There are several kinds of scraping-machines, horizontal and vertical, but we prefer the horizontal, though some of our foremost houses use the vertical. After the hog has passed through the scraping-machine he is attended to by the "spot-knockers," or scrapers, who divest him of any hair missed by the machine, thence he goes to the header, tonguer, and gambreller, and thence to the gutter.

Here begins what we might term the scientific portion of hog-slaughtering. An expert gutter, say, handling 1,000 hogs per day, ought to save ninety per cent. bung guts from fair-sized hogs, and not cut any small guts in opening. In some houses we have seen as high as four gutters, with perhaps in the neighborhood of 1,000 to 1,500 each to gut. In smaller houses one man might gut 1,500 with the assistance of a "snatcher."

From the gutter the hog passes to the shavers, whose duties are to thoroughly shave hams, sides, and shoulders, thence through washer to the ham-facer and lard-puller, ~~scraper~~, and splitter, following that to the chill-room.

We will now return to the gut-bench. The bung-gut trimmer separates the gut at the source and strips the fat to the crown, inspects for scars and turns same over to the turner and trimmers. In pulling small guts some foremen try to economize by having one puller handle just as many hogs as he possibly can. This is a great error, and results disastrously from a financial point of view. We maintain that an extra puller and stripper is not an expense, but a great saving.

There is altogether too much carelessness in many houses on this particular point. Properly handled, 4 hogs will yield one pound of cured No. 1 casings, worth about twenty-five cents, which on 1,000 hogs amounts to \$62.50, less, say,

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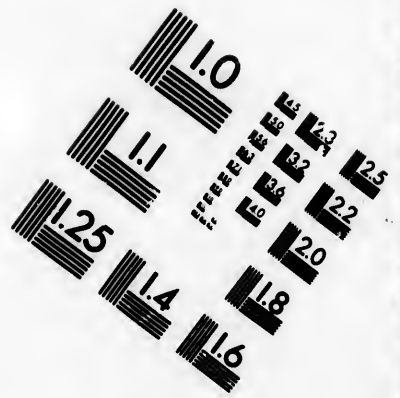
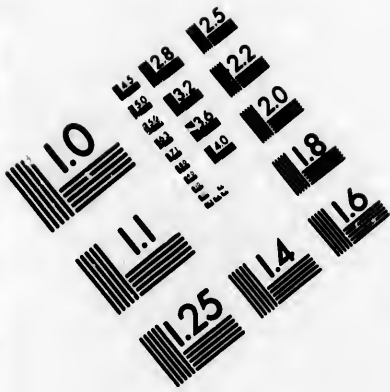
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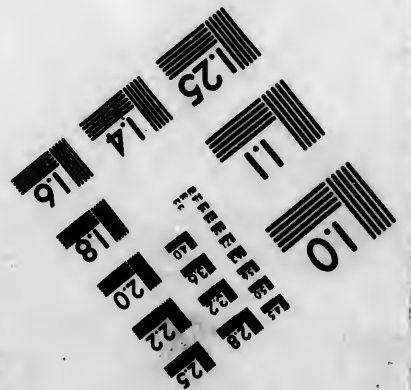
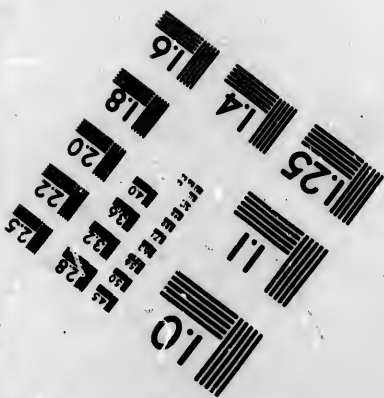
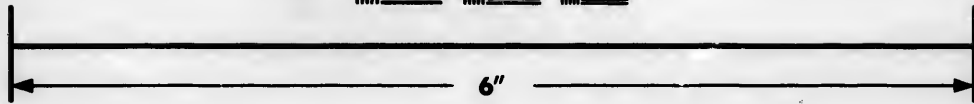
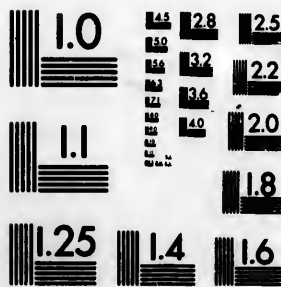
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two cents per hog for handling, leaving a net result of \$42.50. This is merely a rough estimate to illustrate our meaning. It can at once be seen that instead of allowing the small guts to go to the tank, where they yield next to nothing, it would be a profitable investment to have two pullers on every 1,000 hogs.

The bung guts, when trimmed and turned, should be placed in vats, or other receptacles, with plenty of ice, so as to make sure that they are thoroughly cooled off. It is important that they be stirred frequently to prevent their lying in solid masses, thereby causing them to turn "black." Such black guts cannot afterward be bleached, and they are considered very objectionable in the trade and consequently of less value. Next the offal and "refuse guts" (those left after the extraction of the small and bung guts) are split either by hand or machine or hashed as the case may be in order to better extract the refuse. Let us remark here that much of the "dark" and "off color" lard is often due to the careless manner these very guts and offal are washed. It should be a special point with every foreman of killing gangs to see that these guts, etc., are *thoroughly* washed and that a continual supply of clean water be used. Some houses wash guts by hand, others in machine. We may also add that such waters, in passing to the sewers, carry away much fat, if some precaution is not taken to obstruct same. It well pays every pork-packer to give close attention to matters such as these, there being a considerable profit in tankage and other residues when properly handled.

The stomachs, in packing-houses fitted with a laboratory, are used in the manufacture of pepsin—that is, the linings of same are so used. But of this see pages 209 and 210.

**Leaf Lard.**—In hanging leaf lard (*i. e.*, chilling for neutral) care should be taken so as not to allow any part to overlap. That product should be hung full width, and no fear need be entertained as to the condition when taken out

of the chill-room. Too low a temperature cannot be had for chilling leaf lard for this purpose.

The tongues should be cut out clean and full, and every one, except those diseased, accounted for. They should then be well washed clear of hair, etc. It is important that tongues should not be chilled in too low a temperature (about 38° Fahrenheit we have always found very satisfactory), as the very close fibre of the meat, together with the coating of the tongue, make them a very delicate subject to refrigerate. It is a difficult matter to thoroughly extract the animal heat from tongues, and any tendency to freeze the outer surface suddenly will result in the tongues turning out of pickle very unsatisfactorily, the inner part of the tongue particularly being raw, as it were.

**Dry Shaving.**—This is another branch of the killing department which needs special attention. Right here is the time and place to thoroughly clean and shave hogs. We have seen two sides of meat of equal quality (fully cured), one of which had been well cleaned and shaved on the killing floor and the other slighted there. An attempt had been made in the latter instance to polish up when packing, but it needed no practised eye to pick out the more marketable piece.

The extra cost incurred to properly handle hogs from the commencement is so small and the advantages gained thereby so great that argument on this question would be absurd. The same thing applies to the proper trimming of meats on cutting-bench instead of packing-bench.

In packing houses where they manufacture sausage, etc., the heads are passed to the sausage department, and, where a ready sale may be had, the brains are extracted and sold separately. Brains are considered by many people a very choice and palatable dish, and much sought after.

Hogs will shrink from live to dressed weight about twenty per cent. Of course this varies according to the quality of

the hog. This "shrinkage," as it is termed, it quite an item, and goes quite a long way toward covering the expense of running a packing-house. It consists of hair and bristles, bung guts and casings, hearts, livers, stomachs, gut fat, etc., and we think that very little actual loss under the head of "shrinkage" is suffered by the packer.

In passing we would call attention to the gross carelessness of some men in killing gangs, during the process of dry shaving, who *gash* sides, shoulders, and hams, thereby causing unnecessary loss to their employer, as all such product must go as second-grade goods.

No water should be used at all on hogs after the lard is pulled and the hams faced. We are glad to say that the killing department of the packing industry is being more efficiently and profitably handled with each succeeding year. The fact should never be overlooked that good, efficient men in this and all branches of the business are well worthy of encouragement.

#### PEPSIN MANUFACTURE.

Pepsin is a ferment, being the agent by which a portion of the food which is taken into the stomach is dissolved and fitted for assimilation. It is obtained from the lining or mucous membranes of the stomachs of various animals—that from the stomach of the hog being generally preferred.

The method of preparation is as follows: The fresh stomachs are deprived of their fat and divested of their outer coating, cut open, gently washed with cold water, and macerated for several days in a pickle. This pickle is composed of water thirty parts and hydrochloric acid one part, and requires frequent stirring. The liquid is next strained and filtered clear through coarse paper, or allowed to stand twenty-four hours, and then poured off. Common salt is then added and thoroughly mixed with the liquid. The



pepsin rises to the top, and after standing is skimmed off. After this it is strained in a strainer, then submitted to strong pressure, to force out all that is possible of the saline solution. Next it is carefully dried in warm air without other heat.

The resultant constitutes the crude pepsin, which is used for making purified pepsin, etc. "Purified pepsin" is prepared by dissolving the crude pepsin before drying in water acidulated with hydrochloric acid, then adding just sufficient salt to separate it from its solution. It is next washed gently with cold water and drained, pressed, and dried rapidly on glass with gentle heat.

#### THE CHILL-ROOM.

Prior to running hogs from killing-rooms to chill rooms they should hang outside as long as possible, so as to allow the steam and superfluous heat to escape, and thus save unnecessarily raising the temperatures in the chill-rooms, the hogs on rail being about 106° Fahrenheit. When chill-rooms have been filled with freshly killed hogs they will stand at about 57° Fahrenheit, and to successfully chill these hogs this temperature must be gradually and surely reduced to 34° Fahrenheit, or thereabouts, in ten to twelve hours, and thence down to 30° Fahrenheit, where they may hang forty to sixty hours, or longer if the establishment is such that this can be done. In noting temperatures from time to time, should any unaccountable rise be noticed the cause should be inquired into at once and remedied immediately. Absolute insulation is positively necessary for successful refrigeration. Plenty of air-space above hogs is also necessary.

Artificial refrigeration is truly a great and useful invention for the packers. No necessity for "sour meats" where such refrigeration exists. We have noticed that these tanks, which we are informed are for the especial purpose of cool-

ing the brine, are often placed where unnecessary heat is brought to bear upon them; we have also noticed that the pipes containing the low temperature brine sometimes pass through inordinately heated places, and would naturally conclude this was an error. Why these tanks and pipes should come in contact with unnecessary heat, when so much pains is taken to carry off the heat actually required to be thus eliminated, is more than we can account for!

It would be well for those contemplating putting in ice and refrigerating machines to see to this. Refrigerating machines cost money, but in an incredibly short space of time fully pay for themselves. They not only enable the packer thus investing to kill at any time and at all times the year round, but save him thousands of dollars in "sour meats," etc.

We would call attention to the fact that it has come to our notice that men employed by different firms have a habit of guessing at the temperatures instead of looking at the thermometers in the different chambers and truthfully registering the same. This is a very grievous breach of trust, and should not be tolerated. So much depends upon the proper working of a refrigerating-machine in the packing business that nothing but the closest attention to all the details will answer.

Then, again, many packers employ very incompetent men, at low wages, to attend to these machines and their many vital points, and thereby run enormous risks, which is altogether unnecessary. Thoroughly competent and reliable men are more desirable in this department of the packing industry than almost in any other. The men attending to these machines should not only be thorough mechanics, but completely conversant with every detail of the system they are working. This is unquestionably an important matter, and worthy the full and deliberate consideration of every packer.

The best means of insulation may safely be left to the firm putting in the machine, as the success of their machine depends wholly upon this. You will find they are all very emphatic upon the subject of insulation. The main point in chilling is to positively extract the last particle of animal heat from every portion of the carcass.

#### CUTTING OF HOGS.

Hogs may be cut at any time after being thoroughly chilled (say after hanging forty hours) and are in a fairly solid condition, *but not frozen*, as meats in such a condition are very difficult to handle and trim properly, and, also, are not in the best possible shape for curing. The size of a gang for cutting a stated number of hogs would greatly depend upon the *cuts* to be made and the facilities for speedy work. We are in favor of *good* work in preference to speedy *slipshod* work in this as in every other department.

The most important men in a cutting gang are as follows:

1. The chopper, whose duty is to sever, with a cleaver, the ham and shoulder. In some houses this is done with knife and saw, and these packers consider that method the proper and only way, as cuts can thus be made more accurately to a certain extent, the balance being left to trimmers, whose duty is to fashion the ham as best suited to trade.
2. The shoulder-trimmers.
3. The blade-pullers.
4. The side-meat trimmers.
5. The ribbers.
6. The backbone-sawyers. In some houses the backbone is chopped out in the killing department, but this we consider not altogether advisable. Of course there are other men and boys required in various positions—chopping off hocks, stripping tenderloins, skirting ribs, trimming sausage and market meats, etc., according to the style of the cuts being made.

As regards cost we might say that the cutting of hogs should not exceed three cents per head under any circumstances, and considerably lower is the rule, we do not hesitate to say. The short-rib middle, short-cut ham, and New York shoulder are the principal domestic cuts, and of late years the export trade has favored these cuts to a great extent. They are, after all, the most sensible cuts, and suit both packer and consumer better than the stereotyped export cuts, such as long-cut hams, square shoulders, Cumberland middles, Yorkshire middles, etc.

For instance, compare the long-cut ham and the American short-cut ham. To the consumer the short-cut ham is so far ahead of the long-cut that argument is unnecessary. The cure alone is sufficient to settle the point in favor of the short-cut ham both to packer and consumer—to the packer, because there is no shrinkage, and to the consumer because the meat is milder and more appetizing, to say nothing of the absence of the long, useless shank and fat butt.

Some packers would perhaps decide in favor of the Cumberland middle in preference to the short-rib, simply because such a cut can be remodelled if necessary—that is, made into square shoulder, back and belly, or shoulder and short clear—though such manipulation is not considered regular. We have seen meats after being cured manipulated in this manner, and don't hesitate to say that *mutilating* would be a better word than remodelling, as the ribbing in such cases is very rough indeed. We do not mean to say that the above-named domestic cuts have altogether taken the place of the export cuts, except as regards the short-cut ham, which is fast superseding the long-cut.

To return to the cutting bench. Loins, after separation from the carcass, should at once be wrapped in paper specially made for the purpose, and immediately thereafter transferred to cold storage, of which the lower the temperature the better. During the summer season the less loins

of any fresh meats are exposed to the warm air the better, as under the most favorable circumstances such meats lose color rapidly, and consequently appear stale. Not a particle of lean meat should be allowed to go to the tanks, as there is very little yield of lard therefrom, while they assist materially the discoloration of the lard. Such meats can be handled at a good profit in the markets or sausage department. On the other hand, no superfluous fats should be allowed to go to cellar, as such is much more profitable in rendered lard. Meats from cutting-bench, such as spare-ribs, back-bones, neck-bones, etc., return the most if sold at once, if a market can be had at all. The yield of lard from such meats does not exceed twenty-five per cent. if the spare-ribs are properly "skirted." Spare-ribs, of course, may be pickled at a profit, as a rule, if a ready market fresh cannot be had. Hocks and desirable feet are cleaned and pickled, while undesirable feet may go to lard-tanks, if not in too large quantities, otherwise they may be converted into glue. There are several very complete establishments of this kind. As high as 75 to 100 barrels of glue per day have been made in one of them.

**Short-rib Middle (Regular).**—This is essentially a domestic cut and constitutes the bulk of our dry salted meats. Consists of the side of the hog, with rib left in, regular or New York shoulder and short-cut ham taken off, hench-bone sawed down and feather-of-blade bone left in. Must be "skirted," but the belly is not usually trimmed, except packer so wishes. The regular short-rib is a very desirable cut, and when taken from good straight hogs, and averaging in the neighborhood of 50 pounds, finds a ready sale at top prices at any time, and in nearly any part of the country. In most instances this side is smoked whole and shipped South, while for fancy trade it is ribbed and converted into backs and bellies. The averages run from about 45 to 65 pounds.

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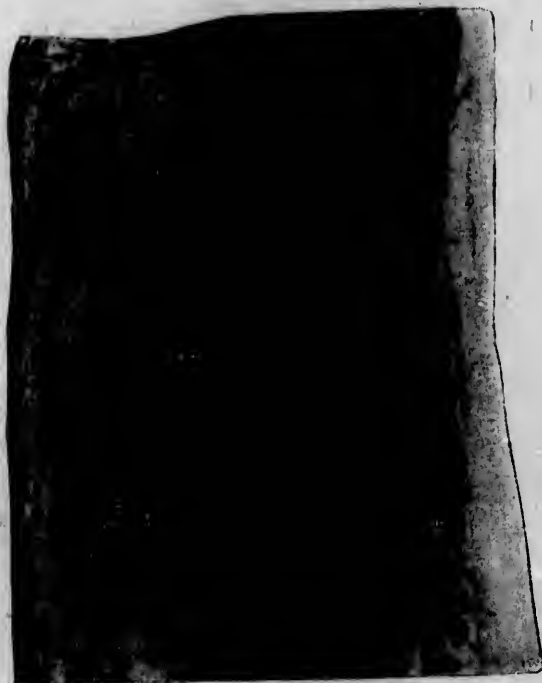


*Short-rib Middle (Regular).*

**English Short-rib Middle.**—This is an export cut, and differs from short-rib regular only in being cut shorter, and is trimmed square. A square shoulder and long-cut ham taken off side of hog leaves the required English short-rib middle. As in the regular rib, the back-bone is removed and the rib left in. No feather-of-blade bone, or very little,



appears in this side. The averages run from 20 to 30 pounds. These sides find a ready sale in England, especially



*English Short-rib Middle.*

in the midland and northern counties. We omitted to mention that good straight hogs are required in this cut, as in *all* export cuts.

n from 20 to 30  
England, especially

**Long Clear Middles.**—Consist of shoulder and side in one piece. As the name implies, no bone must appear in



*Long Clear Middle.*

this side. Leg sawed off close to brisket, leg-bone and blade removed, breast-bone cut down, rib removed and hench-bone removed. This side should be cut fairly square at both ends. Averages from 40 to 65 pounds.

We omitted to  
red in this cut, as



*Extra Long Clear Middle.*

**Extra Long Clear Middles** are cut the same as regular long clears, except that, as in extra short clears, the loin is taken out full. These sides average from 40 to 60 pounds.

**Long-rib Middles.**—A very popular export cut, and shipped to Liverpool, England, for distribution to Dublin, Ireland, and Swansea, Wales. Are made from light lean

hogs, and when received on the other side are "rolled" and usually smoked. Find a ready sale at top prices, but are not by any means cut from the highest-priced hogs. Consist of the side and shoulder of hog, with back-bone, blade-bone, and knuckle-bone removed, also shoulder and neck bones. Rib left in. Leg cut off close to breast. Cut as



*Long-rib Middle.*

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nearly square as possible at both ends, and belly slightly trimmed. Average from 20 to 30 pounds.



*Cumberland Middle.*

**Cumberland Middles.**—Purely an export cut, and, we may safely add, the most popular. Rightly belong to the northern counties of England, as their name implies. Find a ready sale in any part of England, the lighter averages

going to the southern and midland counties, and the heavier to the northern counties and Scotland. It is a noted fact that the heavy fat meats of any cut find the best sale in fishing districts or countries. The averages run from 25 to 40 pounds. A Cumberland middle consists of the side and shoulder in one piece, leg sawed off just above knee-joint or dislocated at joint, shoulder ribs, neck-bone, and back-bone removed, trimmed as nearly square as possible at both ends, and flank left "flush," so as to come out of salt "square." Belly slightly trimmed and no "seed" showing. Hinch-bone and breast-bone sawed and cut down even with side. Should not be back-strapped, as this makes the side appear too flat, when the idea is to have it appear as lean as possible, yet from good, solid, well-fed hogs.

**Yorkshire Middles.**—Another very popular export cut, and usually shipped to the midland and eastern counties of England. Usually averaging from 36 to 42 pounds, and cut from solid, chunky hogs. Consist of side and shoulder of hog, with rib and back-bone removed, leg sawed off at hock-joint. Cut fairly square at both ends. In consequence of rib being removed, the belly is not so liable to shrink more than back, as in a Cumberland. About forty-pound averages find readiest sale.

Yorkshire middles may be converted into square shoulders, backs, and bellies. Square shoulder of about fourteen pounds, back of thirteen pounds, and belly eleven pounds, providing Yorkshires average, say forty-two pounds.

In the mode of manufacturing any cut we have given, much depends upon the relative values of the meats. When lard is required sides are trimmed closer, shoulders butted deeper, and hams undermined. Sometimes the purchaser makes a kick in such cases, especially when the market is against him, but usually no trouble is experienced. In trimming most meats the idea is to make the cut appear as *lean* as possible, hence the abolishing of back strapping, and the



custom of cutting the butts of shoulders sufficiently deep to show the second streak of lean. Barrow hogs show a nice



*Yorkshire Middle.*

lean strip along belly when but slightly trimmed. Cumberland middles, though usually cut from solid, chunky hogs, do not appear fat when properly trimmed. Stafford mid-

dles appear very lean when properly manipulated. We forgot to say that in cutting English backs and bellies the side should be split so as to allow back to weigh say about three pounds heavier than belly. New York shoulders and American cut hams appear very lean, but should we separate the fat and bone from the lean we should find that the lean leads by but a very trifle, say *lean fifty-five per cent.* and bone and fat forty-five per cent.

**Staffordshire Middles.**—An export cut, usually shipped to the "Black Country," a part of England thus known, and situated in the pottery and mining districts of the midland counties. The backs of this cut should not be nearly so thick as those of the Yorkshire Middle. The ideal Stafford is as nearly as possible of an even thickness throughout. Stafford sides will average 38 to 40 pounds. Consist of the side and shoulder of hog in one piece, rib and back-bone removed, blade-bone taken out and knuckle left in, leg cut off same as in Yorkshire, viz.: at hock-joint. The "pocket" is nicely rounded and a strip of the loin removed. The side, in fact, is made as nearly flat and of an even thickness as possible. Cut reasonably square at both ends. In these, as in all export cuts, "seedy bellies" should be thrown out.

**Dublin Middles.**—Same as "Cumberlands," except that the leg is cut off close to brisket. These sides are mostly in demand in the south of England and Ireland. From about twenty to twenty-five pounds each.

**Stretford Middles.**—About twenty-eight pounds. Are shipped to the midland and eastern counties of England. The mode of manufacture is as follows: Side and shoulder in one piece, leg cut off at hock-joint, blade-bone taken out, knuckle left in, back-bone and back half of rib taken out, belly rib left in. Trimmed reasonably square at both ends and all superfluous fats removed. Lean wide sides make the most desirable Stretfords. This cut seems to have fallen into disuse to a great extent.

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**Birmingham Middles** are nothing more nor less than light Staffords, averaging about thirty to thirty-two pounds.



*Birmingham Middle.*

These sides are usually shipped to Birmingham and district. Seem to have fallen into disuse of late years.

**Short Clear Sides.**—Same as short-rib regular, except

that the rib is removed, hench-bone and breast-bone sawed and cut down even with side. Properly speaking, no bone



*Short Clear Side.*

whatever should appear in this side, except feather. These sides are cut reasonably square, and all superfluous fats removed, though the belly is not usually trimmed. The lightest of these sides are usually split into backs and bellies

nor less than light  
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for fancy trade, while the heavier, which are usually from rough hogs and old sows, are shipped South. The averages run from 30 to 70 pounds.

**Extra Short Clear Sides.**—Same as short clear sides, except that all the loin is removed. These sides are sometimes cut in two—not lengthwise, but crosswise—and are



*Extra Short Clear Side.*

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*Wiltshire Side.*

then termed in some parts "fitches of bacon." These sides average from 30 to 50 pounds.

**Wiltshire Side.**—This is an export cut and some years ago was in great demand in the midland counties of England, but of late seems to have fallen into disuse. Consists of the whole side of hog, shoulder side and ham. The legs,



ham, and shoulder cut off above joint—that is, fore-leg—as for square shoulder, and hind-leg as for long-cut ham.



*South Staffordshire Side.*

(See three pages forward.)

Neck-bone, three shoulder ribs, and back-bone removed. Neck of shoulder trimmed square, brisket-bone cut down, and belly trimmed and "skirted." Socket-bone of ham exposed as in Stafford ham. We omitted to say the blade-

that is, fore-leg—as  
for long-cut ham.

bone should be taken out and the back slightly strapped.  
This side was formerly "singed," and was considered



*Clear Belly.*

(See two pages forward.)

ck-bone removed.  
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one of the fanciest of fancy cuts. Average from 40 to  
70 pounds. We are sorry to see this side apparently lose  
its popularity, as we think it at once one of the handiest

and most useful cuts ever introduced, and as free from bone as is compatible with nice firm meats.



*Rib Belly.*  
(See next page.)

**Welsh Side.**—An export cut which has also fallen into disuse, and differs only from Wiltshire in having the blade-bone of shoulder left in and hench-bone also. No material

difference in weights of hogs from Wiltshires. Used to find great favor in the English midland counties and in Wales.

**Irish Cut Sides.**—Same as "Long Clear," except that the knuckle-bone is not taken out.

**South Staffordshire Sides.**—Differ only from "Birmingham Sides" in having loin taken out, leaving only a thin strip of lean along the back.

**Clear Bellies, English.**—Cleared of all bone. Belly trimmed and no seed left in at all. Cut square at both ends and may average from 12 to 20 pounds, a 14 average finding the readiest sale. Same as backs, must be cut from smooth, solid hogs.

**Rib Bellies.**—In all respects same as pickled bellies, except rib left in.

**Pickled Clear Bellies.**—Clear of bone, usually made from light, lean hogs. Suitable for smoked trade, domestic, and bring high prices. Belly trimmed and ends reasonably square.

**Short Clear Backs, English.**—Average from 12 to 20 pounds, and must be cut from smooth hogs. Tail-bone sawed off even with meat, back bone and ribs removed, cut clear of feather-bone shoulder. Must be cut square at both ends.

**Short Fat Backs.**—Made from heavy, smooth hogs. All bone and lean removed.

**Long Fat Backs.**—Cut clear through smooth, heavy hogs from ham to and including top part of shoulder. Cleared of all bone and lean meats. These two latter cuts find a ready market on the Continent—in Spain, for instance, which is a nation of grease-eaters.

**Pickled Clear Backs.**—Light, lean meats, suitable for smoke trade. Cut same as clear backs, except that part of blade-bone of shoulder may appear. Pickled side meats are always light, lean meats, usually too soft and flabby for dry-salt export meats.

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*Short Clear Back.*

(See previous page.)

**Short-cut Hams.** — Commonly known as “The S. P. Hams”—“sweet pickled.” We do not hesitate to pronounce this the most economical, satisfactory, and neatest cut of ham at present in vogue, and undoubtedly the most popular. It is made *all averages*, to suit *any* trade. We find our American short-cut ham finding great favor in the

export trade, too, and the reason is not very hard to find. Coupled with its neat appearance and absence of superfluous bone and fat is the particular American method of curing, practised in no other part of the world, and unexcelled in any other country. The lean and fat are nicely propor-



*Short Fat Back.*

*Long Fat Back.*

(See a previous page.)

own as "The S. P.  
not hesitate to pro-  
factory, and neatest  
undoubtedly the most  
suit any trade. We  
ing great favor in the



tioned in this particular cut, and the cure is such that the most critical cannot but be pleased with it.



*Short-cut Ham.*  
(See a previous page.)

The mode of manufacture is as follows : Leg cut off a little above hock-joint, ham faced full (which is done in killing department) and nicely rounded, but not undercut, as this is irregular. Some packers, to make certain averages,

undermine these hams very much and give them a very irregular appearance.

In making any particular average too wide a range is not advisable. Say, in making a 14-pound average, two



*Long-cut Ham.*

(See next page.)

pounds each way, 12 to 16 pounds is wide enough, and makes a very uniform and highly satisfactory average.

e is such that the

Leg cut off a lit-  
h is done in kill-  
not undercut, as  
certain averages,

**Long-cut Hams.**—An export cut and very popular some time ago, but of late seems to have lost favor, being supplanted to a great extent by the short-cut ham. Is still in the market, and just recently has been in fair demand. Is a very presentable ham, and when properly trimmed looks very neat. Is dry-salted, and consequently not so mild as the "Short-cut," but appears, and also is, much firmer. Average from 12 to 22 pounds; often even lighter averages are in demand. Mode of manufacture: Leg cut off at first joint below hock, hip-bone separated at rump with knife, butt left full and nicely rounded, hip-bone bared, leaving butt of ham with flat appearance, cushion of ham full, but not faced. Finds a ready sale—or, rather, did—in any part of England, but principally in the northern counties.

**Stafford Hams.**—Similar to "Short-cut Ham," except that the socket-bone is exposed and hip-bone removed altogether. Rounded nicely and leg cut off at hock-joint. Unquestionably a very neat, choice ham.

**South Stafford Hams.**—Same as "Stafford Ham," except that shank is cut same as "Long-cut."

**Manchester Hams.**—Same as "Stafford," except that the hip bone is not removed. The three last named cuts are not at present in very great demand.

**Skinned Hams.**—Made same as "Short Cut Hams," except that the skin and fat are all removed—that is, fat nearly all removed and skin left on shank only. These hams are taken from large, rough hogs, and will weigh from 18 to 30 pounds. Are in great demand in localities where a great restaurant trade is done during the holiday season. Undoubtedly the most profitable way to dispose of large, rough, undesirable hams, which, if not skinned, it would be nearly impossible to cure.

**California Hams.**—Usually made from fairly heavy hogs, the shoulders of which would be a very unmarketable product if not trimmed as California Hams. Mode of manu-

facture as follows : Shank cut off above knee-joint, butted to blade, breast flap trimmel off, and ham nicely rounded.



*Stafford Ham.*  
(See previous page.)

Very profitable piece of meat to packer. Average 10 to 12 pounds.

**Rolled Hams, Boneless,** are made by taking the bone en-

very popular some favor, being sup- ham. Is still in fair demand. Is ly trimmed looks ly not so mild as is, much firmer. n lighter averages Leg cut off at first rump with knife, one bared, leaving of ham full, but , did—in any part rn counties.

ut Ham," except -bone removed al- off at hock-joint.

afford Ham," ex- t." "except that the t named cuts are

rt Cut Hams," ex- —that is, fat near- ly. These hams ill weigh from 18 localities where a ne holiday season. dispose of large, skinned, it would

fairly heavy hogs, unmarketable pro- Mode of manu-



*California Ham and Boston Shoulder.*

(See the two previous pages.)

tirely from the ham, which is rolled, tied with a string as per cut on opposite page, and marked "Rolled Ham, Boneless."

**Boston Shoulders.**—Cut from fairly heavy hogs, shank cut off above knee-joint, butted to within one and one-half inch of knuckle-joint, breast flap trimmed off, and ham nicely rounded. Average from 8 to 10 pounds. Are also

known as "Picnic Hams." Averages vary considerably, according to requirements of trade.

**Square Shoulders.**—Average from 12 to 20 pounds. Cut from nice, smooth hogs. Are shipped to all parts of England, principally the midland and northern counties. Cut three ribs wide and trimmed square, shank cut off just above knee-joint, butted so as not to expose feather bone,



*Boneless Rolled Ham.*  
(See previous page.)

*Boneless Rolled Shoulder.*  
(See three pages forward.)

*Shoulder.*

with a string as per  
ed Ham, Boneless."  
heavy hogs, shank  
n one and one-half  
med off, and ham  
pounds. Are also



blood vein cut out and breast flap cut off. Care should be taken to make butt appear as lean as possible. Finds a ready market at good prices when properly cut and trimmed.

**New York Shoulders.**—Average usually 10 to 12 pounds, and are cut from nice, smooth hogs. Shank cut off between knee-joint and brisket, separated from side so as to expose blade bone, butted clear of feather, breast flap cut



*New York Shoulder.*

off. Care should be  
as possible. Finds a  
rly cut and trimmed.  
lly 10 to 12 pounds,  
Shank cut off be-  
d from side so as to  
ther, breast flap cut



*Regular Shoulder.*  
(See next page.)

off. A very popular domestic shoulder, and becoming quite an item in export trade, the averages being required a little heavier and shank a trifle longer.

Averaging 16 pounds, this will yield 52.10 per cent. lean meat for boneless ham, 42.30 per cent. fat, and 5.60 per cent. bone. The fat may safely be figured 25 per cent. off

for shrinkage in rendering, and the bone not worthy of consideration in figuring.

**Regular Shoulders.**—Average from 15 to 20 pounds. Are usually shoulders a trifle too heavy and rough for New York, and not quite heavy enough to trim to Californias or Picnics. The manufacture of Regular Shoulders depends upon the demand. Being a dry salt meat, are not as much in demand as Californias or Picnics. Cut same as New York, perhaps a little wider, shank cut off at knee-joint.

**Skinned Shoulders.**—Same as New York Shoulders, except all skin removed to shank and fat removed close to lean.

**Rolled Shoulders, Boneless,** are made by taking the bone entirely from the shoulder, which is rolled and tied with a string as per cut on a previous page, and marked "Rolled Shoulders, Boneless."

**Mess Pork.**—Consists of rough sides chopped crosswise, say into five pieces, and packed at 190 pounds to the barrel with 35 pounds of coarse salt. Usually a layer of Turk's Island salt is placed at top and bottom of barrel to keep up strength of pickle. Must be packed regular run of hog—that is, equal quantities flank and shoulder end pieces—not over 16 pieces to barrel. May be delivered soon as packed during winter season, November 1st to March 1st. Some packers use a little fine salt and saltpetre, and rub each piece as packed.

**Prime Mess Pork.**—Consists of whole side of hog except ham. Shoulder shank cut off close to brisket. Side split lengthwise, the back part of which is cut into about six pieces, and the belly into, say, four. Packed at 190 pounds to barrel, 50 pieces to constitute barrel, 20 pieces coarse 75 pounds weight, and 30 pieces prime 115 pounds weight. Some packers use 20 pounds fine salt, 15 pounds coarse, and 6 ounces saltpetre. Others rub pieces with 15 pounds fine salt and  $\frac{1}{2}$  pound saltpetre, and then fill barrel with pickle about eighty-five proof. Either method is safe. A little

Turk's Island or rock salt always helps to keep pickle "alive." Packed pork of any kind should be rolled occasionally, especially the first ten or fifteen days.



*Mess Pork.*

**Extra Prime Pork.**—Consists of shoulders cut into about three pieces of 4 pounds each, packed same as prime mess pork in all respects.



*Prime Mess Pork.*  
(See a previous page.)

**Clear Pork.**—Side with back bone and back half of rib removed. Packed 12 to 14 pieces to barrel and handled same as prime mess pork.

**Extra Clear Pork.**—Same as clear pork in all respects except that *all* bone is removed.

**Clear Back Pork.**—Same as back pork except that all bone is removed.

**Shoulder Butts, Lean.**—Usually packed at about two hundred and eighty-five to tierce, and consists of the butt "lean" of shoulder in making picnic hams, etc. Used for making boneless ham, and find a ready sale during the heated part of the year. Will average about three and a half



*Clear Pork.*

and back half of rib  
barrel and handled

in all respects ex-



pounds. Nearly all packers have their own particular way of curing shoulder butts. Some use straight 90 proof pickle, with perhaps six pounds sugar or its equivalent in molasses. Others will use 24 pounds salt, 5 pounds sugar, and 1 pound saltpetre, which compound we feel safe in saying will satisfactorily cure any kind of tierce meats.

**Pork Loins.**—Back of hog with back bone and rib left in. Will run about ten pounds trimmed. Hogs are usually split, especially for pork loins, the back bone being split down centre, leaving feather on each loin. Extra pork loins include top part or butt of shoulder.

**Cumberlands.**—Averaging 41 pounds, will yield thirty-one and a half per cent. square shoulders, fifty-nine and a half per cent. short rib middles, one-half per cent. lean meat, five and one-half per cent. white grease or lard, balance three per cent. fertilizer and shrinkage.

**Short Ribs.**—Averaging 50 pounds, would yield short clear of 48 pounds, and also seventy-three per cent. extra clear, twenty-six per cent. loin, balance trimmings and sparerib. Back and belly 24 and 21 pounds respectively, balance rib and trimmings. Spareribs will run close to two pounds average.

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The cutting of hogs is a subject so wide and varied that it actually seems well-nigh inexhaustible. So many cuts may be explained, so many tests given, with such a variation of results as to nearly exhaust the patience of all except those deeply interested in or closely connected with the pork-packing industry. Nevertheless, all these explanations and following tests are of value. The variation in the results of similar tests can be accounted for easily enough. For instance: The quality of the hogs, a wider range of

the knife than proper, or *vice versa*; improper or inefficient trimming, etc. Of course this is readily understood by our practical readers. Of one thing we are confident, from many and various tests under different circumstances, and that is, seventy per cent. of live weight is safe to figure on, viz.: thirty-four per cent. short-rib middles, twelve per cent. hams, eleven per cent. shoulders, and thirteen per cent. lard. When figuring, of course, it must be understood that we mean *green weight*. Balance of product over and above the seventy per cent. is supposed to cover cost of manufacture, and undoubtedly does. We would also call attention to the fact that there is no shrinkage when determining cured yield except in the short-rib middles, which, if properly manipulated prior to shipping, need not show a shrinkage of over two per cent., while a gain of two per cent. net or thereabouts will show on the hams and shoulders, after allowing four per cent. for consignee. Other meats, such as long cut hams, shrink as high as five per cent. Cumberlands four cent., and dry salt shoulders two and one-half to four per cent.

## FRESH MEATS.

Before closing we will make a few suggestions on the handling of fresh meats in general, especially the small or market meats, such as tenderloins, trimmings, spare-ribs, etc. Avoid contrasting freshly cut meats with meats of a day old or so. In keeping over any fresh market meats we always found, where practicable, that spreading was the only and proper way to handle such. In cases where this is impracticable we always found perforated receptacles the best, as these allow blood-stained moisture to escape, which if confined gives the meat a very uninviting appearance. Avoid getting blood-stained neck-pieces in trimmings for counter trade, as such pieces completely

ruin the otherwise inviting appearance of the meats. They are all right for sausage department. Spare-ribs will, if not properly handled, become slimy on the inside of the rib in a short time. A *low temperature* cold storage for these meats is most desirable in the summer season, and such a place is a paying investment. Fresh and smoked meats in market should be always handled on separate counters.

## MEAT MARKET SALES.

|                     |                 |
|---------------------|-----------------|
| On 1,000 hogs :     |                 |
| Shoulder butts..... | \$24 48         |
| Sausage meat.....   | 94 80           |
| Hocks.....          | 12 90           |
| Spare-ribs.....     | 143 52          |
| Butts.....          | 13 20           |
| Ham trimmings.....  | 89 16           |
| Tenderloin.....     | 93 38           |
| Slip-bones.....     | 27 48           |
| Back-bones.....     | 18 60           |
|                     | <u>\$517 52</u> |

This test shows fifty-one and three-fourths cents per hog, and is an *actual test*.

NOTE.—The following Tables are compiled from the results of numerous practical tests, and have been verified by packers of long experience.

HOG TEST AND RELATIVE VALUES.

9,937 HOGS, 2,841,430 POUNDS LIVE WEIGHT, AVERAGE  
285.94 POUNDS.

|                | Green weight.    | Per cent.     | Net weight.      | Per cent.     |
|----------------|------------------|---------------|------------------|---------------|
| Hams.....      | 888,013          | 11.896        | 836,746          | 11.851        |
| Shoulders..... | 289,067          | 10.173        | 276,500          | 9.781         |
| Sides.....     | 1,005,264        | 35.377        | 962,909          | 33.888        |
| Lard.....      | 376,515          | 13.249        | 376,515          | 13.249        |
| Sundries.....  | 51,800           | 1.823         | 51,800           | 1.823         |
|                | <u>2,060,599</u> | <u>72.518</u> | <u>2,004,470</u> | <u>70.542</u> |
| Shrinkage..... | 780,831          | 27.480        | 836,960          | 29.456        |
|                | <u>2,841,430</u> | <u>99.998</u> | <u>2,841,430</u> | <u>99.998</u> |

The sundries consist of 2,100 pounds grease and 49,700 pounds rough meats for market. The above is an actual test, and proves that our seventy per cent. system is as nearly correct for figuring as anyone could ever hope to attain.

We will take the above percentage and say: with hogs at \$4.50, find the value of each cut, etc.; that is, we will determine what each of these cuts, etc., stands the packer, leaving balance of product to cover cost of manufacture.

|                |                     | Per 100 basis.                  | Proofs.       |
|----------------|---------------------|---------------------------------|---------------|
| Sides.....     | 33.888              | at 6.65 = 2.2535 = 6.453 = 2.19 |               |
| Shoulders..... | 9.781               | " 5.85 = .5706 = 5.193 = .51    |               |
| Hams.....      | 11.851              | " 8.00 = .9480 = 7.762 = .92    |               |
| Lard.....      | 13.249              | " 6.90 = .9141 = 6.696 = .88    |               |
|                | <u>68.719 p. c.</u> | <u>4.6362</u>                   | <u>\$4.50</u> |

It will be seen that the above figures show:

|           |                   |                |
|-----------|-------------------|----------------|
| Sides     | stand packer..... | \$6 45 per 100 |
| Shoulders | ".....            | 5 19 "         |
| Hams      | ".....            | 7 76 "         |
| Lard      | ".....            | 6 69 "         |

of the meats.  
Spare-ribs will,  
the inside of the  
cold storage for  
mer season, and  
ash and smoked  
ed on separate

..... \$24 48  
..... 94 80  
..... 12 90  
..... 143 52  
..... 13 20  
..... 89 16  
..... 93 88  
..... 27 48  
..... 18 60  
..... \$517 53

ths cents per hog,

iled from the re-  
e been verified by

We would also add one-third of a cent per pound to lard to cover the cost of tierce where shipped thus. Pork would stand packers, according to above figures, \$13.40 per barrel, including fifty cents to cover cost of barrel. We think we have thoroughly and completely explained this very simple system of figuring relative values, etc.

TEST OF EIGHT HUNDRED AND TWENTY-EIGHT HOGS  
KILLED, WINTER 1893—ONE HOG TANKED.

Weight, 245,955 pounds; cost, \$12,140.18. Average weight, 297 pounds; average cost, \$4.935. Average yield meats, 58.624 per cent.; average yield lard, 13.183 per cent. Total, 71.807 per cent., viz.: 1,654 green hams, 28,647 pounds, or 11.647 per cent.; 1,059 square shoulders, 18,633 pounds, and 595 Boston shoulders, 6,270 pounds, or 10.125 per cent.; 1,654 short ribs, 90,640 pounds, or 36.852 per cent.; 94 tierces lard, 32,425 pounds, or 13.183 per cent. Total, 176,615 pounds, or 71.807 per cent. of live weight.

Tongues, 780 pounds; hearts, 430 pounds; No. 1 bung guts, 720 pieces; casings, 123 pounds; grease, 269 pounds; fertilizer, 7,301 pounds; cheek meat, 465 pounds; gut meat, 165 pounds; trimmings, 702 pounds; back-bones, 155 pounds; tenderloins, 800 pounds; fat butts, 4,160 pounds; lean butts, 1,857 pounds; hair and bristles.

|                |        | Basis.    | Stand packer.     |
|----------------|--------|-----------|-------------------|
| Sides.....     | 36.852 | at 5.75 = | 6.16 per 100 lbs. |
| Shoulders..... | 10.125 | " 6.00 =  | 6.44 "            |
| Hams.....      | 11.647 | " 8.50 =  | 9.12 "            |
| Lard.....      | 13.183 | " 6.75 =  | 7.93 "            |

71.807 per cent. of live weight.





## TEST OF 701 HOGS.

Gross Weight, 123,410 Pounds.

438 averaging 295½ pounds } 189 pounds total average.  
263 " " " " }

|                                                                            | Pounds. | Pounds. | P. c.  |
|----------------------------------------------------------------------------|---------|---------|--------|
| 573 Short-rib middles.....                                                 | 25,285  | 41,255  | 37.50  |
| 302 Short-rib middles and butt parts.....                                  | 28,985  | 37,285  | 31.85  |
| 156 Short-rib middles.....                                                 | 2,682   | 17,795  | 13.55  |
| 189 Long-rib middles.....                                                  | 4,109   | 17,334  | 13.49  |
| 604 Long-cut hams.....                                                     | 1,745   | 2,973   | 1.77   |
| 795 Short-cut hams.....                                                    | 10,013  | 89,159  | 66.66  |
| 911 New York shoulders.....                                                | 17,454  |         |        |
| Trimmings, trimmings and rough meats.....                                  | 2,376   | 128,410 |        |
| Yardskins, crimpings and rough meats.....                                  | 1,881   | 101,831 |        |
| Guns, castings, hair, bristles, grease, fertilizer, etc., not figured..... |         |         |        |
| Gross weight.....                                                          |         |         |        |
| Dressed weight.....                                                        | 88,159  | 28,189  | 30.66  |
| Shrinkage from gross to dressed.....                                       |         |         |        |
| Net gross weight.....                                                      |         |         | 69.65  |
| Shrinkage from gross to net.....                                           |         |         | 31.35  |
| Total.....                                                                 |         |         | 100.00 |

Green net yield, per 100 pounds live weight: Sides, 66.88 per cent.; shoulders, hams, and lard.....

Estimating shrinkage of sides and long-cut hams at 5 per cent. in curing, actual weight would be 65 per cent., viz.:

|                       |    |
|-----------------------|----|
| Current sides.....    | 35 |
| Current hams.....     | 18 |
| Prime steam lard..... | 13 |
| Total.....            | 65 |

Estimating shrinkage of sides and long-cut hams at 5 per cent. in curing, actual weight would be 65 per cent., viz.:

|                         |              |
|-------------------------|--------------|
| Cumberland middles..... | 36 per cent. |
| Long-cut hams.....      | 16 " "       |
| Prime steam lard.....   | 19 " "       |
| Total.....              | 65 " "       |

These percentages may be used as per following example to ascertain cost of meats to packer landed on dock quay in Liverpool, England, which port we select as being the foremost in the export trade. 291 c. i. f. Liverpool per 113 pounds, figured on the following basis, of course. Cumberlandians from hog costing \$3.50 would stand just 291 c. i. f. Liverpool per 113 pounds, figured on the following basis, of course. Produce over and above following percentages to cover cost of manufacture.

EXAMPLE.

|                                |                                          |
|--------------------------------|------------------------------------------|
| 24-pound Cumberlandians.....   | ② 89/- or 11.14 cents per pound = 4.0104 |
| 16-pound Long cut hams.....    | ② 84/ or 11.87 " " = 1.9512              |
| 19-pound Prime steam lard..... | ② 44/3 or 9.48 " " = 1.8294              |
| Total.....                     | 7.6910 cents per pound.                  |

|              |                                         |
|--------------|-----------------------------------------|
| C. C.* 11.14 |                                         |
| 7.004        |                                         |
| 4.046        | 3.50 cost of hog.                       |
| 3.570        | 25000                                   |
| 4980         | 1.710                                   |
| 4988         | 1.965                                   |
| 943          | 3.86                                    |
|              | 5.408 cost of C. C.                     |
|              | 2696 per 113 pounds c. i. f. Liverpool. |

|                                |
|--------------------------------|
| 5.40 Cost of C. C.             |
| .20 Packing                    |
| .05 Freight                    |
| .05 Added to net gross weight. |
| .15 Ocean freight and primage. |
| .03 Insurance through.         |
| 6.14                           |
| .74 12 per cent. added.        |
| 6.88                           |
| 90                             |
| 489) 12,700 (26                |
| 9.00                           |
| 4.160                          |
| 3.840                          |
| 3.20                           |
| 12                             |
| 48) 3,840 (8                   |
| 3.84                           |

\* Abbreviation C. C. means Cumberland cut middle.

June. TEST OF 300 HOGS, 60,730 POUNDS, 202.40 AVERAGE.

|                                   | Pieces. | Green Weight. | Yield.                           |
|-----------------------------------|---------|---------------|----------------------------------|
| Cumberlands .....                 | 600     | 25,503        | 42.001 per cent.                 |
| Long-cut Hams .....               | 600     | 10,766        | 17.720 "                         |
| Lard, "Killing and Cutting" ..... | .....   | 7,816         | 12.872 "                         |
| Total .....                       | .....   | 44,085        | 72.600 per cent. of live weight. |

SUNDRIES.  
 Tongues, 300 pounds. Bone & 103 pounds. Fertilizer —  
 Cheek Meat, 126 pounds. Feet, 861 pounds. Hair —  
 Tenderloins, 300 pounds. Bung Guts, 200 No. 1. Bristles —  
 Trimmings, 156 pounds. Casings — Grease —

March TEST OF 250 HOGS, 48,650 POUNDS, 194.60 AVERAGE.

|                       | Pieces. | Green Weight. | Yield.                           |
|-----------------------|---------|---------------|----------------------------------|
| Cumberlands .....     | 500     | 13,948        | 28.647 per cent.                 |
| Long-cut Hams .....   | 500     | 3,328         | 17.095 "                         |
| Lard, "Killing" ..... | .....   | 3,397         | 6.988 "                          |
| " "Cutting" .....     | .....   | 2,559         | 5.269 "                          |
| Total .....           | .....   | 23,192        | 68.384 per cent. of live weight. |

SUNDRIES.  
 Tongues, 157 pounds. Bones, 75 pounds. Fertilizer —  
 Cheek Meat, 125 pounds. Feet, 729 pounds. Hair —  
 Tenderloins, 166 pounds. Bung Guts, 200 — Bristles —  
 Trimmings, 300 pounds. Casings — Grease —

January. TEST OF 275 HOGS, 52,370 POUNDS, 190 POUNDS AVERAGE.

|                       | Pieces. | Green Weight. | Yield.                           |
|-----------------------|---------|---------------|----------------------------------|
| Cumberlands .....     | 520     | 21,739        | 41.568 per cent.                 |
| Long-cut Hams .....   | 520     | 3,107         | 17.433 "                         |
| Lard, "Killing" ..... | .....   | 3,764         | 7.301 "                          |
| " "Cutting" .....     | .....   | 2,550         | 4.878 "                          |
| Total .....           | .....   | 37,160        | 71.070 per cent. of live weight. |

SUNDRIES.  
 Tongues, 181 pounds. Bones, 190 pounds. Fertilizer, 1,500 pounds.  
 Cheek Meat, 85 pounds. Feet, 502 pounds. Hair, 300 pounds.  
 Tenderloins, 184 pounds. Bung Guts, 185 lbs. Bristles, 80 pounds.  
 Trimmings, 181 pounds. Casings, 70 pounds. Grease, 300 pounds.  
 Salt used on Hams, 300 pounds; Salt-petre, 100 pounds.  
 Salt used on Cumberlands, 818 pounds; Salt-petre, 156 pounds.

These hogs were cut for Cumberland Middles with evident success, as our practical readers will observe. According to above actual tests, hogs cut expressly for Cumberland Middles would yield as follows: Cumberlands, 40 per cent.; long-cut hams, 17 per cent.; lard, 12 per cent. = total 70 per cent. of live weight. Sundries run about 3 per cent., viz.: Tongues, cheek meat, tenderloins, trimmings, bones, and feet.

PORK PACKING.

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TEST OF 250 HOGS, GROSS WEIGHT 55,500 POUNDS, 225.25 AVERAGE, CUT AS FOLLOWS:

|                        | Pieces. | Green Weight. | Green Average. | Net Weight. | Yield, Green. | Yield, Net. |
|------------------------|---------|---------------|----------------|-------------|---------------|-------------|
| Short-rib Middles ...  | 500     | 54,280        | 69.56          | 33,547      | 40.558        | 29,585      |
| Dry Salt Shoulders ... | 500     | 8,304         | 16.61          | 7,806       | 9.905         | 9,811       |
| American Cut Hams ...  | 500     | 9,141         | 18.28          | 9,141       | 10.904        | 10,904      |
| Lard, "Killing" ...    | ...     | 7,471         | ...            | 7,471       | 8.912         | 8,912       |
| Lard, "Outling" ...    | ...     | 5,841         | ...            | 5,841       | 6.371         | 6,371       |
| Total .....            | ...     | 64,517        | ...            | 68,906      | 76.900        | 74,883      |

SUNDRIES.

Cheek Meat, 173 pounds. Tenderloins, 223 pounds. Tongues, 250 lbs., 253 pounds.  
 Trimmings, 254 pounds. Back-bones, 373 pounds. Slip-bones, 184 pounds.  
 Feet, 1,183 pounds. Bang Guts, 90 per cent.  
 Small Guts, Fertiliser, Hair, Bristles, and Grease not figured.

TEST OF 250 HOGS, GROSS WEIGHT 65,000 POUNDS, AVERAGE 373.25 POUNDS.

|                         | Pieces. | Green Weight. | Average. | Yield, Green. |
|-------------------------|---------|---------------|----------|---------------|
| Short-rib Middles ..... | 500     | 21,637        | 43.275   | 31,965        |
| Square Shoulders .....  | 500     | 8,606         | 17.218   | 12,649        |
| American Cut Hams ..... | 500     | 7,776         | 15.553   | 11,425        |
| Lard, "Killing" .....   | ...     | 5,307         | ...      | 7,450         |
| Lard, "Outling" .....   | ...     | 5,419         | ...      | 7,962         |
| Total .....             | ...     | 48,666        | ...      | 71,551        |

SUNDRIES.

Cheek Meat, 145 pounds. Tongues, 184 pounds. Trimmings, 403 pounds.  
 Tenderloins, 256 pounds. Bones, 308 pounds. Feet, 1,045 pounds.  
 Bang Guts, No. 1, 300 pieces. Fertiliser, 1,500 pounds. Grease, 200 pounds.  
 Small Guts, Hair, and Bristles not figured.

TEST OF 433 HOGS, 250 POUNDS AVERAGE, FOR SUNDRIES.

|                    | Pounds. | Cents per Pound. |                               |
|--------------------|---------|------------------|-------------------------------|
| Boneless Ham ..... | 144     | 8½               | \$12 34                       |
| Sausage .....      | 799     | 5                | 47 45                         |
| Hooks .....        | 215     | 3                | 5 45                          |
| Spare-ribs .....   | 836     | 9                | 71 78                         |
| Butts .....        | 120     | 5½               | 6 60                          |
| Trimmings .....    | 745     | 6                | 44 50                         |
| Tenderloins .....  | 496     | 11½              | 46 69                         |
| Slip-bones .....   | 453     | 3                | 13 74                         |
| Back-bones .....   | 310     | 3                | 9 30                          |
| Fork Loins .....   | 742     | 7                | 51 94                         |
| Total .....        | ...     | ...              | \$310 70, or 64.23c. per hog. |
| Tongues .....      | ...     | 5                | 23 96                         |
| Casings .....      | ...     | ...              | 13 07                         |
| Bang Guts .....    | ...     | ...              | 8 88                          |
| Fertiliser .....   | ...     | ...              | 24 18                         |
| Total .....        | ...     | ...              | \$384 58, or 79.63c. per hog. |

AVERAGE.

| Yield.                           |
|----------------------------------|
| 48.001 per cent.                 |
| 17.780 "                         |
| 19.572 "                         |
| 73.608 per cent. of live weight. |

Fertiliser —  
 Hair —  
 Bristles —  
 Grease —

AVERAGE.

| Yield.                           |
|----------------------------------|
| 38.947 per cent.                 |
| 17.085 "                         |
| 6.938 "                          |
| 5.399 "                          |
| 68.394 per cent. of live weight. |

Fertiliser —  
 Hair —  
 Bristles —  
 Grease —

POUNDS AVERAGE.

| Yield.                           |
|----------------------------------|
| 41.558 per cent.                 |
| 17.433 "                         |
| 7.201 "                          |
| 4.873 "                          |
| 71.070 per cent. of live weight. |

Fertiliser, 1,500 pounds.  
 Hair, 200 pounds.  
 Bristles, 80 pounds.  
 Grease, 200 pounds.

ent success, as our practical  
 e cut expressly for Cumber-  
 ent.; long-cut hams, 17½ per  
 Sundries run about 3 per  
 onces, and feet.

TABLE OF HOGS MADE AT CHICAGO, SHOWING YIELDS PER 100 POUNDS LIVE WEIGHT OF MEATS (GREEN) AND LARD.

| Side Meats.                                    | Average of Live Hogs. | Average Weight and Yield of Side Meats. |                   | Yield, Average, and Cut of Ham. |            | Yield, Average, and Cut of Shoulder. |            | Yield of Lard. | Total Yield. | Credits for Offal. |
|------------------------------------------------|-----------------------|-----------------------------------------|-------------------|---------------------------------|------------|--------------------------------------|------------|----------------|--------------|--------------------|
|                                                |                       | Av.                                     | Av. Yield.        | Av.                             | Av. Yield. | Av.                                  | Av. Yield. |                |              |                    |
|                                                |                       |                                         |                   |                                 |            |                                      |            |                |              |                    |
| Backs, Short Clear.....                        | 379                   | 14.45                                   | 15 1/2 short-cut. | 11.48                           | 11.68      | 11.84                                | 11.87      | 16.48          | 66.80        | 7.10 lb.           |
| Backs, " (young).....                          | 306                   | 13.95                                   | 17 1/2 "          | 11.08                           | 11.08      | 11.84                                | 11.87      | 15.47          | 73.35        | 26 c.              |
| Backs, ".....                                  | 177                   | 13.05                                   | 18 1/2 "          | 12.04                           | 12.04      | 11.84                                | 11.87      | 9.50           | 63.14        | 26 c.              |
| Backs, rib in.....                             | 182                   | 14.05                                   | 15 1/2 Short-cut. | 15.48                           | 15.48      | 11.84                                | 11.87      | 11.27          | 64.20        | 40 c.              |
| Birmingham Middle.....                         | 150                   | 25.40                                   | 18 long-cut.      | 18.08                           | 18.08      | 11.84                                | 11.87      | 11.59          | 65.84        | 26 c.              |
| Chincherhead.....                              | 210                   | 37.26                                   | 19 1/2 "          | 18.18                           | 18.18      | 11.84                                | 11.87      | 12.00          | 66.60        | 26 c.              |
| ".....                                         | 205                   | 40.30                                   | 20 1/2 "          | 18.65                           | 18.65      | 11.84                                | 11.87      | 12.20          | 71.20        | 26 c.              |
| ".....                                         | 190                   | 41.67                                   | 20 1/2 "          | 18.65                           | 18.65      | 11.84                                | 11.87      | 12.20          | 71.20        | 26 c.              |
| ".....                                         | 190                   | 32.69                                   | 11 "              | 18.25                           | 18.25      | 11.84                                | 11.87      | 10.40          | 64.44        | 26 c.              |
| Dublin.....                                    | 200                   | 32.69                                   | 11 1/2 short-cut. | 12.15                           | 12.15      | 16 1/2 Regular.                      | 10.67      | 15.26          | 74.31        | 26 c.              |
| Extra Short Clear Middle.....                  | 200                   | 32.69                                   | 11 1/2 short-cut. | 12.15                           | 12.15      | 16 1/2 Regular.                      | 10.67      | 15.26          | 74.31        | 26 c.              |
| Lard (from meat).....                          | 200                   | 9.27                                    | 17 "              | 9.44                            | 9.44       | 13 1/2 Skinned.                      | 7.00       | 45.20          | 71.04        | 18 1/2 c.          |
| Long Clear Middle.....                         | 240                   | 42.51                                   | 14 "              | 11.54                           | 11.54      | 11.84                                | 11.87      | 11.20          | 64.20        | 26 c.              |
| Long rib.....                                  | 180                   | 26.60                                   | 13 long-cut.      | 18.44                           | 18.44      | 11.84                                | 11.87      | 11.20          | 64.20        | 26 c.              |
| Long York.....                                 | 200                   | 27.00                                   | 17 1/2 short-cut. | 11.08                           | 11.08      | 11.84                                | 11.87      | 11.20          | 64.20        | 26 c.              |
| Short-cut Middle, regular (interior hogs)..... | 180                   | 22.00                                   | 17 "              | 12.56                           | 12.56      | 11.84                                | 11.87      | 11.20          | 64.20        | 26 c.              |
| " " " (prime hogs).....                        | 180                   | 22.50                                   | 17 "              | 12.56                           | 12.56      | 11.84                                | 11.87      | 11.20          | 64.20        | 26 c.              |
| " " " English (prime hogs).....                | 180                   | 22.50                                   | 17 long-cut.      | 12.56                           | 12.56      | 11.84                                | 11.87      | 11.20          | 64.20        | 26 c.              |
| " " " square shoulder of.....                  | 240                   | 26.57                                   | 14 1/2 long-cut.  | 13.14                           | 13.14      | 10 1/2 "                             | 11.70      | 13.31          | 62.70        | 26 c.              |
| Short Clear Middle.....                        | 318                   | 31.74                                   | 20 short-cut.     | 12.08                           | 12.08      | 17 1/2 Square.                       | 14.74      | 15.80          | 72.20        | 26 c.              |
| Stafford.....                                  | 215                   | 24.04                                   | 20 long-cut.      | 18.75                           | 18.75      | 20 Regular.                          | 13.85      | 17.81          | 72.20        | 26 c.              |
| Windsore.....                                  | 208                   | 25.25                                   | 19 1/2 "          | 18.09                           | 18.09      | 11.84                                | 11.87      | 12.20          | 64.20        | 26 c.              |
| Yorkshire.....                                 | 210                   | 27.54                                   | 18 1/2 "          | 18.45                           | 18.45      | 11.84                                | 11.87      | 12.20          | 64.20        | 26 c.              |
| Yorkshire.....                                 | 210                   | 27.54                                   | 18 1/2 long-cut.  | 17.68                           | 17.68      | 11.84                                | 11.87      | 12.20          | 64.20        | 26 c.              |

These are fair "all the year round" yields. The cut and packed weights that yields vary according to the season and quality of the hogs. The average yields per 100 lbs. live weight of hogs are shown in the table. The average yields per 100 lbs. live weight of hogs are shown in the table. We give gross yields as shrinkages in curing are heavier according to length of time in curing (on dry salt cured meats).

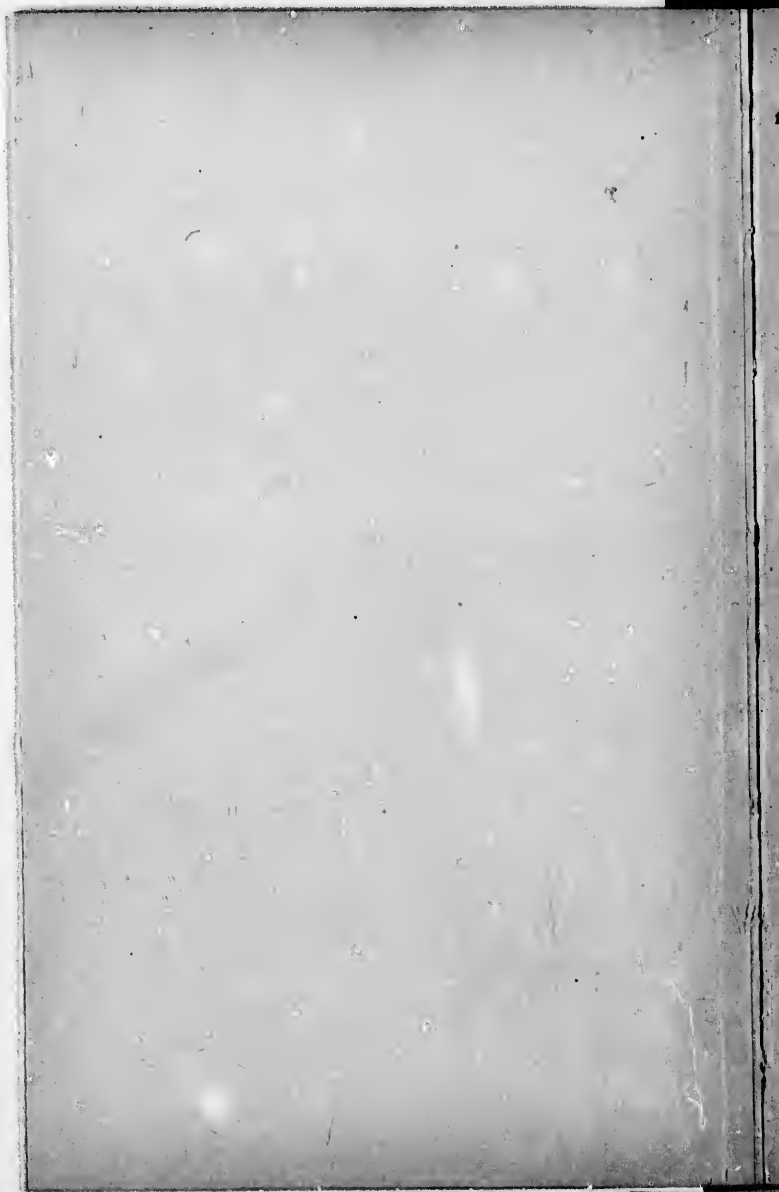
|                                                   |     |    |        |       |     |            |       |       |       |       |       |
|---------------------------------------------------|-----|----|--------|-------|-----|------------|-------|-------|-------|-------|-------|
| Short Clear Middles, regular (interior bags)..... | 250 | 40 | Leina. | 23.00 | 15  | 18.00      | 144   | 31.80 | 15.00 | 71.80 | 20 c. |
| " " " English (prime bags).....                   | 250 | 48 | "      | 26.83 | 17  | 18.36      | 154   | 36.97 | 16.20 | 74.26 | 20 c. |
| " " " square shoulder off.....                    | 100 | 26 | "      | 21.77 | 54  | 18.14      | 181   | 11.79 | 12.50 | 70.23 | 20 c. |
| Short Clear Middles.....                          | 240 | 28 | "      | 24.04 | 52  | 18.75      | 21    | 13.85 | 12.83 | 73.30 | 25 c. |
| Standard.....                                     | 212 | 24 | "      | 25.83 | 124 | 18.08      | ..... | ..... | 12.38 | 64.43 | 20 c. |
| Windsor.....                                      | 188 | 24 | "      | 27.65 | 124 | 18.48      | ..... | ..... | 11.48 | 65.73 | 20 c. |
| Yorkshire.....                                    | 210 | 25 | "      | 27.54 | 164 | long-cent. | ..... | ..... | 9.75  | 67.88 | 10 c. |
| Yorkshire.....                                    | 210 | 40 | "      | 27.54 | 164 | long-cent. | ..... | ..... | 12.21 | 67.14 | 20 c. |

These are fair "all the year round" yields. The experienced packer understands that yields vary according to the season and quality of the hops, and that coarse hops yielding much less than smooth corn-fed hops. Spring and early summer yields are usually the poorest and midwinter the heaviest. Western hops and those shipped short distances will, as a rule, show heavier shrinkages than hops killed in Chicago. We give gross yields as shrinkages in curing are heavier according to length of time in curing (on dry salt cured masts).









## PACKING AND SHIPPING MEATS.

We have often been asked the question as to the best sizes of boxes for packing purposes, for the different cuts of meats, etc. For the benefit of those of our readers who are interested in this department we append the sizes made by some of our foremost box-makers for the different export houses :

|        | Length.   | Width.      | Depth.      |
|--------|-----------|-------------|-------------|
| No. 1. | 35 inches | × 24 inches | × 24 inches |
| 2.     | 35 "      | × 22 "      | × 25 "      |
| 3.     | 30 "      | × 26 "      | × 26 "      |
| 4.     | 28 "      | × 18 "      | × 35 "      |
| 5.     | 28 "      | × 19 "      | × 35 "      |
| 6.     | 26 "      | × 17 "      | × 37 "      |
| 7.     | 34 "      | × 20 "      | × 27 "      |
| 8.     | 30 "      | × 19 "      | × 33 "      |

into which may be packed the following cuts of meat at about the net weight given :

No. 1. Sweet pickled hams, heavy, at 680 pounds ; light clear backs at 620 pounds ; sweet pickled New York shoulders at 720 pounds ; heavy clear bellies at 670 pounds ; light square shoulders at 720 pounds ; medium square shoulders at 720 pounds. All meats, of course, should be packed as best fitted to box.

No. 2. Light clear backs at 630 pounds ; sweet pickled hams at 650 pounds ; light clear bellies at 650 pounds ; light New York shoulders at 675 pounds.

No. 3. Heavy clear backs at 650 pounds ; long-cut hams at 675 pounds ; heavy square shoulders at 730 pounds.

No. 4. Medium and heavy Cumberland middles at 575 pounds.

No. 5. Heavy Cumberland middles, Staffordshires and Yorkshires at 600 pounds.

No. 6. Light Cumberland middles and long-rib middles at 530 pounds.

No. 7. Long clear middles at 620 pounds ; light clear bellies at 620 pounds ; light sweet pickled hams at 630 pounds.

No. 8. Heavy and Extra Heavy Cumberland Middles and Staffordshires and Yorkshires at 600 pounds. These boxes are usually made of  $\frac{7}{8}$  dressed lumber, tongued and grooved with cleats outside. Boxes well nailed with cement nails, and two or three straps used, three being the best and safest, as these packages are handled to a considerable extent, and not over particularly in most instances. Boxes arriving at destination—that is, into the warehouse of consignee—in the best condition were those made of soft pine lumber, outside cleats, and three straps. We may also add that while great care is exercised by the packer prior to and upon the departure of his goods, icing the cars and in many instances re-icing, it does not follow that this care is exercised throughout the journey. This negligence accounts for so much export meat arriving out of order and condition. Boxes of meats may be so stored aboard ship that all the previous care in the world couldn't possibly counteract this gross carelessness. Then, again, meats lay on the dock quays, exposed to the weather in many instances, until the prescribed allowance of time by the Dock Board has expired. Many of our exporters, who are aware of these facts, have men at seaboard attending to these matters, others have not, and in consequence run great risks. Many exporters have their goods received and warehoused as soon as possible after arrival at destination. Others again allow their goods to lay around the docks and be finally shipped per railroad in open cars, by some cartage firm, to destination, perhaps in the Midlands, with highly unsatisfactory results.

The cost of packing meats for export is about 20 to 25 cents per 100 pounds (labor, salt, boxes, etc., of course), but may possibly be done cheaper. This is a safe calculation,

however, under most circumstances. The average amount of salt used per box in packing is about forty pounds. When meats are packed in borax about eight pounds per box is a fair average, which means at the lowest calculation an expense of sixty-five cents per box for borax alone, which expense must to a certain extent be covered. In the first place, meats are packed in borax to prevent shrinkage, to preserve color, etc.; consequently, if the theory of shrinkage is correct, no allowance on the meats need be made when weighing, which is usually the case when meats are packed in salt. On the other hand, an addition of one per cent. may be made to the actual weight, and this to a certain extent covers cost of borax, and we find that upon arrival at destination the shrinkage is not in excess of amount allowed and expected. In weighing dry salt meats for export actual weight may be marked on boxes with safety if they are properly packed—properly packed meaning packed as tight as possible. All boraxed meats should be as dry as possible prior to passing through borax; the same may be said of dry salt meats, though, of course, unless much trouble is taken, it is well-nigh impossible to well dry salted meats.

What we want is, of course, that after being well dried, meats packed in salt will undoubtedly become briny and reach destination in much the same condition they left the cellar in. On the other hand, meats well dried and packed in borax may possibly come out in very nice condition, or they may just as easily come out slimy and pasty, which is oftener the rule than the exception. All kinds of methods are resorted to to have dry salt packed meats come out in nice condition—dry, that is. Some packers to some extent succeed in this by having their meats well wiped and spread, prior to packing, in a dry room, of course; some have gone to the extent of kiln-drying their salt, etc., all of which is a whole lot of nonsense. Any kind of export meats, salted, should be taken from bulk, wiped as dry as practicable, and



packed at once in fine salt without any more h'mbug. Meats handled thus will come out satisfactorily to all concerned, both as regards shrinkage, color, and condition.

We would again say the tighter the boxes the better will the meat turn out. If boxes could be made air-tight they would be all the better. Twelve per cent. tare is about correct when shipping.

We have commented previously upon the necessity of getting up these meats in No. 1 shape—that is, faultless, or nearly so, as regards cut, quality, color, etc. To cater to such a trade as the export without regard to these items is a loss of time and money. There are several good firms who are largely in this business and have been for years, which fact alone would demonstrate the investment to be a profitable one when properly conducted, and it *must* be properly and thoroughly conducted. Even at present a survey of the cellars of the different packing-houses of the country discloses the fact that stocks of English meats abound therein, despite the low quotations of English markets.

When figuring on these quotations it is necessary to take into consideration the following items, viz. : Cost of packing, freight to seaboard, ocean freight, including primage and marine insurance, amounting in all to about four shillings and sixpence per hundred-weight, varying, of course, under different circumstances. These items would cover a c. i. f. sale. To ascertain cost per hundred-weight of consignment shipment the following additional items would of necessity have to be added. Dock and town dues, cartage, storage, fire insurance, receiving and delivering charges, which amount to about one shilling per hundred-weight. Then we have brokerage, bank commissions, interest, short weight and commissions amounting to about nine per cent. of sale. Figuring on this basis an offer of 40.6 would net packer 6½ cents. We merely give the above as an example, and not as present prices stand.

POINTS FOR SHIPPERS OF PROVISIONS TO ENGLAND.

SOME REGULATIONS ADOPTED BY THE LONDON PROVISION TRADE.

*American and Canadian Bacon Landed.*—After being swept, to be weighed a box at a time net; two pounds in three hundred-weight to be allowed as beamage when packed in salt.

Three days to be allowed for averaging, and ten per cent. of bulk may be taken.

*Pork and Heads in Barrels and Tierces.*—Seven days to be allowed for averaging.

*Mess Pork in Barrels of Two Hundred Pounds, and Beef in Tierces of Three Hundred and Four Pounds.*—Ten per cent. may be turned out for averaging, and short weight allowed if any. Over weight not chargeable. Terms: Payment by acceptance at two months to approved buyers, or by cash in seven days, less  $1\frac{1}{2}$  per cent. discount.

LARD.

*Bladders.*—Landed to be weighed net, taking out one in five for average. Kegs weighed to half a pound, scale balance to be taken as weight alternately.

*American Tierces.*—Re-weights marked tares and super-tare. Terms: Fourteen days, less  $2\frac{1}{2}$  per cent. discount. Beamage to be allowed one-half pound per hundred-weight. Ten per cent. may be taken for average.

Other packages to be taken at actual weights.

## TINNED (CANNED) MEATS.

*(In accordance with rules of London Chamber of Commerce.)*

Sold as described weights, but any short weight to be allowed if exceeding half a pound per case of 12 x 6 pounds, 18 x 4 pounds, 36 x 2 pounds, or in proportion for other sized cases.

Buyers to be at liberty to refuse any case the short weight on which exceeds two pounds per case.

Unless otherwise expressed, boiled beef is to be taken as meaning "boneless beef, without salt; boiled mutton, as boneless mutton, without salt."

Examination to take place where the goods are lying, or, if "to arrive," where stored after landing, buyer to have notice of time of examination and to have the right of being present and examining personally, or by his representative. Perfect tins only to be delivered to buyer. Wharfingers' charges in connection with the examination to be paid by the seller.

No claim to be made on account of goods after examination, except in respect of defective preservation or defective soldering, for which the packer shall be held responsible, at any time within one year from time of sale by his agent, but intermediate agents or dealers shall not be liable.

## GENERAL RULES.

The terms "about" or "more or less," when applied to quantity, shall mean a variation of not more than five per cent. either way, and, when applied to average sizes, the extreme range allowable shall be ten per cent. "Merchantable," as applied to lard, means sound, sweet, steam-rendered.

In case of excessive loss in weight on shipments, say,

c. i. f. and f. o. b. sales, the seller may be called on for proof of his original weights.

The seller is liable for any distinct variation from the description of any goods bought or ordered on his representation.

In case of nonfulfilment of contract, either party shall have the right of repurchase or resale, as the case may be, either publicly or privately, during seven business days next ensuing, or within the like time may assess his own damages on giving notice and particulars thereof to the party in default, and, should he dispute such assessment, he shall, by twelve o'clock on the second business day after receipt of such notice, demand an arbitration under rule 42, and, in default of doing so, the assessment shall be deemed good. When the amount of damage has been ascertained by such repurchase, resale, assessment, award, or otherwise, the amount shall, on demand, be paid by the party in default, and recoverable as a liquidated demand.

Weights to be considered as final between buyer and seller of all goods weighed or averaged at any public wharf or quay.

Invoices of goods sold "ex-quay" shall date from the average date of landing, but such date shall not precede the day of sale or tender.

Where country of production, etc., is not stated, the foregoing rules are applicable.

Time for making claims limited to three days unless the contrary is specified under any previous sections.

Agents or merchants advancing on goods, either by cash or by acceptance, reserve to themselves the power of sale.

Should any dispute arise for which provision has not been made in the foregoing rules such dispute to be settled by arbitration.

## DOMESTIC PACKING AND SHIPPING.

Domestic meats are usually shipped in bulk, that is, the greater proportion is so shipped.

Short rib middles, short clear middles, long clear middles, etc., are usually sold when fully cured, in lots of 50,000 pounds and upward, and shipped in 25,000 pound car-lots, specified averages. These are inspected, and one or two drafts swept in each car-lot to ascertain allowance of salt to be made, which will vary from one to three and one-half per cent.

Sweet pickled meats are shipped as per contract, bulk, or in tierces; in either case an allowance is due consignee of four per cent. on hams and five per cent. on shoulders, that is: Tierces must be repacked 312 and 315, respectively, and if shipped in bulk the allowance is made on the same basis.

Green meats, hams, shoulders, etc., are shipped block weight, specified averages. Are not supposed to be pumped except such an agreement has been gone into, in which case an allowance is made of about 1½ per cent., varying, of course.

The best way is to weigh from block and pump afterward, but this is not always done. Many of our packers who do not kill hogs, but merely buy green meats (usually hams, shoulders, and breakfast bacon) so as to cure them in their own particular way, are very much set against pumping hams which have to be sold under their leading brand. They hold that to pump hams completely ruins any chance of turning out what they consider a choice, mild-cured ham. Of course they admit that pumping suits this modern system of rushing everything, and consequently considerably lessens the expense of cured meats. We find, though, that our leading packers even do not pump hams sold under their first brand.

Lard, prime steam, is usually shipped in lots of 250 tierces or 4 car loads, and according to a recent arrangement is billed at 410 pounds—subject to change—per tierce, gross weight inland and actual weight ocean freight, adding five per cent. primage to rate. Should be loaded brand up. Tierces should be well coopered and chime and bilge hoops nailed, which precaution is, beyond doubt, a very wise one. At any rate it is an excellent idea to go through the motions.

Smaller packages of lard, such as pails, are usually packed in cases and shipped thus.

Fresh meats and perishable goods, pork sausages, etc., are shipped in boxes specially constructed, having space between inner and outer box for the packing therein of ice, in which case there is an allowance made on the gross weight for the shrinkage of the ice.

A very good scheme for the exportation of sausages not smoked is to pack in lard in packages such as may be desired. This has been practised by some of our old firms with success in past years. Other meats have been successfully shipped in this manner also, it being practically impossible for any air to come in contact with the meats. These packages have been returned filled with salt also in some instances.

Fertilizer, shipped in bags or bulk, as the case may be, consignee usually providing bags when so shipped.

Other products shipped as per agreement, care being taken by consignor to ice cars so requiring, and load so as to avoid all possible damage to the product in transit. Insurance effected covers inland and ocean.



BOX AVERAGES REPORT MEATS TABLE.

|    | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | 25  |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 86 | 588 | 594 | 600 | 788 | 792 | 808 |     |     |     |     |     |     |     |     |     |     |     |     |
| 85 | 580 | 585 | 650 | 715 | 780 | 845 |     |     |     |     |     |     |     |     |     |     |     |     |
| 84 | 518 | 578 | 640 | 704 | 768 | 832 |     |     |     |     |     |     |     |     |     |     |     |     |
| 83 | 504 | 567 | 630 | 693 | 756 | 819 |     |     |     |     |     |     |     |     |     |     |     |     |
| 82 | 498 | 553 | 615 | 678 | 741 | 804 |     |     |     |     |     |     |     |     |     |     |     |     |
| 81 | 488 | 540 | 610 | 671 | 732 | 793 |     |     |     |     |     |     |     |     |     |     |     |     |
| 80 | 480 | 540 | 600 | 660 | 720 | 780 |     |     |     |     |     |     |     |     |     |     |     |     |
| 79 | 472 | 531 | 590 | 649 | 708 | 767 |     |     |     |     |     |     |     |     |     |     |     |     |
| 78 | 464 | 522 | 580 | 639 | 698 | 757 |     |     |     |     |     |     |     |     |     |     |     |     |
| 77 | 456 | 513 | 570 | 627 | 684 | 741 | 798 |     |     |     |     |     |     |     |     |     |     |     |
| 76 | 448 | 504 | 560 | 616 | 672 | 728 | 784 |     |     |     |     |     |     |     |     |     |     |     |
| 75 | 440 | 495 | 550 | 605 | 660 | 715 | 770 |     |     |     |     |     |     |     |     |     |     |     |
| 74 | 432 | 486 | 540 | 594 | 648 | 702 | 756 |     |     |     |     |     |     |     |     |     |     |     |
| 73 | 424 | 477 | 530 | 583 | 636 | 689 | 742 | 795 |     |     |     |     |     |     |     |     |     |     |
| 72 | 416 | 468 | 520 | 573 | 624 | 676 | 728 | 780 |     |     |     |     |     |     |     |     |     |     |
| 71 | 408 | 459 | 510 | 561 | 612 | 663 | 714 | 765 |     |     |     |     |     |     |     |     |     |     |
| 70 | 400 | 450 | 500 | 550 | 600 | 650 | 700 | 750 |     |     |     |     |     |     |     |     |     |     |
| 69 | 392 | 441 | 490 | 539 | 587 | 636 | 685 | 734 | 784 |     |     |     |     |     |     |     |     |     |
| 68 | 384 | 432 | 480 | 528 | 576 | 624 | 672 | 720 | 768 | 816 |     |     |     |     |     |     |     |     |
| 67 | 376 | 423 | 470 | 517 | 564 | 611 | 658 | 705 | 752 | 799 |     |     |     |     |     |     |     |     |
| 66 | 368 | 414 | 460 | 506 | 552 | 598 | 644 | 690 | 736 | 782 |     |     |     |     |     |     |     |     |
| 65 | 360 | 405 | 450 | 495 | 540 | 585 | 630 | 675 | 720 | 765 |     |     |     |     |     |     |     |     |
| 64 | 352 | 396 | 440 | 484 | 528 | 572 | 616 | 660 | 704 | 748 | 792 |     |     |     |     |     |     |     |
| 63 | 344 | 387 | 430 | 473 | 516 | 559 | 602 | 645 | 688 | 731 | 774 |     |     |     |     |     |     |     |
| 62 |     |     | 420 | 462 | 504 | 546 | 588 | 630 | 672 | 714 | 756 | 798 |     |     |     |     |     |     |
| 61 |     |     | 410 | 451 | 492 | 533 | 574 | 615 | 656 | 697 | 738 | 779 |     |     |     |     |     |     |
| 60 |     |     | 400 | 440 | 480 | 520 | 560 | 600 | 640 | 680 | 720 | 760 | 800 |     |     |     |     |     |
| 59 |     |     | 390 | 430 | 468 | 507 | 546 | 585 | 624 | 663 | 702 | 741 | 780 |     |     |     |     |     |
| 58 |     |     | 380 | 418 | 456 | 494 | 532 | 570 | 608 | 646 | 684 | 722 | 760 | 798 |     |     |     |     |
| 57 |     |     | 370 | 407 | 444 | 481 | 518 | 555 | 592 | 629 | 666 | 703 | 740 | 777 |     |     |     |     |
| 56 |     |     | 360 | 394 | 428 | 462 | 496 | 530 | 564 | 598 | 632 | 666 | 700 | 734 | 768 |     |     |     |
| 55 |     |     |     | 355 | 388 | 420 | 452 | 484 | 516 | 548 | 580 | 612 | 644 | 676 | 708 |     |     |     |
| 54 |     |     |     | 374 | 406 | 438 | 470 | 502 | 534 | 566 | 598 | 630 | 662 | 694 | 726 | 758 |     |     |
| 53 |     |     |     | 363 | 395 | 427 | 459 | 491 | 523 | 555 | 587 | 619 | 651 | 683 | 715 | 747 |     |     |
| 52 |     |     |     | 354 | 416 | 448 | 480 | 512 | 544 | 576 | 608 | 640 | 672 | 704 | 736 | 768 |     |     |
| 51 |     |     |     | 373 | 405 | 437 | 469 | 501 | 533 | 565 | 597 | 629 | 661 | 693 | 725 | 757 | 789 |     |
| 50 |     |     |     | 360 | 400 | 430 | 460 | 490 | 520 | 550 | 580 | 610 | 640 | 670 | 700 | 730 | 760 | 790 |
| 49 |     |     |     |     | 377 | 406 | 435 | 464 | 493 | 522 | 551 | 580 | 609 | 638 | 667 | 696 | 725 |     |
| 48 |     |     |     |     | 364 | 393 | 422 | 451 | 480 | 509 | 538 | 567 | 596 | 625 | 654 | 683 | 712 |     |
| 47 |     |     |     |     | 351 | 378 | 405 | 432 | 459 | 486 | 513 | 540 | 567 | 594 | 621 | 648 | 675 |     |
| 46 |     |     |     |     | 338 | 364 | 390 | 418 | 443 | 469 | 494 | 520 | 546 | 572 | 598 | 624 | 650 |     |
| 45 |     |     |     |     |     | 356 | 376 | 400 | 425 | 450 | 475 | 500 | 525 | 550 | 575 | 600 | 625 |     |
| 44 |     |     |     |     |     |     | 364 | 408 | 433 | 458 | 483 | 508 | 533 | 558 | 583 | 608 | 633 |     |
| 43 |     |     |     |     |     |     | 358 | 391 | 414 | 437 | 460 | 483 | 506 | 529 | 552 | 575 | 598 |     |
| 42 |     |     |     |     |     |     |     | 374 | 396 | 418 | 440 | 462 | 484 | 506 | 528 | 550 | 572 |     |

TIERCE AVERAGES AT 300 POUNDS.

|         |       |         |       |         |       |         |      |
|---------|-------|---------|-------|---------|-------|---------|------|
| 10..... | 30.00 | 18..... | 16.66 | 26..... | 11.54 | 34..... | 8.88 |
| 11..... | 27.27 | 19..... | 15.79 | 27..... | 11.11 | 35..... | 8.57 |
| 12..... | 25.00 | 20..... | 15.00 | 28..... | 10.71 | 36..... | 8.33 |
| 13..... | 23.07 | 21..... | 14.29 | 29..... | 10.34 | 37..... | 8.10 |
| 14..... | 21.43 | 22..... | 13.63 | 30..... | 10.00 | 38..... | 7.89 |
| 15..... | 20.00 | 23..... | 13.04 | 31..... | 9.67  | 39..... | 7.69 |
| 16..... | 18.75 | 24..... | 12.50 | 32..... | 9.37  | 40..... | 7.50 |
| 17..... | 17.64 | 25..... | 12.00 | 33..... | 9.09  |         |      |

TABLE OF CONVERTIBLE VALUES FOR PROVISION EXPORTS TO GREAT BRITAIN.

Cents per Pound Converted into Sterling per 112 Pounds.

| Cents per lb. | Ex.<br>4.76 | Ex.<br>4.78 | Ex.<br>4.80 | Ex.<br>4.82 | Ex.<br>4.84 | Ex.<br>4.86 |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 3             | £14 1 4     | £14 0 7     | £14 0 0     | £13 11 5    | £13 10 6    | £13 9 9     |
| 3 1/2         | 16 3 0      | 15 2 7      | 15 2 0      | 15 1 2      | 15 0 4      | 14 11 7     |
| 4             | 16 5 6      | 16 4 8      | 16 4 0      | 16 3 1      | 16 2 3      | 16 1 6      |
| 4 1/2         | 17 7 7      | 17 6 8      | 17 6 0      | 17 5 1      | 17 4 2      | 17 3 4      |
| 5             | 18 9 8      | 18 8 9      | 18 8 0      | 18 7 0      | 18 6 1      | 18 5 2      |
| 5 1/2         | 20 0 0      | 19 10 2     | 19 10 0     | 19 9 0      | 19 8 0      | 19 7 11     |
| 6             | 21 2 1      | 21 1 0      | 21 0 0      | 20 10 2     | 20 9 9      | 20 8 8      |
| 6 1/2         | 22 4 2      | 22 3 1      | 22 2 0      | 22 0 8      | 21 11 8     | 21 1 7      |
| 7             | 23 6 3      | 23 5 1      | 23 4 0      | 23 2 8      | 23 1 6      | 22 0 5      |
| 7 1/2         | 24 8 4      | 24 7 2      | 24 6 0      | 24 4 7      | 24 3 5      | 24 2 3      |
| 8             | 25 10 5     | 25 9 2      | 25 8 0      | 25 6 7      | 25 5 4      | 25 4 1      |
| 8 1/2         | 27 0 7      | 26 11 2     | 26 10 0     | 26 8 6      | 26 7 3      | 26 6 0      |
| 9             | 28 2 8      | 28 1        | 28 0 0      | 27 10 6     | 27 9 2      | 27 7 8      |
| 9 1/2         | 29 4 9      | 29 8        | 29 2 0      | 29 0 5      | 28 11 1     | 28 9 6      |
| 10            | 30 7 0      | 30 5 5      | 30 4 0      | 30 2 4      | 30 0 9      | 29 11 5     |
| 10 1/2        | 31 9 1      | 31 7 8      | 31 6 0      | 31 4 4      | 31 2 8      | 31 1 3      |
| 11            | 32 11 2     | 32 9 6      | 32 8 0      | 32 6 2      | 32 4 7      | 32 2 1      |
| 11 1/2        | 34 1 4      | 33 11 11    | 33 10 0     | 33 8 7      | 33 6 5      | 33 4 2      |
| 12            | 35 2 5      | 35 1 7      | 35 0 0      | 34 10 2     | 34 8 5      | 34 6 8      |
| 12 1/2        | 36 3 6      | 36 2 8      | 36 2 0      | 36 0 1      | 35 10 4     | 35 8 6      |
| 13            | 37 4 7      | 37 3 8      | 37 4 0      | 37 2 1      | 37 0 2      | 36 10 4     |
| 13 1/2        | 38 5 8      | 38 4 9      | 38 6 0      | 38 4 0      | 38 2 1      | 38 0 2      |
| 14            | 39 6 9      | 39 5 10     | 39 8 0      | 39 6 0      | 39 4 0      | 39 2 1      |
| 14 1/2        | 40 7 0      | 41 0 0      | 40 10 0     | 40 7 2      | 40 5 0      | 40 3 0      |
| 15            | 41 8 1      | 41 8 1      | 42 0 0      | 41 9 9      | 41 7 8      | 41 5 7      |
| 15 1/2        | 42 9 2      | 42 9 2      | 43 0 0      | 42 11 8     | 42 9 7      | 42 7 6      |
| 16            | 44 0 3      | 44 0 3      | 44 4 0      | 44 1 7      | 43 11 6     | 43 9 4      |
| 16 1/2        | 45 1 4      | 45 8 2      | 45 6 0      | 45 2 7      | 45 1 4      | 44 11 2     |
| 17            | 46 2 5      | 46 10 2     | 46 8 0      | 46 3 6      | 46 2 3      | 46 1 0      |
| 17 1/2        | 47 3 6      | 47 0 4      | 47 10 0     | 47 4 5      | 47 3 2      | 47 1 9      |
| 18            | 48 4 7      | 48 2 4      | 49 0 0      | 48 5 4      | 48 4 1      | 48 2 7      |
| 18 1/2        | 49 5 8      | 49 4 2      | 50 0 0      | 49 6 3      | 49 5 0      | 49 3 5      |
| 19            | 50 6 9      | 50 5 4      | 50 2 0      | 49 7 2      | 49 5 9      | 49 4 3      |
| 19 1/2        | 51 7 0      | 51 6 8      | 51 4 0      | 51 8 1      | 51 6 8      | 51 5 1      |
| 20            | 52 8 1      | 52 8 6      | 52 6 0      | 52 9 0      | 52 7 7      | 52 6 0      |
| 20 1/2        | 53 9 2      | 53 10 6     | 53 8 0      | 53 9 9      | 53 8 6      | 53 7 4      |
| 21            | 54 0 3      | 54 0 7      | 54 10 0     | 54 1 0      | 54 1 5      | 54 1 8      |
| 21 1/2        | 55 1 4      | 55 1 8      | 55 0 0      | 55 2 0      | 55 2 4      | 55 2 7      |
| 22            | 56 2 5      | 56 2 8      | 56 0 0      | 56 3 0      | 56 3 3      | 56 3 5      |
| 22 1/2        | 57 3 6      | 57 4 8      | 57 2 0      | 57 4 0      | 57 4 0      | 57 4 0      |
| 23            | 58 4 7      | 58 5 9      | 58 4 0      | 58 5 0      | 58 5 0      | 58 5 0      |
| 23 1/2        | 59 5 8      | 59 6 9      | 59 6 0      | 59 6 0      | 59 6 0      | 59 6 0      |
| 24            | 60 6 9      | 60 7 0      | 60 8 0      | 60 7 0      | 60 7 0      | 60 7 0      |
| 24 1/2        | 61 7 0      | 61 8 0      | 61 10 0     | 61 8 0      | 61 8 0      | 61 8 0      |
| 25            | 62 8 1      | 62 9 1      | 62 0 0      | 62 9 0      | 62 9 0      | 62 9 0      |
| 25 1/2        | 63 9 2      | 63 10 2     | 63 2 0      | 63 10 0     | 63 10 0     | 63 10 0     |
| 26            | 64 0 3      | 64 1 3      | 64 4 0      | 64 1 0      | 64 1 0      | 64 1 0      |
| 26 1/2        | 65 1 4      | 65 2 4      | 65 6 0      | 65 2 0      | 65 2 0      | 65 2 0      |
| 27            | 66 2 5      | 66 3 5      | 66 8 0      | 66 3 0      | 66 3 0      | 66 3 0      |
| 27 1/2        | 67 3 6      | 67 4 6      | 67 10 0     | 67 4 0      | 67 4 0      | 67 4 0      |
| 28            | 68 4 7      | 68 5 7      | 68 12 0     | 68 5 0      | 68 5 0      | 68 5 0      |
| 28 1/2        | 69 5 8      | 69 6 8      | 69 14 0     | 69 6 0      | 69 6 0      | 69 6 0      |
| 29            | 70 6 9      | 70 7 9      | 70 16 0     | 70 7 0      | 70 7 0      | 70 7 0      |

| 22   | 23  | 24  | 25  |
|------|-----|-----|-----|
| 792  |     |     |     |
| 770  |     |     |     |
| 748  | 758 |     |     |
| 726  | 756 |     |     |
| 704  | 754 | 768 |     |
| 682  | 712 | 744 |     |
| 660  | 680 | 720 |     |
| 638  | 657 | 696 | 732 |
| 616  | 634 | 672 | 700 |
| 594  | 621 | 648 | 676 |
| 572  | 606 | 624 | 650 |
| 550  | 571 | 600 | 592 |
| 528  | 558 | 576 | 560 |
| 506  | 535 | 552 | 576 |
| 484  | 506 | 528 | 550 |
| 8.26 |     |     |     |
| 8.27 |     |     |     |
| 8.28 |     |     |     |
| 8.10 |     |     |     |
| 7.99 |     |     |     |
| 7.99 |     |     |     |
| 7.50 |     |     |     |

## TEST OF 701 HOGS.

Gross Weight, 128,410 POUNDS.

|                                                                               |                             |        |                 |
|-------------------------------------------------------------------------------|-----------------------------|--------|-----------------|
| 428 averaging 203½ pounds                                                     | } 183 pounds total average. | Pounds | P. C.           |
| 203 " 131 "                                                                   |                             |        |                 |
| 753 Short-rib middles                                                         |                             | 25,095 | 41.260 or 32.29 |
| 303 Cumberland middles and butt pork                                          |                             | 9,339  | 4.654 " 7.28    |
| 186 Short clear middles                                                       |                             | 2,922  | 11.795 " 13.63  |
| 189 Long-rib middles                                                          |                             | 4,192  | 17.334 " 13.49  |
| 604 Long-cut hams                                                             |                             | 7,743  | 2.978 " 1.77    |
| 793 Short-cut hams                                                            |                             | 10,012 |                 |
| 311 New York shoulders                                                        |                             | 9,454  | 83.159 " 63.46  |
| Prime steam lard                                                              |                             | 17,394 |                 |
| Tenderloins, trimmings, and rough meats                                       |                             | 3,378  | 128.410         |
| Guts, casings, hair, bristles, grease, fertilizer, etc., not figured.         |                             |        | 101,361         |
|                                                                               |                             |        |                 |
| Green net yield, per 100 pounds live weight: Sides, shoulders, hams, and lard |                             | 83,159 | 64.83           |
|                                                                               |                             |        | 29.56           |
|                                                                               |                             |        | 68.63           |
|                                                                               |                             |        | 31.29           |
|                                                                               |                             |        | 100.00          |

Estimating shrinkage of sides and long-cut hams at 5 per cent. in curing, actual weight would be 65 per cent., viz.:

|                    |       |              |
|--------------------|-------|--------------|
| Cumberland middles | ..... | 35 per cent. |
| Long-cut hams      | ..... | 16 " "       |
| Prime steam lard   | ..... | 13 " "       |
| Total              | ..... | 65 " "       |

Estimating shrinkage of sides and long-cut hams at 5 per cent, in curing, actual weight would be 65 per cent, viz.:

|                         |              |
|-------------------------|--------------|
| Cumberland middles..... | 35 per cent. |
| Long-cut hams.....      | 15 "         |
| Primo steam lard.....   | 13 "         |
| Total.....              | 65 "         |

These percentages may be used as per following example to ascertain cost of meat to packer landed on dock quay in Liverpool, England, which port we select as being the foremost in the export trade.  
 Cumberland hams from hog costing \$3.50 would stand packer 29- c. i. f. Liverpool per 113 pounds, figured on the following basis, of course.  
 Product over and above following percentages to cover cost of manufacture.

EXAMPLE.

|                                |                                         |
|--------------------------------|-----------------------------------------|
| 36-pound Cumberland.....       | ① 54/ or 11.14 cents per pound = 4.0104 |
| 16-pound Long-cut hams.....    | ② 54/ or 11.57 " " " = 1.9313           |
| 18-pound Primo steam lard..... | ③ 445 " 9.48 " " " = 1.3294             |
|                                | 7.0948 cents per pound.                 |

|              |        |                                    |  |
|--------------|--------|------------------------------------|--|
| C. C.* 11.14 |        |                                    |  |
| 7.094] 1.094 |        |                                    |  |
| 4.9956       | 3.50   | cost of hog.                       |  |
| 3.5470       | .99000 |                                    |  |
| 49900        | 1.710  |                                    |  |
| 49655        | 1.025  |                                    |  |
| 245          | 2.50   |                                    |  |
|              | 5.485  | cost of C. C.                      |  |
|              | 2636   | per 113 pounds c. i. f. Liverpool. |  |

|             |                              |
|-------------|------------------------------|
| 5.40        | Cost of C. C.                |
| 20          | Packing.                     |
| 25          | Inland freight.              |
| 15          | Added to cover gross weight. |
| 15          | Cost of insurance and prime. |
| 05          | Insurance through.           |
| 6.14        |                              |
| 74          | 74 13 per cent. added.       |
| 6.58        |                              |
| 20          |                              |
| 400] 13.700 | 58                           |
|             | 9.00                         |
|             | 4.100                        |
|             | 3.840                        |
|             | 280                          |
|             | 13                           |
| 48] 3.840   | 5                            |
|             | 2.84                         |

\* Abbreviation C. C. means Cumberland cut middle.

## CURING.

Next to the thorough chilling of meats, this is undoubtedly the most important and critical department in the pork packing industry. Not only has this department to determine that the meats about to be handled have been thoroughly cleared of the last particle of animal heat, but must cater to the fast increasing demand for mild cured meats, which is a task calling forth the best energies and the most watchful care of the curing department. To produce the required mild cured meats without incurring heavy losses, requires a strict observance of set rules regarding the temperature of the packing and storage rooms, water, etc. In their haste to place meats on the market, prior to scheduled time, some packers have sustained heavy losses. Various experiments have amply proven, time and again, that meats require a certain time to fully cure in, and must have this length of time, pumping and higher temperatures to the contrary notwithstanding. Much difference of opinion exists as to the advisability of pumping meats at all. Yet, we think, when properly manipulated, there is no doubt that the process is of some assistance in insuring and perhaps slightly hastening the curing. Of one thing we are certain, there is an immediate gain of about 1½ to 5 per cent., which is a slight recommendation. Should a pump be used, great care must be exercised so as not to inject air (heavy losses may be attributed to a neglect of this rule). The pickle must be ejected from the tube prior to its being inserted into the meat, and also upon its being withdrawn. The pickle used in pumping is usually of extra strength, showing about 110 to 115 degrees. When the hogs are cut, all meats, where any doubt can exist as to the thorough chilling, should be spread say from ten to fifteen hours in a temperature of about thirty degrees where possible; especially hams, after which they may be pumped and bulked or

slightly salted and bulked for a day or so prior to packing. Nearly every packer has his own particular method or recipe for curing; hence we will give what we consider the best general formula:

For hams packed in regular tierces we recommend twenty-three pounds common salt, six pounds sugar, one pound of saltpetre, which will make a pickle of about 80°, when the tierce is filled with water. Marrow should never be extracted where water is used, and only so where the prepared pickle is used. In some instances the sugar and saltpetre is dissolved prior to using, but this is not always practical or expeditious. It is always best to put a specified quantity of salt, sugar or syrup, and saltpetre in each tierce, then there is no doubt of the uniformity of the cure. In cases where tierces are not used, but receptacles of varying capacity, then a prepared pickle is absolutely necessary, a formula for which would vary under different circumstances, and which must rest with the head of the curing department. For instance, the quality of the water, the size of the hams, etc., the size of the receptacle and its prior use, the control of the temperature, and scores of other small matters stand in the way of giving an exact formula which would be standard or reliable under all circumstances. We would recommend, where such a state of affairs exists, the use of a fairly strong pickle which would insure the cure, and packing meats as uniformly as possible, varying the strength of pickle according to averages.

The most satisfactory temperature, that which has yielded the best results, for storage of tierce meats or other receptacles of meats, also for cellars, etc., is from 36 to 40° F., ropy pickle in such a temperature being comparatively unknown. Care should be taken not to allow tierce storage to exceed 40°. While ropy pickle is not actually deleterious, it is by no means desirable, causing no end of extra labor, after which the meats present a very unin-



viting appearance. Where such trouble exists washing in warm water in which sal soda has been dissolved will materially facilitate the thorough cleaning of the meats. The prevention of such a state of affairs is what we would advise. All tierce meats should be rolled as often as practicable during the first fifteen days, say not less than three times. Upon being packed they are of course *rolled* to storage, or ought to be, and this constitutes roll No. 1; then they ought to be re-piled in five days at the most, then again inside a week, and again in another week, making say, four rolls in at most twenty to twenty-five days; after which they may remain until cured, which time varies with the average weight of the meats. While on the subject of time in which tierce meats will cure, let us say that regular tierce meats, three hundred pounds to tierce in pickle of say 80° to 85° proof, consisting of any formula making a pickle of that strength, will cure as follows: meats are usually packed in tierces as uniformly as possible, in nearly all houses, that is there is very little difference in the weight of each piece of meat in the tierce, hence a regular rule is applicable in every case. Ten pound and under, 30 to 35 days, 14 pounds and under, 45 to 55 days, 16 pounds and under, 60 to 70 days, 18 pounds and under, 75 to 85 days, upward, figure 5 days to the pound. They may be cured prior to this, but we consider this safe. If so desired, the pickle may be drawn after the above time has elapsed. The pickle will deteriorate in strength after meats are fully cured about 25 degrees, that is: pickle showing 80° when put in tierce, will test about 55° when meats are fully cured; of course this may vary somewhat under different circumstances. Prior to drawing pickle it is always advisable to *try* a few tierces, so as to be thoroughly satisfied of the condition of the meat. Meats of the above ages will gain at least six per cent., exclusive of the gain in pumping, and often even as high as eight per cent. on light meats.

Of this, though, in the neighborhood of four per cent. will be lost if tierces are left for any length of time after pickle is drawn. It is indispensable that all tierces after being used should be thoroughly washed and aired prior to being again put into use. We may also add that all tierce storage should have a slightly sloping floor to gutter, so that in the event of any leakers they may be readily seen and located. It is scarcely necessary to say keep a sharp lookout for leakers when packing, having each cooper or trimmer place his own mark on each tierce he handles, which goes a long way toward abolishing this nuisance. We will endeavor to thoroughly compass the subject of curing, even though we may occasionally have to refer to matters seemingly out of place, or not exactly in order.

Cure for tongues packed in barrels at two hundred and twenty pounds. In the first place, tongues under all circumstances must be gradually cooled off in a temperature of say 38° to 40° or thereabouts, for at least twenty-four to thirty-six hours. Should be well washed prior to being hung in chill-room. Formula for 220 pounds: 23 pounds common salt, 3 pints syrup, 10 ounces saltpetre. Fill barrel with water and roll well. Another good pickle for tongues suitable for butcher may be made with 12 gallons of water, 3½ pounds of raw sugar, 13 pounds of coarse salt, ½ pound of saltpetre, and ¾ pound of icehoney. This pickle should be well boiled and all scum removed as it rises to top of boiler. It should be re-boiled about every seven weeks and a quantity of fresh salt added to it. The tongues to be cured should be allowed to remain in this preparation from fourteen to twenty-one days, according to size. Fifty pounds salt, 10 gallons water, will make pickle of 98° on salometer, add to tierce of pickle this strength 20 pounds saltpetre and make at least pickle of 115°, suitable for pumping purposes; 100 pounds salt and tierce of water will make a pickle of 90° on salometer.

We now give another cure for tongues, equally as good, if not better, than the preceding one, and one we have no hesitancy in recommending to our readers. Make a pickle of fine salt up to 90 degrees. Pack tongues at 330, and pour over them, dissolved, 18 ounces saltpetre and 18 ounces sugar, *fine*, then fill up tierce with the 90-degree pickle. Must be well rolled for ten to fifteen days. Should it be necessary to change pickle owing to its being thick and muddy in appearance, due to considerable quantities of blood and slime adhering to tongues when packed, and also to purging in curing, *always* use pickle made *exactly* the same as in the first instance. Tongues under above formula will cure in twenty to twenty-five days. Tongues for export are usually packed in kegs, and pickle should always be changed when shipping. Pickle may be made according to formula for tierces.

For curing hocks and feet use 80-degree pickle with 1½ pound good coarse sugar and 5 ounces saltpetre per 100 pounds meat. May be shipped in ten days without changing pickle. Another method of packing hocks and feet is to put them in 90-degree brine for about five days when they may be taken out and parboiled, then packed in kegs in spiced vinegar which may be made as follows: Take two large barrels and put in each 40 gallons condensed water, then add to each barrel acetic acid 5 pounds, molasses 2 gallons, yeast 2 quarts, mixing well and allowing to stand about two weeks, when you will have a good vinegar. Must be kept in warm place and plenty of air allowed to get to mixture. In this way you will have a supply of vinegar always on hand. Should you require vinegar stronger, add molasses. The spicing to be added when packing. Cure for bellies packed in tierces as follows: Twenty pounds of salt, coarse, 6 pounds sugar, coarse, but good (always use good sugar on all meats, it pays in every respect) and 1 pound saltpetre. If packed in other receptacle use the same

formula according to weight packed. Roll tierces the first ten days and overhaul if in tubs in same time. We scarcely need add fill tierce with water when packed. When packing bellies in tubs, of course, make pickle and pour over meats. Bellies or backs packed thus will cure in twenty-five to thirty-five days, according to weight. Another method is to make pickle of about 78 degrees, using with this 6 pounds sugar and 1 pound saltpetre to tierce. This method may be used with success on California hams, New York shoulders, skinned shoulders, etc. The following is considered one of the very best cures ever tried on light bellies for breakfast bacon number one: five-eighths fine salt,  $\frac{1}{4}$  good sugar,  $\frac{1}{4}$  saltpetre. Some packers consider the saltpetre superfluous as the meats are smoked, but even so, they present a brighter appearance when saltpetre is used. The meats should be well rubbed in this mixture, and packed in a bin for the purpose and as closely as possible. Should be overhauled in 5 days and the same formula used. The floor of the bin should be so arranged as to allow the pickle from meats to run to tub or other receptacle, to be used in packing light meats of any kind. Will cure in seventeen to twenty-five days, according to weight.

The following test may be interesting: 40 pounds Ohio salt and twenty gallons water will make pickle of 76 degrees. Forty pounds English salt and 20 gallons water will make a pickle of 78 degrees. Most packing houses are fitted with large water and pickle tanks, size and quantity according to requirements of house. These should, where artificial refrigeration exists, be fitted with coils from the machine, and where such refrigeration does not exist they should be placed convenient to ice-houses or schutes erected for them. As river ice contains more or less dirt these tanks should be cleaned as often as practicable, and no water or pickle drawn less than six inches from bottom of tanks. They should also be fixed so that no drowned rats or other ver-

min caught therein, can remain there until tank is cleaned out. We need not urge the advisability of this precaution. The pipes connected with these tanks used in drawing water or pickle should be arranged so as to allow no foreign matter to get therein.

**TIERCES.**—May, if so desired, be packed at the following weights: New York shoulders, Boston shoulders, California hams and skinned shoulders, in fact, all *light* packed meats, at 295 pounds when not pumped, and at 300 pounds pumped. Light hams come under this rule also. Tongues may be packed at 300 pounds. Heavy hams, skinned hams, extra heavy New York or English shoulders, should always be pumped and packed at 300 pounds *pumped weight*. The above-mentioned tierces may be branded 300 pounds at packers' discretion.

**BARRELS.**—May, if so desired, be packed at 190 pounds with the following meats: Prime or mess pork, back pork, rump pork, shoulder butts, bean pork, etc., and branded 200 pounds.

**HALF-BARRELS.**—May be packed at 95 pounds with any kind of meats, and branded 100 pounds.

**KEGS.**—May be packed at 48 pounds and branded 50, if so desired.

All meats in pickle gain in weight considerably, according to average and bulk in receptacle, but this gain varies considerably under different circumstances. Meats, which may be expected to be held over for long periods, such as pork, ribs, etc., should always be packed in pickle showing 100 degrees on salometer. A layer of rock salt at top and bottom of barrel will keep pickle alive, as it were. It is something to draw on. All pickles lose strength to a considerable extent when operating upon fresh meats, and will when put in tierce at say 85 degrees on salometer in ten days often show as low as 73 degrees. It is not surprising, then, that under these circumstances, and in widely fluc-

tuating temperatures, this weakened brine will become thick, ropy, and dead. Pickle thus reduced in strength will do more harm than good if left on meats for any length of time after they are fully cured. Meats become, after this stage has been arrived at, "pickle-soaked," and the pickle will also sour. Saltpetre will assist in keeping brine alive, but even then it will deaden and lose its usefulness. Under the present rules of mild curing, meats are not supposed to be held over after being fully cured, but are intended to be immediately handled and used, either at home or abroad.

If properly manipulated, the packing of meats is not done at any great expense except for package, which cost is really nominal, properly speaking. This assertion may seem incongruous, but remains a fact nevertheless. Our practical readers will agree with us in this, we think. We cannot emphasize too much the necessity of *well rolling* all pickled meats for the first ten to fifteen days. The reason is obvious. Also let us again urge the necessity of maintaining a regular temperature in packing and storing rooms, never to exceed 40 degrees Fahrenheit and not lower than 38 if possible. In our preceding chapter we omitted to give the "dry method" of curing tierce meat thus: On 300 pounds meat use 16 pounds salt, 10 pounds sugar, and 18 ounces saltpetre, rubbing the mixture well into the meats when packing. Use no water. Six to eight ounces black pepper may be used if so wished, which gives a peculiar flavor to meats much relished by many consumers.

**WESTPHALIA HAMS.**—The Westphalia hams are made as follows: Well rubbed with dry salt and left to drain twenty-four hours. Then take 2 quarts of salt, 2 quarts of bag (rock) salt, 3 pounds of brown sugar, 1 pound saltpetre, 4 ounces sal prunella, and 4 ounces juniper berries, well mixed and boiled in 6 quarts of water. The brine is then cooled and skimmed. The hams are taken from the salt and wiped dry, and the cold pickle poured over them and rubbed in.



There should be enough brine to cover the meat. Turn the meat every second day for three weeks; then take them out, wipe dry, and a mixture of ground pepper, salt, and bran is thoroughly rubbed in, filling all cracks and openings. They are then smoked a little every day for three months or more, until completely dry, when they will keep and improve in flavor for years. Pyroligneous acid will keep off flies and animalculæ of all kinds and improve the flavor of the meat.

#### AMERICAN DRY SALT MEATS.

Having, as nearly as possible, exhausted the packing of sweet pickled and ordinary pickled meats, we will now turn our attention to the curing of American dry salt meats, that is, meats for home consumption. Our object is to publish the successful curing of meats, not the *curing* which results in such heavy losses through *sour* meats. If our previous hints are carefully read and the directions therein faithfully adhered to, *great and unnecessary* losses may be avoided in any and every branch of the business.

To return to our subject. Heavy side meats, such as short ribs, short clears, long clears, etc., should be spread when there is any doubt about their fitness to be bulked; what we mean is, be *sure* every particle of animal heat has been withdrawn prior to bulking. These sides may be pumped, dipped, and rubbed when bulking if so desired, or may be pumped and rubbed (taking care to well rub shoulder end), reserving the dipping process until a few days prior to shipping, which arrangement improves the appearance of the meat to a great extent, *and so forth*, and the expense is not in excess of the gain, as it were. These sides ought to have a good covering of coarse salt, and upon rebulking, in seven to ten days, or at the convenience of the packer, should be administered the same dose.

As regards bulking meats (where practicable), it is not necessary to bulk high in first salt, but upon rebulking, bulk high and close for *every* reason. Backs and bellies may be bulked at once and well rubbed, rebulked inside a week and process repeated. Regular shoulders may be treated the same as backs and bellies, except that as a precautionary measure they may be pumped and a little nitrate of soda scattered over blood-vein. We may be pardoned for again repeating *bulk all meats close*, it takes up no longer time and the gain is great in every respect.

It is a common rule to figure short ribs fully cured at one day per pound, thus: A fifty-pound short rib is considered fully cured in fifty days, and the same rule may apply to the above-named side meats. Backs and bellies will cure, according to size, of course, from twenty-five to thirty-five days, and regular shoulders in forty to fifty days, according to average. These meats are usually shipped in salt, and after the above-given time to cure in, may perhaps lay over a week or so. At any rate, very seldom any difficulty arises or are losses sustained in smoking dry salted meats. The very opposite may be said of sweet pickled meats. Care must be taken, prior to smoking sweet pickled meats, that they are *fully cured*, or trouble will undoubtedly follow. Light clear sides, extra clear sides, etc., may be put up in much the same manner as any other mentioned side meat, with this exception, that more satisfactory results follow when the pumping is omitted (not speaking of extra clears being pumped), and not nearly so much salt used. Light clears make a very desirable back and belly, the size of either, of course, being made to suit present demand. This is an advantage in bulking as clears instead of as backs and bellies; also they can be bulked closer, and a more uniform cure obtained.

A tour through the various cellars in the country discloses a great variety of methods in handling, bulking, etc.

We think the cellar is altogether too much neglected in many houses, which state of affairs should not have any existence. What a great saving it would be to many of our packers if their business were thoroughly and properly conducted in every department. The pork-packing industry is scarcely out of its teens, though perhaps we can safely say it is out of its infancy. What great possibilities yet exist to all interested in the business, however remote, and these possibilities will in the near future be utilized. What the packing industry of thirty years ago seems to the packer of to-day, the packing industry of to-day will seem to the packer of ten years hence. *The National Provisioner* will do its share in bringing about this certainty. It has always looked to the advancement of the industry, and will continue to do so until the highest possible point has been gained.

Meats for export are handled somewhat different in curing from meats of home consumption, color being one of the most essential points in this trade; consequently a considerable quantity of saltpetre is used, or nitrate of soda, either of which answers the same purpose. We can safely add that in many instances entirely too much of this material is used. There is no necessity to use saltpetre as salt would be used, as a slight but uniform covering will have the desired effect, if the meats are bulked so as to *exclude all the air possible*. This is as important a matter in the acquirement of color as is the using of saltpetre—in fact, a more important matter. Note places on side meats where the air has been totally excluded as proof of this. Cumberland middles, Yorkshire middles, Staffordshire middles, long rib middles, in fact, all export side meats may be treated in much the same manner. In the first place, it is necessary to have a can, about quart size, with perforated lid, to be used in sprinkling saltpetre over sides or any and all meats. Sprinkle a light covering over side, using a trifle extra in

neighborhood of shoulder joint, after which a fair covering of fine salt, rubbing shoulder and back a trifle extra. Where pockets exist, as in long rib middles, for instance, especial care should be taken to well rub vacancies left by extraction of shoulder-blade and leg bone. What is termed a *pocket stick* can be used to great advantage in the accomplishment of this. These sides may be bulked in first salt ten or fifteen high, using covering of coarser side meats, clears, for instance, to assist in excluding air. They may be rebulked in seven to ten days, using a light covering of fine salt, and bulking as high as possible. In overhauling, the projecting rib is sometimes sawn off the Cumberland middles, and in other instances this is left until the meat is packed. Either way is satisfactory, the latter perhaps more so. All export meats should as nearly as possible be put to cellar from cutting bench in shape to ship, trimming meats when packing being anything but satisfactory or economical. Square shoulders should be sprinkled lightly with saltpetre, sides and butt well rubbed with salt, with an even and fairly liberal quantity sprinkled over saltpetre. Should be bulked as squarely and closely as possible, and overhauled in seven to ten days, using covering of fine salt and bulking reasonably high. Export side meats may be shipped in winter, packed in salt, in fifteen days, having ample time to reach the fully cured stage in transit.

In summer these meats should not be shipped under twenty-five days in salt, and *must* be fully cured when shipped in borax. Square shoulders, being usually packed in borax, should always be fully cured. Long cut hams may be cured same as Cumberlands, etc., and shipped under same rule. It is a more difficult matter to obtain color on long cut hams, owing to not being able to bulk so closely, thus necessitating the use of bins and covering top with short clears to, as far as possible, exclude air, which procedure is of material assistance. After this color has been acquired

as it were, it is a difficult matter to retain it. The same rule must be observed in shipping as in curing and packing, tight boxes and close packing being essential. Backs and bellies, cured same as side meats, and may be shipped under same rule.

#### SMOKE DEPARTMENT.

There are numberless theories in regard to the best methods of smoking, and considerable time and money have been spent in experimenting—the principal object in view being to reduce the amount of shrinkage and shorten the time required by the present methods. One scheme is to mix “pyroligneous acid” with the salt or pickle, so the meats will smoke while curing. Another scheme for “cold smoking” is to make the fire in a furnace some distance from the houses and convey the smoke thence underneath the surface, so part of the heat may be absorbed and escape at the furnace, and the remainder of it on the way. And a very thorough plan for “quick smoking” is to prevent any of the smoke from escaping, and keep it in constant circulation by means of a fan.

While there is an undoubted saving in all of these methods, we doubt very much if any of them will come into universal use. Meats which have not been dried before or while smoking, will not take so good a color, and through sweating will soon lose even that, and become muddy, streaky, and flabby. It is positively necessary, in order to make smoked meats which will stand handling and shipment and still “take the eye,” that they should have received a certain amount of drying, preferably before the smoke is applied, and we have found the following method give the best results:

After your house is filled allow it to drip for about one hour, then open all your ventilators (top and bottom) and

apply a coke fire for about three hours, or until the surface of the meat is dry. After that close the ventilators and use a wood fire well banked with sawdust, until the meat is sufficiently smoked. In every case allow the houses to become cool, and the meat firm before handling it.

Hickory wood and hickory sawdust are preferable to any other, though ash and beech will also give a good, sweet smoke. Walnut and all soft woods, particularly pine, should not be used at all. The wood ought only to be used as a means to keep the sawdust smouldering, and great care should be taken, particularly in warm weather, to see that the fire is always well banked, so that it cannot burn freely and create unnecessary heat. The coke fire is made in an open grate about eighteen inches deep, eighteen inches in diameter, on supports two feet high, and be moved at will. A little sulphur used on the coke fire will add very much to the appearance of the meat and serve as a preventative to flies.

So far as the greater part of the smoked meats in this country are concerned, the process called "washing" is a misnomer and a failure. We doubt very much if one person in a thousand could tell the so-called "washed meat" from unwashed. Possibly it eases the conscience of the smoker to go through the motions; at any rate, it does no serious injury to the meat. Sufficient labor is spent on the process to do good work, but the water is never carried warm enough to cut the briny residue (from the salt), slim and greasy substances adhering to the surface of the meat. To make a strictly first-class article, it is necessary that the dirt be removed, and to effect this the water should be kept at a temperature of from 150° to 180° F., and changed as often as possible. It is also a good plan to use a little soda, borax, or boracic acid in the water—it helps to cut the grease, and the two latter act as a fly preventative to a certain extent, even though the sweating in the smoke-house



will partially remove any such application made before smoking. It is customary for the stringers, when through with the meat, to pass it into the wash-tub, and as the washers are compelled to immerse their hands and arms in order to get hold of the pieces, they cannot, without great discomfort, carry the water hot enough to be of any practical use. In the British Islands they keep the water fully up to this temperature—150° to 180° F.—but the washer holds the meat by the string and alternately dips and scrubs it until thoroughly cleaned. That process would be too slow in this country, and we would advise those who have power to procure a meat-washing machine. There are two such machines in use, either of which do better and cheaper work than can be done by hand.

The prettiest and most appetizing meats we have seen are those in the bacon shops of England. The meats, after being carefully washed, and all the "raggles" trimmed off, are hung in a drying-room with a very moderate fire of coke, having a little sulphur on it. The effect of this is to make the fat a chalky white, the skin almost transparent, and to give the lean a bright cherry color.

We think there is still a good deal of room for improvement in the handling of smoked meats, and that with these improvements will come a very much increased consumption. Formerly Board of Trade regulations discouraged advances in the line of cutting and curing, as it was no benefit to be better than "regular," but the advent of a few foreign houses with their more careful methods in our domestic smoked meat trade, compelled our home packers to give us an article very much superior to the dirty, hairy, salty, grimy stuff of a few years ago, when it was customary, instead of stringing the side, to make a slit and poke the dirty stick through it. Pork products do not yet hold the position they ought to, and can hold if treated carefully and wholesomely; and we hope the competition and emula-

tion of the smokers to obtain a reputation for their "brands" will keep on increasing, until bacon is as much the rich man's friend as it has hitherto been the friend of the poor man.

In summer, when meats are sufficiently smoked, the fire should be promptly removed, and the ventilators and doors opened, so that the meats may be cooled off as quickly and thoroughly as possible. From the time the smoke is taken off until the meats are canvased, they should be handled as little as possible and, as near as is practicable, in darkness. All the rooms should be darkened and only artificial light used, and that only where and when positively needed. Unceasing vigilance should be used to prevent the piling of smoked meats, either before or after canvasing, as piling breaks the tissues joining the layers of meat together, making openings for the lodgement of flies, blue mold, and slime; it also forces the oil from the meat, thus causing shrinkage. There is not the slightest use in canvasing meat and then throwing it in piles (as we have frequently seen done) to await the yellow washers, until the canvas becomes partially saturated with oil, for the fly places its eggs as readily in the oil as in the meat itself, and the progeny seems to have no difficulty in making its way to the choicest pickings.

In addition to handling the meat in the dark, we would advise rubbing it in pulverized borax before papering, or the use of parchment paper instead of the straw-paper generally used. Flies do not touch boraxed-meat, and it prevents shrinkage. Parchment-paper, being impervious to oil, prevents it from reaching the covering and thus acts as a fly preventative; it also, by reason of its closeness of texture, prevents a considerable amount of evaporation and does not adhere to the meat. It is more expensive than straw-paper, but has so many advantages over the latter, that there ought to be no question as to its greater value. The use of burlaps instead of yellow wash is rapidly displacing

the latter. However, as there are still a number of our less progressive brethren who still believe in it, we give them a recipe which will help to make "one hand to wash the other:"

**To Yellow Wash 2,500 Hams.**—750 pounds barytes, 20 pounds chrome yellow, 15 pounds glue, and 100 pounds flour. The yellow wash-tub should be so arranged that a steam-pipe can be lowered into it. Fill the tub half-full of water, mix in the flour thoroughly, taking care to see that all the lumps are dissolved; dissolve the chrome in a separate vessel, then add it and the glue to the flour; bring the whole to a boil; constantly stir, and gradually add the barytes; make your wash at least a day before you require it, and when using it stir it frequently to keep the barytes from settling. Two thousand five hundred hams, 15 pounds average, in canvassing will use 1,127 yards of muslin, 10½ pounds of thread, and 789 pounds of paper. A nice-sized paper for canvassing is 32 by 22, weighing about 80 pounds per bundle of about 500 sheets. Another yellow-wash recipe: 450 pounds barytes, 25 pounds ryo flour. *Mix well while dry, then add enough cold water to make requisite thickness, and boil fifteen minutes. Mix 25 pounds glue in warm water until thin, then boil, after which mix all the above together, adding 30 pounds chrome yellow which has been soaked in cold water four or five hours. Must be well mixed.*

All the smoke-house and canvassing-room ventilators and doors should be protected with very fine screen wire.

It does not usually happen that meats are required immediately for smoking as soon as fully cured, consequently the bulk of such meat when wanted have taken more salt than would please the average palate, and if smoked without soaking would show salt over the entire surface and soon have a rusty and unmerchantable appearance. Some smokers draw the pickle a considerable time ahead, and allow the

meats to become slimy. This has a better effect than soaking as, in addition to purging the meats of surplus salt, it gives them a mellow flavor. This method, however, requires more time and attention and more thorough washing. Meats of a like age need more soaking in winter than in summer, owing to the greater solidity of the meat in cold weather. The following table we regard as safe and sufficient:

## PICKLE CURED MEATS.

## In Winter.

|              |              |              |
|--------------|--------------|--------------|
| If           | 40 days old, | soak 1 hour. |
| " 45 to 50 " | " " "        | " 2 hours.   |
| " 50 " 60 "  | " " "        | " 3 "        |
| " 60 " 70 "  | " " "        | " 4 "        |
| " 70 " 80 "  | " " "        | " 5 "        |

## In Summer.

|                       |                |
|-----------------------|----------------|
| If 50 to 60 days old, | soak 1 hour.   |
| " 60 " 70 "           | " " " 2 hours. |
| " 70 " 80 "           | " " " 3 "      |
| " 80 " 90 "           | " " " 4 "      |

## DRY SALT CURED MEATS.

## In Winter.

|                       |                |
|-----------------------|----------------|
| If 30 to 40 days old, | soak 1 hour.   |
| " 40 " 50 "           | " " " 2 hours. |
| " 50 " 60 "           | " " " 3 "      |
| " 60 " 70 "           | " " " 4 "      |
| " 70 " 80 "           | " " " 5 "      |
| " 80 " 90 "           | " " " 6 "      |

## In Summer.

|                       |               |
|-----------------------|---------------|
| If 40 to 50 days old, | soak 2 hours. |
| " 50 " 60 "           | " " " 3 "     |
| " 60 " 70 "           | " " " 4 "     |
| " 70 " 80 "           | " " " 5 "     |
| " 80 " 90 "           | " " " 6 "     |

If the water is kept running (by pumping or otherwise) one-half this time will have the same effect. In putting the meats into the soaking vats care should be taken to keep the skin side up, so that there may be no place for the water to become lodged and sour in case it is not convenient to remove the meat from the vats immediately after soaking. The vats should be nearly full of water before the meats are put in, and the water, if not kept in circulation, should be changed at least once, and if the meats are "hard salted," twice. Where water is expensive we would advise the use of a centrifugal pump in order to create a current. Running water, even if a little salty, is more effective than fresh water if perfectly still. In the most economical arrangement we know of for the soaking of meats, the vats are placed on a level with the floor, so that the meats can be dumped into them either from the trucks or out of the tierces. The vats have sloping bottoms and a partially hinged side, so when the meats are sufficiently soaked and the hinged part of the side lifted, the meats will of their own volition slide out of the vats and onto a stringing table placed in front of them. This arrangement necessitates the elevating of the meat one floor higher, but is more rapid, saving at least the labor of two men and a lot of hard work.

#### SAUSAGE DEPARTMENT.

Sausage-making is fast becoming one of the leading features of the pork- and beef-packing industries, and the demand for this class of product seems to be on the increase, which is not at all surprising when the following items are taken into consideration. There is no waste in production, and this article of food is cheap, appetizing, and easily cooked. Every packing-house is, or undoubtedly ought to be, fitted with all the modern appliances for the manufacture of sausage. There is no question as to such an outlay be-

ing a very profitable investment, and doubly so when guts, casings, stomach, etc., are prepared on the premises. All kinds of meats—wholesome, of course—fat or lean, hearts, livers, hocks, cheekmeat, etc., can be profitably worked up where otherwise, if not sold in markets, they would go to the tank, where they yield next to nothing.

Cleanliness ought to be and is one of the leading features in the great majority of our packing-house sausage departments and also among our sausage-makers who follow this business solely. The following recipes will doubtless prove of interest and value to many of our readers, some of whom will doubtless recognize the merits of same. It is scarcely necessary to add where we state *chop well* or *mix well* that these are very important points in the manufacture of sausage.

**Pork Sausage.**—Use nice lean trimmings *well chopped* and to each *forty* pounds add *eight* pounds of *well-boiled* rice, and *mix well*. To this mixture add *one pound* of the following seasoning: 4 ounces best white pepper, 1 ounce of cayenne pepper, and 1 pound of fine salt *well mixed*. This is one of the finest pork sausage recipes extant. Use hog casings for stuffing.

**Bologna.**—Put hearts and cheekmeat into a pickle of 62 degrees, adding 1 pound saltpetre to each tierce, for about fourteen hours; then take out and drain well in any manner most practicable, prior to chopping. Take one-half hearts and one-half cheekmeat, pork and beef, adding as much of other meats (such as rough trimmings) as may be consistent with the price the bologna is sold at, and to each one hundred pounds add, when about half chopped, 10 ounces black pepper, 6 ounces ground cloves, 2 ounces coriander seed, and 4 ounces saltpetre. Chop fine, the finer the better. Use beef middle guts, twelve to fourteen inches long, which will, when being stuffed, form the necessary ring. Smoke nicely, after which cook in hot water (60° to



65°) for about thirty minutes, or until fairly hard, using one pint of color to each forty gallons of water, and you will have a color *par excellence*. Hang in a cool, dry place.

**Liver Sausage.**—Take half a dozen pig's heads, fifty pounds cheekmeat, twenty-five pounds trimmings and cook well until the headmeat separates from the bone, add to this twenty-five pounds liver, well scalded, and chop all together fine. For each one hundred pounds of this meat, use 2 pounds of salt,  $\frac{1}{2}$  pound pepper,  $\frac{1}{2}$  pound cloves, and a dash of marjoram. Mix well, stuff in bung guts, and cook for half an hour.

**Headcheese.**—Hog's heads (including tongue), cheekmeat and hearts, say: seventy per cent. heads, fifteen per cent. additional cheekmeat and fifteen per cent. hearts, this may be varied, of course, to suit particular trade, location, or price sold at. Boil until well done, then chop into square pieces and mix well. To each one hundred pounds of this mixture use 2 pounds salt,  $\frac{1}{2}$  pound pepper,  $\frac{1}{2}$  pound cloves, and  $\frac{1}{2}$  dozen chopped onions, chopped fine; afterward put into stomachs, properly cleaned and prepared beforehand, and again cook for one hour and a half, after which they should be subjected to pressure until cool. If to be kept over any length of time, should be smoked lightly.

**Tongue Sausage.**—For most sausages use fat and lean pork, which must be chopped into a paste and sprinkled with sufficient blood to well moisten it. To every 10 pounds of meat used must be added 20 pounds of tongues, cut into small pieces, rather larger than a good-sized pea. Fill into the largest skins and boil for about an hour. If pickled tongues are used they must be steeped in cold water for sixteen hours before using.

**Summer Sausage.**—To four parts of good beef and four parts lean pork add two parts of the amount of fat pork or bacon. Trim the beef free from sinews and beef fat; chop fine; then add the lean pork; chop again and add the fat

pork in small squares. Chop until well mixed, adding salt and pepper to suit the taste, the total not to exceed 2 pounds per 100 pounds of meat. Stuff into hog bungs or beef middle casings very tightly, and hang in the open air four or five days. Smoke very slowly three to five days under moderate heat. To remove the white appearance that they sometimes have, after being kept awhile, rub with a cloth saturated with fat. This sausage may be kept, if hanging, from four to six weeks in winter-time without being smoked. By making summer sausage the same as above, but allowing the meat to be very coarse, you have the product called Salami. That will remain good, perhaps, a greater length of time. Care should be taken not to allow any unfilled places in the sausage casing, and no water should be added. Casings to be used for summer sausage should be thoroughly soaked in water twenty-four hours before using, to entirely remove the salt.

**Beef Sausage.**—Take 12 pounds of lean beef, 8 pounds of fat, 4 pounds of pressed bread, 4 pounds of sausage meal, and 14 ounces of seasoning, and salt. Cut the beef and fat into two-inch squares, mix in the bread, and cut all moderately fine. Add the sausage meal dry, with water sufficient to moisten together with the other ingredients, and chop the whole very fine. Use either sheep casings or narrow hog casings.

**German Bologna Sausage.**—Take 16 pounds of beef, 8 pounds of veal or pork, 8 pounds of back fat, 4 pounds of flour, 4 pounds of sausage meal, 11 ounces of salt, 2 ounces of saltpetre, 4 ounces of white pepper, and 1 ounce of ground coriander-seed, and salt. After cutting all the meats into two-inch squares, put into the machine, and chop very fine. Scald the flour previous to use, then add it slowly along with the sausage meal. The other ingredients to follow in the same manner, except the back fat, which should be previously cut by machine into about one-half-

inch squares. Use beef casings and simmer (not boil) for three hours in a jacket pan. Before taking out add 4 ounces of brown German dye, and 4 ounces of dry anti-septic preservative. Next fix the dye by transferring the sausages into a cooling tub of about 100 pounds capacity, into which 2 pounds of alum have been dissolved.

**Ham, Chicken, and Tongue Sausage.**—Take 10 pounds of pork, 4 pounds of veal, 2 pounds of ox tongue, 4 pounds of fat, 2 pounds of ground rice, 2 pounds of scalded sausage meal, and 12 ounces of seasoning. Add thereto a quantity of chicken meat, salt, etc. Cut into small squares, mix in the scalded rice, and put into machine, slowly adding the sausage meal and other ingredients. Chop very fine and fill into casings, then boil for one hour at a temperature of 200° F., and dye as noted for bolognas.

**Oxford Sausage.**—Take lean and fat pork, 6 pounds; veal (free from skin), 6 pounds; beef suet, 3 pounds; pressed bread, 1 pound; sausage meal, 1 pound; seasoning, 9 ounces; and coloring, 1 coffeespoonful. Chop very fine, adding the bread and sausage meal first, then the seasoning and color, and salt as required.

**Frankfort Sausage.**—To make 100 pounds of Frankfort sausage, take seventy-five per cent. of pork and twenty-five per cent. of beef. Use the same proportion in smaller quantities. Cheek, neck, or any other kind of beef may be taken without endangering the quality of the sausage. To this add 1½ pound of salt, ½ pound of cloves, and ½ pound of mace, and all the water the meat may require. By using from two to five per cent. of potato flour, the quantity of water may be increased. Mix well and fill into sheep casings. Hang in an airy place for about half an hour to dry, then smoke about half an hour over a light fire, and, finally, an additional half hour with a strong, hot fire. To prepare for use, place in boiling water, allowing them to remain therein for about five minutes. These

sausages should not be kept too long, as they would become dry and unpalatable.

**Roestwurst** takes 11 pounds of raw lean pork,  $4\frac{1}{2}$  pounds of good veal from the round,  $3\frac{1}{2}$  pounds of fat pork, all chopped together fine. Add 6 ounces of salt, 2 ounces of ground pepper; mix well, adding 1 quart of clear, cold water. Stuff in narrow hog or sheep casings. After tying the ends together, they are divided in the middle and twisted there, thus forming a two-link sausage from the original. They should then be smoked thoroughly for from two to four hours. Should not be kept longer than eight days, as they become hard and dry. They are prepared for use by putting them in boiling water for three or four minutes.

#### OTHER USEFUL RECIPES.

##### HOMOEOPATHIC HAM.

Immediately after butchering, the warm hams are cut from the pig. Take  $1\frac{1}{2}$  pound of salt, heated in an earthen dish until very hot, and rub them with this upon all sides for a quarter of an hour. Almost the entire quantity of salt must be used for two hams. As the salt is quite hot, it is well to put on a leather glove in rubbing. Immediately after rubbing the hams, they are hung in the air and remain so for three weeks. These hams will keep unsmoked. One-half ounce of saltpetre can also be added if wished. While smoking is not necessary, it often improves them, and that requires about eight days.

##### BAYONNE HAMS.

From a freshly butchered lean pig the tenderloins are taken (which lie along either side of the backbone) and cut out lengthwise, as whole as possible, and trimmed off round in the shape of a sausage. They are then rubbed with hot

salt, and should be placed in a dish containing brine, made of one pound of salt boiled in two quarts of water (the brine being cold before using). The meat must be entirely covered with brine, and remain so for fourteen days. The tenderloins are then washed. Put them in beef bungs and wrap tightly with twine, in which condition they should be smoked for two weeks. This tenderloin is a delicacy and an ornament to any table.

#### VEAL HAM.

From a fat calf, which should be at least eight weeks old, a leg and ham are taken, and, the bones being removed, these are rubbed with a mixture of 1 pound of salt and 2 ounces of sugar; then placed in a dish and covered with brine made of 1 pound of salt boiled in 2 quarts of water. After remaining in this brine two weeks they are taken out, washed, and then smoked for twenty-four hours. The veal ham is then boiled and left in the broth to cool. In taste it surpasses the best of pork ham. Ox tongues may be pickled and smoked in the same manner.

#### SMOKED CORNED BEEF.

The leaner part of every round of beef required for corning purposes should be hung up in the cellar until it becomes rather tender without becoming tainted. To every round use  $\frac{1}{2}$  pound of raw sugar,  $1\frac{1}{2}$  pound of salt, and about  $\frac{1}{2}$  pound of saltpetre. If desired,  $\frac{1}{2}$  ounce of bruised juniper berries may be added, and will greatly improve the flavor of the meat. Mix the whole of the above ingredients and well rub into the meat. Place in the salting tub and sprinkle with common salt. The liquor formed from the above must be rubbed into the meat every day, and the same turned over in the tub for about fifteen days. The meat should then be placed in a press, and remain under

pressure for about twenty hours. After the meat gets thoroughly dried it should be hung in wood smoke for about seven days.

#### CHIPPED BEEF.

Pickle beef for thirty days in the same way as corned beef. Smoke afterwards for forty-eight hours, like hams, and hang in a drying-room for ten days or two weeks, where it dries in the natural air. Slice them by machinery and place in boxes for market.

**Extract of Beef** is prepared in vacuum pans, by a process which extracts from the material only its nutritive properties. Twenty-one pounds of beef, treated by this process, yield one pound of thick extract. Twelve pounds of beef yield one pound of liquid extract. One ounce of thick extract will bear the addition of forty ounces of water, and will then form a rich soup. One ounce of liquid extract will bear ten ounces of water. Prime cuts of beef are used for this purpose, of necessity; because the process requires that the material employed shall contain as little gelatinous matter as possible. As prepared in the Chicago canneries the extract of beef is a light chocolate color. It has neither the dark hue, the burnt taste, nor the peculiar odor which pertains to extracts prepared in South and Central America.

**Mince Meat.**—Cover 2 pounds of beef with boiling water, simmer until tender, and stand aside over night to cool. In the morning chop it. Shred and chop 2 pounds of beef suet. Pare, core, and chop 4 pounds of apples. Chop 1 pound of citron,  $\frac{1}{4}$  pound of lemon peel, and  $\frac{1}{4}$  pound of candied orange peel. Stone 2 pounds layer raisins. Pick, wash, and dry 2 pounds of currants and stem 2 pounds of seedless raisins. Mix all these together and add the juice and rind of 2 oranges, 2 lemons, 2 nutmegs (grated),  $\frac{1}{2}$  ounce of cloves,  $\frac{1}{4}$  ounce of cinnamon,  $\frac{1}{4}$  ounce of mace, and 1 teaspoonful of salt. Mix again and pack in a stone jar.



Mix 1 quart of sherry or good home-made wine with 1 quart of good brandy, pour this over the mince meat, cover closely, and keep in a cool place.

#### TANK DEPARTMENT.

This is one of the most important, critical, and remunerative branches of the pork-packing industry—a department where through ignorance or neglect great losses may be sustained. In the first place the best and safest tanks are made of  $\frac{3}{4}$ -inch steel with cone-shaped ends of  $\frac{1}{2}$ -inch steel, and are usually about 12 feet deep and 6 feet in diameter, and have a capacity of about 25 tierces lard. Should be double riveted up sides and caulked inside and out to prevent acids penetrating seams. Manhole 20 by 15 inches in head and a drop bottom of 18 inches. One air-cock on cone and one on tank proper about six inches below cone, one of which should always be left open when cooking. Fitted also with 2-inch blow-off pipe, with safety-valve, and a 2-inch blow-off pipe on bottom cone;  $1\frac{1}{2}$ -inch steam and water-pipe, with check-valve to enter as near bottom of tank as practicable; three  $1\frac{1}{2}$ -inch lard-cocks, lower one about centre of tank and the others six inches each above the other, but not directly so. Should be supported on cross-beams and pillars to foundation to prevent vibration, eight 9-inch lugs being usually used to support tank. Floors should not touch tank anywhere, as in such cases, where they do, moisture lodges and in an incredibly short time eats a ring completely around tank. Much loss of life and property might be traced to this very cause. Not nearly enough care is taken of tanks in the great majority of packing-houses. They cannot be too often cleaned, and that thoroughly. With proper care the above-described tank is well-nigh indestructible.

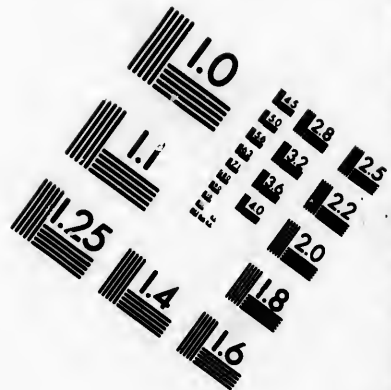
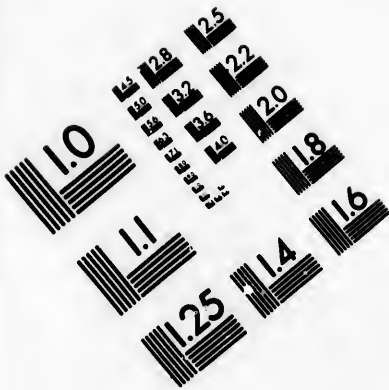
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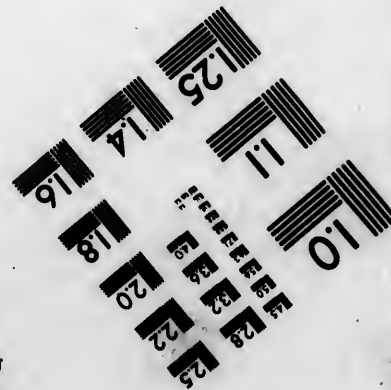
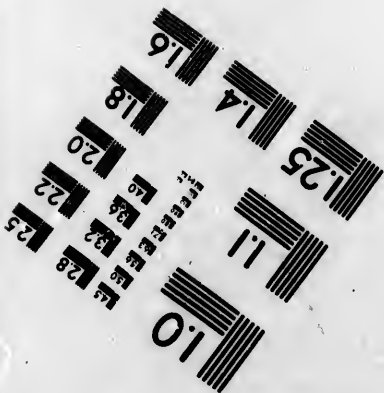
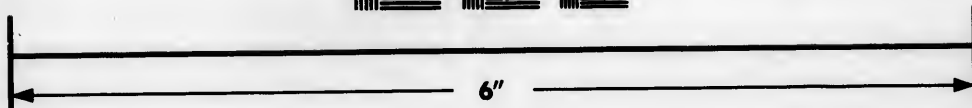
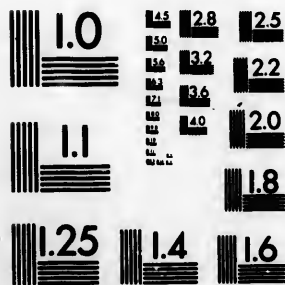
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entertained as to the ultimate result: fill tank to within 18 inches or 1 foot of tank proper with stock to be cooked, close manhole, using either lead or hemp packing. Turn on steam equalizer, showing pressure of thirty pounds, which will satisfactorily cook either killing or cutting stock in five to six hours without any risk. Water should not be used, as condensation of steam is sufficient to aid cooking, and results in far more satisfactory lard. Should tank get *flush* in cooking, which can readily be detected by air-cocks ejecting lard, turn off steam and blow off at bottom of tank, which will allow superfluous water to escape, after which turn on steam again and finish cooking. After five to six hours allow two hours to settle, if convenient, after which blow off and remove manhead. Scatter over surface of lard about one-half peck of salt to settle refuse. Commence drawing to coolers from top cock and so on to bottom, when, if no water appears, turn on water and raise lard to cocks. Should be pumped through filter-press or pass through at least two separators on its way to coolers. If necessary to cool quickly, extra troughs running to and fro through cooler-rooms, finishing with sprinkler to lower cooler, will prove of great assistance to gain this end. Lard should be drawn as cool as possible to tierces, but to tins may be drawn at a much higher temperature to advantage. Coolers should be slightly raised at one end so as to facilitate the draining of the tank-water through drip-cocks prior to drawing, and, as we remarked on tanks, coolers cannot be too often well cleaned, and that thoroughly, too.

Immediately beneath tanks should be vats capable of holding at least one-half the capacity of the tank, with sufficient space besides to allow of the refuse being boiled and skimmed prior to going to press. Tank-water, when not run to evaporators to be converted into *stick*, should be run to a series of catch-basins and not allowed to escape to sewer until they have been subjected to contact with water sufficiently cold



enough to separate any grease which may have escaped the first catch-basins. The solid refuse from vats is then passed to press and subjected to high pressure, forcing therefrom all superfluous moisture and grease which lodge in the refuse in spite of all efforts to eliminate same prior to going to press. These skimmings and pressings, which in reality are good lard, may be returned to tank and recooked with fresh stock with safety, if not allowed to lay around too long and become sour thereby. After the residue heretofore mentioned has been pressed the solid matter is then taken to fertilizer-room to be passed through dryer and afterwards sacked or shipped in bulk, as the case may be, to our large fertilizer dealers, which business has of late years grown to be one of the foremost and most scientific branches of the pork-packing industry. The full particulars of this business, however, we will give later on. Of kettles there are two kinds, the tight and open jacket, the latter of which is the most popular, in fact, the only kind of kettle considered of any use at the present day, though many tight-jacket kettles are still in operation, consequently we must deal with both sides of the question.

The tight jacket is usually operated as follows: The stock (leaf lard, back fat, stearine, etc.) is usually dumped into the tank as follows: Leaf lard direct from the hog when killing, and back fat from the cutting-bench in chunks, with stearine added any time during the process of rendering. Under such a rule steam sufficient to cook can operate five or six hours with safety. It is necessary to agitate stock occasionally if agitation is not already in use. On the other hand, where leaf lard, as in rendering for "neutral," is hashed to a pulp, and open-jacket kettle is used, a very low temperature is required to accomplish or gain desired end. An agitator is constantly moving stock in this case, and water is also put in kettle to prevent any fibre from *catching*, as it were, and imparting the usual kettle-rendered leaf-

lard flavor to "neutral," and also to settle refuse into, thereby enabling operator to get all the "neutral" possible without touching refuse. Under the latter rule stock will cook sufficiently in two to three hours. Great care is exercised in the manufacture of neutral, and nothing else would answer the purpose as being a constituent of butterine; no smell or taste must exist. It is impossible to imagine anything more beautifully white and wholesome than this neutral when being taken from vats after being treated to a quite lengthened contact with ice-water, and constantly agitated when being run from coolers thereto. An inspection of any of our packing-houses or butterine manufactories where this neutral is manufactured would convince the most sceptical of the truth of our statement.

**Prime Steam Lard** is made from the superfluous fats from killing and cutting departments, and rendered in tanks by the direct application of steam. No salted stock can be used therein without risk of detection and consequent rejection by purchaser. It is necessary to mix killing and cutting lards, equal percentages, to make *regular* either in tanks or coolers prior to drawing, or if drawn separately the "killing" lard is right in line for rejection as being off color, and will also have that gut flavor so objectionable. All stock requiring it from killing department should be well washed, such as guts, heads, etc., guts especially. *Very little of the gut refuse goes a long way*, as an old packer remarked in our presence recently, hence the necessity of well washing such stock, not forgetting in the first place the thorough splitting of these guts. In extreme cases super-carbonate of soda will be found a very effectual agent in bleaching and purifying to a considerable extent any lards which may have been rejected, using about one-half pound per tierce (dissolved) to each tierce of lard. Recook with open head tank half full of clear water, turning on sufficient steam to boil for two or three hours, after which allow

as much time as possible to settle well, the longer the better. Another method is to use a mixture of sal soda three-fourths, borax one-fourth, with just a trifle sal ammoniac, say two ounces per pound of foregoing, and use same as supercarbo-nate of soda in every respect. Another recipe is boracic acid and chloride of potassium, equal quantity, and half quantity nitrate of soda, as per foregoing instructions. It is advisable in every case to make a trial test of these and all other recipes prior to operating on large quantities of any stock.

**Kettle-rendered Leaf Lard** consists of the pure leaf lard of the hog rendered in open kettles, as previously explained.

**Neutral Lard** rendered in open-jacket kettle as previously explained.

**Kettle-rendered Lard** may be made from the following stock : fifty-five per cent. back fat, thirty per cent. leaf lard, fifteen per cent. lard stearine, and rendered same as leaf lard.

Above-mentioned lards are the best and purest on the market and contain nothing but the pure fat of the hog. The stearine mentioned is used only in cases where lard is expected to encounter high temperatures, and consists merely of the solid constituent of prime steam lard, the oil being all extracted. While on the subject of stearine the following tests may be interesting and instructive.

Prime steam lard pressed for oil yielded as follows :

November 23d :

|           |      |                |
|-----------|------|----------------|
| Stock,    | 4616 |                |
| Stearine, | 2124 | = 46 per cent. |
| Oil,      | 2492 | = 54 " "       |
|           | 100  |                |

Temperature of stock, 46° F. ; room, 60° F. Oil stood 47° test.

November 28th :

Stock, 4136  
Stearine, 2010 = 48.50 per cent.

2126 = 51.50 " "

100.00

Temperature of stock, 44° F. ; room, 64° F. Oil stood 46° test.

Stock at 44° F. and room at 52° F. will produce oil to stand 42° F. test.

Labor varies so much according to facilities that we refrain from giving estimate. A survey of any of our packing-houses will better explain the method of pressing lard than we could attempt.

**Refined or Compound Lard**, we understand, is composed of prime steam lard, cotton-oil, and stearine used in the proper proportions, and blended while in a state of fusion and constantly agitated in tanks by means of mechanical paddles therein. When thoroughly blended and cooked it is run to coolers similar to regular tanks minus head or top, and constantly agitated in the same manner as when cooking, and also while being drawn, which is effected at a temperature which scarcely admits of its being drawn at all. The idea seems to be to constantly agitate this stock or product, we presume to prevent the different ingredients from separating or becoming streaked. It is sold for what it really is, compound lard, so that no deception is practised at all. The price is sufficient guarantee of this.

**White Grease** is made from dead hogs (not using the intestines, which go to brown-grease tank) and all other fats not fit for lard. Cooked in same manner as prime steam lard. Can be deodorized if packer so wishes at very little expense.

**Brown or Yellow Grease** is made from all refuse of house, and is cooked as above.

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These greases are pressed, and the stearine sold to the soapmakers and the oils to the lubricating-oil manufacturers.

**Pigs' Feet**, when not used as glue stock, may be rendered, and yield about fourteen per cent. high-grade white grease, which is profitably utilized by our large refiners. With the exception of its being of a glutinous consistency, it might be used in prime steam lard if in not too large quantities. There is nothing objectionable whatever in straight pigs'-feet grease, any more than the heretofore mentioned quality.

#### THE MELTING-POINT OF LARD.

The melting-point of a pure lard is a characteristic of great value. The melting-point of the fat of the swine varies with the part of the body from which it is taken. The fat from the foot of the swine appears to have the least melting-point, viz., 35.1° F. The intestinal fat seems to have the highest, viz., 44° F.

In fat derived from the head of the animal the melting-point is found to be 35.5° F., while the kidney fat of the same animal shows a melting-point of 42.5° F. In steam lards representing the lards passed by the Chicago Board of Trade the melting-point for ten samples was found to vary between 29.8° F. and 43.9° F. In general it may be said that the melting-point of steam lards is about 37° F., which is the mean of ten samples examined. In pure lards derived from other localities the melting-point was also found to vary. A sample of lard from Deerfoot Farm, Southborough, Mass., was found to have a melting-point of 44.9° F., while a pure lard from Sperry & Barnes, New Haven, Conn., melted at 39° F. The mean for eighteen samples was 40.7° F.

While the melting-point cannot be taken as a certain indication of the purity of lard, nevertheless a wide variation from 40° F. in the melting-point of lard should lead at least to a suspicion of its genuineness or that it was made from

some special part of the animal. Perhaps one reason why the melting-point has not been more highly regarded by analysts is because of the unsatisfactory method of determining it, but when it is ascertained by the method used in these investigations it becomes a characteristic of great value.

The difference in shrinkage of "Prime Steam" and "Jacket Kettle Lard" is quite five per cent. in favor of prime steam, inasmuch as there is seldom any appreciable quantity of fat left in hog tankage from lard tank, while it runs quite high in jacket kettle and still much higher in butcher's kettle lard.

If packers and butchers will adopt the simple method of grinding all their fat before putting it into tank or kettle they would save time, labor, and lard, and make an article superlatively better than at present. Small packers and butchers can use with perfect success their meat-hasher or grinder.

Lard is only the fat surrounding the fibre and tissue, and the simplest method of eliminating it in the cooking process gives best results.

Kettle lard and jacket lard are very frequently—too frequently—depreciated in value by an effort to make the fat yield all the lard, and in this effort the outside of the *cubs* becomes roasted and brown before the interior part can be made hot enough to break the fat globules; hence it is plain that if the fats are ground or made into pulp, the separation is almost simultaneous with heated contact and the time required in the operation reduced to one-third, and the lard, instead of a dark color, is a pure white, when the cracklings contain scarcely any lard after pressing.

#### GUTS AND CASINGS DEPARTMENT.

With the increasing demand for all kinds of sausages, it is a natural consequence that this branch of the packing industry is also forging to the front. There are several very



large firms in this business who have branches in every part of the civilized world. Some of our largest packers put up their own guts and casings, but the large majority contract them to one or another of the heretofore mentioned large firms, who send their own men out to look after their interests. For bung guts they pay packer in the neighborhood of  $2\frac{1}{2}$  cents each, that is, for No. 1 bung guts; and for casings pay about  $2\frac{1}{2}$  cents per hog. These prices, of course, vary. If the packer can turn over to these firms eighty per cent. of No. 1 bung guts, he may consider same good work. No. 1 guts for export (wide) must be 4 feet 6 inches long; prime wide, 3 feet long; consequently small hogs would scarcely produce bung guts coming under this classification. Then, again, these guts must not be *scarred*. So that, taking a regular run of hogs and other items into consideration, eighty per cent. would be undoubtedly good work. Where firms handle the guts themselves, as high as ninety per cent. may be had, simply because they can themselves use what guts contractors would throw out. However, this is merely a matter of arrangement between packer and contractor. The bung guts are taken from the gutter, stripped, trimmed, turned, and inspected; then are placed in vats containing ice-water, and must be frequently stirred. The idea is to chill them thoroughly and as quickly as possible, after which they are assorted to different lengths and grades, well rubbed in salt, tied in bunches of tens, and packed in tierces. The points are to thoroughly wash, chill, and salt, after which they are ready for use. Will bring in the neighborhood of five (and over) cents each.

**Casings.**—Soak for two days—one day in cold water and one day in warm pickle—after which allow to ferment as long as two days. Put through warm water to machine, after which they are cleaned by hand and inspected for cuts. Well rubbed in fine salt and packed in bins for three or four days, or perhaps a week, if convenient. May then

be removed, all the salt shaken out, and re-rubbed in very fine salt and packed in barrels or kegs in bunches of about four pounds each. Casings will carry easily thirty per cent. salt without having any such appearance, and as high as fifty per cent., we have no hesitation in saying. Fair hogs will yield one-fourth pound cured casings free of salt. Usually figured on an average run four hogs per pound of casings.

The following figures will give an idea of the business from a financial standpoint:

No. 1.—4 Months' Killing.—49,507 Hogs; 34,430 No. 1 Guts; 13,284 lbs. Casings; 48,425 lbs. Salt; 38,500 lbs. Ice; \$930.85 Payroll; \$111.00 Tierces; \$111.00 Freight.

| Dr.                                              | Cr.                       |
|--------------------------------------------------|---------------------------|
| Hogs, 49,507 @ 2½c. each for casings. \$1,237 67 | Casings, 13,284 lbs. @    |
| Guts, 31,420 @ 2½c. each ..... 776 50            | 30 cents ..... \$4,015 20 |
| Ice, 38,500 @ \$3.00 per ton ..... 28 50         | Guts, 34,430 pieces @     |
| Salt, 48,425 @ \$6.00 per ton ..... 145 20       | 4½ cents ..... 1,551 60   |
| Tierces, 111 @ \$1.00 each ..... 111 00          |                           |
| Freight, as an estimate ..... 111 00             |                           |
| Payroll for 4 months ..... 930 85                |                           |
|                                                  | \$5,566 80                |
| Balance to Credit .....                          | 2,216 68                  |
| Cost of manufacture per hog .....                | 6½ cents.                 |
| Net profit per hog .....                         | 4¼ "                      |

No. 2.—4 Months' Killing.—53,965 Hogs; 37,830 No. 1 Guts; 14,424 lbs. Casings; 54,830 lbs. Salt; 41,500 lbs. Ice; \$1,017.90 Payroll; 94 Tierces; 27 Barrels; \$121.00 Freight.

| Dr.                                 | Cr.                          |
|-------------------------------------|------------------------------|
| Hogs, 53,965 @ 2½c. .... \$1,349 13 | Casings 14,424 lbs. @        |
| Guts, 37,830 @ 2½c. .... 850 95     | 30 cents ..... \$4,327 30    |
| Ice, 41,500 @ \$3.00 ..... 41 50    | Guts, 37,830 pieces @        |
| Salt, 54,830 @ \$6.00 ..... 164 46  | 4½ cents each ..... 1,701 90 |
| Tierces, 121 @ \$1.00 ..... 121 00  |                              |
| Freight estimate ..... 121 00       |                              |
| Payroll 4 months ..... 1,017 90     |                              |
|                                     | \$6,029 10                   |
| Balance to Credit .....             | 2,368 17                     |
| Cost of manufacture per hog .....   | 6½ cents.                    |
| Net profit per hog .....            | 4¼ "                         |

These figures were not made under the most favorable circumstances, hence we have no hesitation in saying that the net profits accruing from this business per hog, under fairly favorable circumstances, would easily reach five cents per hog. This must be taken into consideration, however: these firms have branch houses all over the civilized world, and consequently can find much readier markets for their goods than could the packer, and at better prices. Consequently, after all, it is perhaps more profitable for the packer to contract guts and casings in this manner than to undertake the manufacture of them himself, especially in houses where only a comparatively small business is done. He can easily arrange to get all guts and casings for his own use at a nominal figure from contractors.

**Hair and Bristles** are also in many cases contracted to firms who also send men to attend to same. Hogs will yield about one-third pound bristles and one pound hair cured. The bristles are used in the manufacture of brushes and the hair for mattresses, sofas, etc. Hog's hair is well-nigh indestructible, and may be left out exposed to the weather all winter, which process is necessary for the removal of the cuticle from the hair, etc. About five cents per hog is the regular price paid packers for hair and bristles by the contractor, who also pays his own labor, finds sacks, salt, barrels, etc. It is important that bristles left around in barrels be kept from overheating. An ordinary bucketful of salt, foot-salt, for instance, should be put on every barrel of bristles to prevent overheating. At the factories the bristles are thoroughly cleaned and combed. The hair is also thoroughly cleaned of all dust and dirt and curled by steam prior to using. White bristles are kept separate and bring a much higher price than the black. Winter hair is of much better quality than summer hair. Hair firms do not make contracts for summer hair, but leave this to the packer, who usually spreads same on hair-field until after season and

then puts up and ships for whatever he can get for it, the firms taking the winter hair usually buying same for from one to two cents per pound, less freight, as the case may be. Our advice would be to those killing a limited number of hogs not to lose any time on summer hair.

#### FERTILIZER DEPARTMENT.

The solid refuse from tanks, after being subjected to powerful steam or hydraulic pressure, is passed through a dryer, thereby bringing moisture test to from eight to twelve per cent., in which condition there is no danger of fermentation, overheating, offensive smell, or loss in weight.

**Dried Blood.**—To manufacture this the blood is coagulated by steam, afterward pressed and passed through "dryer," and will analyze as follows: 8.50 per cent. moisture and from fifteen to seventeen per cent. ammonia, and is sold at so much per unit of ammonia.

**Concentrated Tankage or "Stick"** is the solid left from evaporated tank-water and is of a molasses appearance and consistency. It is afterward baked in shallow pans and then ground. It will analyze as follows: About two and one-fourth per cent. of moisture and fifteen per cent. of ammonia, and is sold per unit of ammonia.

**Tankage** is the solid refuse from tanks and when dried will analyze nine per cent. ammonia, twenty per cent. bone phosphate, and about 8.50 per cent. moisture. If regular run of blood and pigs' feet is included it will analyze about 8.50 per cent. ammonia and twenty-six per cent. bone phosphate.

The following actual analysis, made by one of our foremost chemists, may prove of interest. Includes cattle, hogs, and sheep refuse:

Dried blood: Moisture, 8.42 per cent.; ammonia, 17.15 per cent.

Concentrated tankage: Moisture, 2.10 per cent.; Ammonia, 15.76 per cent.

No. 1 ground tankage : Moisture, 8.65 per cent. ; bone phosphate, 18.93 per cent. ; ammonia, 9.81 per cent.

Raw bone meal : Moisture, 6.45 per cent. ; bone phosphate, 54.53 per cent. ; ammonia, 4.93 per cent.

Ground steam bone : Moisture, 5.93 per cent. ; bone phosphate, 56.88 per cent. ; ammonia, 3.91 per cent.

Dried blood is considered one of the most valuable of fertilizing materials and runs anywhere in the vicinity of \$2 per unit of ammonia f. o. b. Chicago, which is equivalent to \$34 per ton. It is easily assimilated in the soil, consequently gives a quick return.

**Concentrated Tankage.**—The discovery of the utilizing of tank-water for the manufacture of this material is, some people say, to be credited to a Belgian chemist, but we think it is really due to one of our own countrymen, whose place of business or office is not a thousand miles from the Board of Trade, Chicago. This material is worth \$1.75 per unit, or thereabouts. These high-grade ammoniates are most in request where only ammonia is wanted by the fertilizer manufacturer.

**Ground Tankage** contains both ammonia and bone phosphate of lime and is sold at so much per ton guaranteed, nine and twenty or seven and thirty per cent., or as the case may be. It is a very desirable fertilizer to the farmer. It will run about \$18 to \$19 New York per ton.

**Raw Bone Meal** is manufactured from all the bones not otherwise disposed of, and is worth about \$20 per ton f. o. b. Chicago. It is a very desirable fertilizer, slow but lasting in its effects, which for pasture and wheat-growing are the very requisite qualities.

**Ground Steam Bone** is manufactured from the bone from the glue factory, which, having been treated in acids, is in a decomposed state, allowing of its quicker action in the soil, but possessing less vitality than raw bone meal. It is worth about \$18 per ton f. o. b. Chicago.

## COTTON-SEED OIL MANUFACTURE.\*

THE FUNDAMENTAL PRINCIPLES OF OIL MILLING.—A SYSTEMATIC ANALYSIS OF CAKE INDISPENSABLE.

To the modern oil miller a thorough knowledge of the technical detail of the various manufacturing processes becomes an essential condition of success. Furthermore, the knowledge must be acquired in a practical manner, if salutory and permanent results are to be obtained. Ten or twelve years ago, in cotton-growing districts, where an abundantly reproductive soil furnished lavish supplies of seed at low prices, the prospect of reaping a golden harvest by transforming the crude material into the manufactured products of oil and cake was of the most alluring character. It was recognized that the oil commanded a high figure, while the cake could be readily disposed of on a permanently active market—conditions which are remarkable by reason of their absence in current times. The facilities with which supplies could be obtained, and the knowledge that the manufactured products gave more than a reasonable guarantee of early and profitable returns, materially enhanced the value of the business, and attracted the attention of many to whom its peculiar characteristics were utterly unknown.

Mills sprung up as if by magic, and the whirr of machinery was heard for the first time in many of the distant cotton-growing districts. The opinion was wide-spread that he who used the most seed, and therefore made the most oil and cake, made the most money. Unfortunately, this fallacious impression obtains in very many quarters to-day. The seed was rushed through each of the manufacturing

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processes—linting, hulling, rolling, cooking, and pressing—regardless of the fact that no more wasteful method could be possibly pursued. The system is prodigal in the highest degree.

This was unavoidable, owing to the peculiar conditions which controlled the situation. In extensively cultivated cotton districts, such as are to be found in the South, in which a new industry of wide proportions and illimitable possibilities suddenly started into life, the logical consequence was that many who saw the trend of the times, and were possessed of sufficient financial stability, determined to improve the opportunity by embarking into (to them) an unknown and difficult manufacturing industry. But the incentive was too salient to withstand—that of metamorphosing the hitherto considered worthless crude material into the valuable manufactured products of oil and cake—and if any scruples were entertained as to their incapacity concerning the management of the business thus opened out to them, they were speedily overcome, and the work of mill construction and subsequent manufacturing went on apace.

The knowledge of the requisite machinery, methods of operation, or the fundamental principles which govern the manufacturing processes, was limited to comparatively few. Mills were erected and put into operation frequently under the immediate supervision of incompetent men, without the mature deliberation which such an important undertaking deserved. The men referred to claimed the significant appellation of experts, and were said to be identified with linseed-oil interests in the Northern States, but their claims were far from being sustained by subsequent results. Not a few plants were put together lacking the indispensable requirements which are concomitants of efficient work, while a thoroughly equipped mill, where such was in operation, was conducted on principles foreign to regularity, and therefore detrimental to permanent success.

The ruling prices of the crude and manufactured products were auspicious—that is, seed was obtainable at a very low figure, while oil commanded a very much higher price than has since obtained, and more than double the current figures. These were circumstances which enabled the crusher to meet current obligations, notwithstanding the presence of wasteful processes, and coincidentally leaving sufficient margin of profit to excite the interest of others who were contemplating similar action by launching into the spreading industry.

Under these peculiar circumstances the crusher could afford to disregard many of the forms in the respective processes, of which he was doubtless ignorant, and of which a strict adherence thereto becomes one of the indispensable features of modern oil milling. This is owing to a complete reversion of former conditions, high prices for seed and low prices for oil and cake, the situation being intensified by the existence of keen competition.

The latter conditions now obtaining, the prudent manufacturer is constrained to estimate his prospective profits on the basis of systematic and economical methods, unremittingly maintained from the moment the seed is caught up to be denuded of the adhering cotton, until it leaves the hydraulic press in the form of oil and cake.

It is an incontrovertible fact, as determined by the writer on numerous occasions by analysis of cake, that the great majority of mills, even those constructed under the most approved plans, permit a very much larger proportion of oil to be left in the cake, by reason of defective work, than is consistent with efficient management. It is therefore palpable that a mill may be equipped in first-class fashion, possessing all that is essential in the production of satisfactory results, and yet wasteful methods characterize its operation. For instance, it is impossible to procure good results unless a regular feed be maintained on the rolls,

and adequate time taken for heating and agitating the contents of the kettle, while the final process—that of the oil expression by hydraulic pressure—should be maintained unrelaxed for at least thirty minutes. By rushing the feed through the rolls, to make time, the seed is imperfectly ground, which, together with curtailment of the normal cooking period in the heater and of the requisite time for the perfect extraction of the oil in the hydraulic press, produces a high percentage of oil in the cake as the inevitable result. However efficiently the succeeding processes may be maintained, the normal proportion of extractable oil cannot be procured if the rolling process be irregularly conducted. A slow and uniform feed, ground by a set of perfectly true rolls, is, after the linting and hulling processes, the first important step in economical work.

In addition to the regular cake analyses which should be maintained, the use of scientific apparatus of an inexpensive nature, and requiring but little attention, will enable the manager or superintendent to keep in touch with every part of the mill, of whatever capacity, and to regulate the respective processes with unerring precision. The system which the writer purposes placing before the seed crushers and refiners of cotton-seed oil has never been previously suggested in connection with that industry. Its introduction will prove of incalculable service from a practical and economical standpoint, and it will be described in detail in succeeding pages.

**EXTREMES OF TEMPERATURE IN COOKING THE MEALS EQUALLY WASTEFUL.—SHORT TIME PRESSING BANEFUL IN ITS RESULTS.—THE STEAM PRESSURE-GAUGE AN IMPORTANT FACTOR IN THE ATTAINMENT OF EFFICIENT WORK.**

As pointed out in the first article of this series, the presence of a defect in any of the processes deleteriously affects

the succeeding one and the final oil yield. However efficiently the seed may be ground on leaving the rolls, if the treatment the crushed material is subjected to in the heater be either in excess of or lacking the normal temperature, the results will be of a decidedly unsatisfactory nature and proportionately destructive.

In the case of a reduced temperature, from whatever cause—omission being the primary one—the subsequent operation produced by the hydraulic press, however prolonged and maintained with unrelaxed pressure, will fail to extract that proportion of oil which should be obtained under normal conditions.

If, on the other hand, it be found that an excessive temperature has been maintained in the crushed material in the heater—while all the extractable oil may have been obtained—unfortunately, a circumstance of rare occurrence in conjunction with efficient methods in a Southern cotton-oil mill—investigation will reveal the fact that it is at the expense of destroyed bagging and hair matting, where such is in use, and discoloration of the oil. The increased temperature and the maximum pressure acting simultaneously on the woven material, stretch and rend it long before the expiration of its regular period of utility has been reached. The writer has seen new press bagging of the camel-hair variety destroyed in a few hours by this pernicious neglect, while the weaker fabric, of which a great quantity is in use, under similar conditions is fractured at the first charge.

When the aggregate loss entailed by the destruction of the expensive press bagging and incidental sequences of an equally baneful character, are considered on the one hand, and the loss of from one to seven gallons of unextracted oil per ton on the other, the adverse financial situation in which the majority of the cotton-seed crushers have been placed may be readily understood.

Again, let us suppose that we have gone through the

respective processes in the most efficient manner, until the action of the hydraulic ram is called into requisition in the prosecution and completion of the work. Should the irregular action of the pressure caused by leaks or the reduction of power at steam boilers superinduce a relaxation, the practical work which characterized the preceding processes will have been rendered abortive to a very material extent.

Furthermore, the abridgment of the period essential to the thorough extraction of the oil at the maximum pressure, to permit of more frequent charges, presents similar conditions. It is a notorious fact that the latter reprehensible system is wide-spread, and that the policy of rushing through the respective manufacturing processes, the greatest possible quantity of material, to the utter disregard of practical and economical principles, has too many adherents.

Clearly, the defective principles here demonstrated indicate the urgency of speedy reformation. A reversion of existing conditions is easily within the reach of every manufacturer. By supinely tolerating their continuance the evils which have encompassed him in the past are more than likely to be reproduced in the future. A mill in one district may be prosperous owing to efficient management, while that of another may be in adverse circumstances from its inability to successfully compete at current prices with modern innovations and more practical and, therefore, economical methods.

The first step in the amelioration of these conditions consists in commencing at the fountain-head—the boilers, which are the seat of power, and upon the regularity of which, with regard to the heating and pressing operations, respectively, much depends. Fluctuations of steam pressure in oil mills are probably more pernicious in their results than in that of any other industry. To obviate this difficulty, to detect immediately and record such occur-

rences at whatever time effected, the initial step to economical work consists in connecting a recording pressure-gauge with the boilers. Apart from the very essential manufacturing principle involved, safety and economy are best subserved in the management of the boilers by the use of this silent and incorruptible witness. Its presence serves to stimulate the flagging zeal of the indifferent fireman to renewed efforts in the attainment of uniform pressure not only on the boilers, but on the direct-acting steam hydraulic pumps, where such are in use, on the jacketed heater and throughout the entire steam connection. The watchful attendant on whom devolves the duty of regulating the steam in heater jackets and that proportion which is blown directly into the crushed and agitated material in the interior, is thus enabled to alter the conditions according to the nature of the meal with a degree of certainty impracticable under irregular or reduced temperature. For illustration, let us suppose that for some reason the steam pressure in boilers is relaxed, so that it is difficult, if not impossible, to temper and correctly treat the material suitably, yet not reduced sufficiently to bring the engine to a standstill, the natural sequence is that, owing to inadequate manipulation, the hydraulic pressure in the succeeding operation fails to extract the normal proportion of oil, and the crusher is just so much the loser. The recording gauge automatically registers the occurrence on a uniformly moving chart, thus obviating any efforts at concealment on the part of those responsible for such casualties. The salutary effect of the knowledge that an investigation will surely follow such a delinquency, acts as a powerful deterrent.

THE RECORDING THERMOMETER USED TO INDICATE PAST  
CONDITIONS PRESENT IN HEATER.

The next proceeding in the attainment and continuance of uniformly practical work consists in the introduction of



the same principle in connection with the heater, with this difference—that the temperature is gauged and recorded instead of the pressure. The steam pressure recording gauge has long been utilized, and with uniformly good results, in connection with steam boilers, but the recording thermometer has never been used as a means of establishing the past conditions present in the heater. Its feasibility and the success which has attended this device in other industries, impressed the writer with the conviction that it can be used to very great advantage in the manufacture of cotton-seed oil and cake. It will respond to a long-felt want in a most convincing manner, by solving one of the most difficult problems in oil milling—that is, the attainment of absolute uniformity of temperature throughout the treated material. The recording thermometer, which may be adjusted to the side of the heater, would be connected by a small, flexible copper tube, with a small coil suspended in the interior of the heater, in such a position that the arms of the sweeps, or agitators, will clear it, and yet be situated where the treated material is most affected by the live steam which is blown in direct from the boilers. The coil must be protected in a suitable manner. The interior of the recording part of the apparatus consists simply of the helical form of recording pressure-gauge, while the coil suspended in the heater would be partially filled with alcohol, which latter produces variations of pressure according to the ruling temperature, the latter being exactly recorded on the accompanying chart, which makes one complete revolution every twenty-four hours.

This chart may be looked upon as the unerring medium for recording the incontrovertible history of the conditions which are obtained during that period. These can be removed daily and placed in an album which is specially provided for the purpose.

The value of this faithful conservator as an untiring re-

mind of current delinquencies to those responsible is thus readily understood. Its presence will hold the attendant strictly to the duties which he is expected to perform, and upon which so much depends in the successful termination of the processes. The changing conditions which distinguish the ground material in the heater exact unremitting attention in grading the temperature to the appropriate degree. This device has been successfully introduced in other manufacturing industries where uniformity of temperature is a desirable feature, but to none is it of more consequence than to the seed crusher.

A steam pressure may be maintained uniformly in the boilers, and yet be very insufficiently applied to the meal in the heater, or the reverse (and perhaps equally reprehensible) condition may prevail in the form of excessive temperature, owing to irregular and infrequent manipulation of the steam valves. As in the case of the fireman, the heater attendant is perforce compelled to closely watch the constantly varying temperature of the ground material and apply or reduce the amount of steam, either in the heater jacket or for that which is blown directly into the meal, in conformity with the ruling conditions. Failure to maintain uniform temperature, whether on the day or night watch, means sure exposure, as indicated by the chart, and the sequel to this, which he doubtless dreads, will be obviated by efficient work.

Necessarily, the changing conditions of the meal in the heater—owing probably to the fact that, among other causes, one portion of the seed may contain a greater proportion of moisture than that which has just preceded it, or the reverse—will show a corresponding difference on the chart, but it will not be of sufficient significance to affect the final oil yield if the steam heater valves are simultaneously regulated. When the engine slows down at the noon or midnight meal hour, or at any time that it is found neces-

sary to bring the mill to a standstill for a period exceeding three or four minutes, it is of the greatest importance that the steam jet valves should be shut off and the exhaust valves connected with the jacket closed, if in use. Neglect of this will assuredly cause the substance to be heated and saturated with moisture far beyond the point where economy ceases. This overcooked material, when subjected to the subsequent pressing operation, will spread in the effort to escape the gradually increasing pressure, and in so doing carries the press bagging material with it, thus rending and in a comparatively short time destroying it effectually. On the other hand, in the event of the valves having been shut off at the proper moment, but through omission are left in that situation for a greater or less period after the engine has been again put in motion and the manufacturing processes resumed, the results are similarly pernicious in their far-reaching influence, as demonstrated by the inferior oil yield and a correspondingly high percentage in the cake.

These culpable conditions, which have so frequently met the astonished eye of the superintendent, the manager, or the proprietor, as the case may be, on his arrival on the mill premises in the morning, and to whom the whole affair may appear inexplicable, whether it be destroyed press bagging or inferior oil yield, may interpret the origin of the difficulty by the foregoing details. The temptation which the small hours of the morning sometimes present to indifferent press-room help to relax their regular routine of duties is readily overcome, owing to the presence of such an unimpeachable witness in their midst.

On an occasion not remote the writer stepped into a press-room at 1.30 A.M., on the night watch, and, while the surrounding conditions seemed normal, a closer investigation revealed the fact that *the contents of the heater were cold*, owing to the steam valves having been left untouched from the time they had been shut, when the engine slowed down.

at 12 M., for the double purpose of oiling up and partaking of meals. The engine having started up at the expiration of the regular half-hour, the rolling, moulding, and pressing had been maintained without the slightest application of steam, through the unpardonable neglect of the heater attendant, who had been in the meantime called from an out-of-the-way quarter, where he had been quietly enjoying a sound sleep, blissfully indifferent to the fact that during the period that he had been absent from his post of duty, an amount equal to many times his daily stipend had been irrecoverably lost.

To procure the normal proportion of oil it is absolutely essential that the meal should be efficiently treated, which desideratum is only acquired by close attention, in the form of frequent tests of the meal and correct adjustment of the valves.

These generally recognized dogmas in oil-mill ethics were equally well known to the operator who was thus derelict in his duties, and who would doubtless not have been caught napping had any restraining influence been brought to bear, such as the telltale thermometer. Not only was this man discharged, but so also were the two men whose work was in close proximity to the neglected heater—a fate which they justly merited, owing to the palpable indifference they displayed to their employer's interests by silently tolerating such wasteful work.

The use of a recording thermometer would at once disclose any defect in the heater in the form of a flaw or crack. The leaks resulting from such render it impracticable to turn out a uniformly cooked product, and on failure to caulk or stop such leaks, whether in a single casting or wrought-iron heater, the apparatus should be abolished for a new one, and by so doing economy is best subserved. The trustworthy operator would welcome the presence of such an innovation, for the reason that, should any defect be

demonstrated of a serious nature, such as a low oil yield, the thermometer chart, showing a uniform temperature throughout his watch, is a guarantee of duties faithfully performed, and an indication that the rolling or pressing operation is at fault instead of the cooking.

PRESSURE AND ITS CORRECT APPLICATION IN THE OBTAINMENT OF THE EXTRACTABLE OIL.—THE RECORDING HYDRAULIC PRESSURE-GAUGE AN INVALUABLE AID.

Having proceeded thus far in the respective processes, assured that nothing has been left undone that would further facilitate the expression of the oil or improve the standard of the work executed, the next important and final step consists in the action of the hydraulic pressure. A *sine qua non* in the successful prosecution of the work yet to be done consists in uniformity of pressure. It is a fact that pressure produced by any system, however perfect the automatic arrangements may seem, will at times fluctuate by reason of some mechanical derangement in the principle used in its application, whether by the direct-acting steam pressure pump, operated in conjunction with an accumulator, by belt transmission, or by whatever system employed. Unquestionably, the best form of applying pressure is that of the former, which under normal conditions gives invariable satisfaction. But the pump and its efficient auxiliary, the accumulator, may be in thorough working order, the regular gauge indicating the exact pressure required; yet, owing to some difficulty, revealed upon careful investigation, but a fraction of the desired pressure may have been exerted on the hydraulic ram, the inevitable result being a fractional yield of the normal proportion of extractable oil. This deficiency of pressure may have existed for an indefinite period on any particular press, during which time the manufacturer has been losing heavily. Doubtless the regn-

lar pressure-gauge, if connected to the press, would at once indicate the presence of such defective work, but the gauge is not very closely scrutinized by the average pressman, especially during the long hours of the night watch.

The system which makes possible the existence of such egregious irregularities is clearly at fault, and urgently in need of speedy reformation. Here, again, the progressive march of science may be utilized to excellent advantage in the attainment of absolutely accurate work, by the introduction of the recording hydraulic pressure-gauge. The regular hydraulic gauge, while indicating current pressure, is useless as a reflector of past conditions. This fact fosters inattention, and is an unfailing source of incipient trouble, which at times is developed to an alarming extent—conditions which rarely or ever appear on the surface, but which are demonstrated by the imperfect yield, a circumstance which is invariably attributed to poor seed or some other cause.

Referring further to the ordinary hydraulic pressure-gauge, a relaxation of from five hundred to a thousand pounds pressure per square inch may have been maintained for an indefinite period, the regular hydraulic gauge at the time showing the true condition; but the return to the normal pressure and the simultaneous indication thereof on the gauge dial effectually blot out the events of the past. During the period that the reduced pressure was maintained the manufacturing processes were in continuous operation; and the inadequate pressure failing to extract the normal proportion of oil, a high percentage is left in the cake, which as oil is utterly lost to the manufacturer.

It will thus be seen that the efficient work which may have preceded this serious anomaly will have been nullified—the object for which the pressing operation has been called into requisition being materially frustrated—owing to the failure of the press to perform its regular functions.



The subsequent analysis of cake reveals the true condition of affairs; and while it is too late to avert the evil already effected, the knowledge thus demonstrated by analysis enables the manager or mill superintendent to fully realize the gravity of the situation and to adopt precautionary measures to obviate similar occurrences in the future.

By connecting a recording pressure-gauge to the pump—or, better still, to each press—the history of the twenty-four hours' previous work is unimpeachably recorded. Some forms of gauge now on the market have the marking pointer attached to the tube, and, actuated by the applied pressure, it has a tendency to uncoil or straighten, a circumstance which causes the marking arm to move around the range of the chart without the necessity of any intervening device. This gives a continuous record of the pressure brought to bear on the ground material, and its adaptation would be a decided advance in modern oil milling.

The method of treating the crushed cotton-seed in the heaters differs slightly from that of linseed when being manipulated in the manufacture of linseed oil, although the same general principles govern the manufacture of all vegetable oils.

Some varieties of seed contain a much higher percentage of moisture than others, especially when recently removed from the plant. To the latter class cotton-seed belongs, and in the case of green seed, instead of adding artificial moisture in the form of steam blown directly into the crushed material in the heater, heat radiating from the jacketed heaters is brought into requisition to remove the surplus natural moisture, the presence of which would otherwise be destructive of the press bagging in the final pressing operation. The foregoing reference with regard to the introduction of live steam in the crushed material in the heaters, had more direct bearing on the linseed than the

cotton-seed pulp in heaters, but the lack of sufficient heat in heater jackets in cotton-seed oil manufacture is as baneful in its results as in linseed oil manufacture. In nearly every variety of linseed, excepting the watery and unripe product, a certain proportion of steam must be blown into the crushed material in the heater, in addition to that which should be always maintained in the jacket, to facilitate the flow of oil. Cotton-seed which has been in storage for a prolonged period, during which the proportion of natural moisture has largely decreased, will also require the application of live steam in the heater if the correct proportion of extractable oil is to be procured.

There are a large number of mills in England which operate cotton-seed and linseed alternately by means of the same machinery, which, of course, includes heaters. The cotton-seed used is chiefly of the Egyptian variety, and a certain proportion of steam is forced into the meal in the heater in every instance to replace the natural moisture evaporated by reason of the prolonged period between the removal of the seed from the cotton plant and its treatment ultimately by the crusher. These conditions obtained in this country for many years; but as the interests of the crushers are best served by working off the seed as soon as possible after the crop has been gathered, with as brief a storage duration as possible, to avoid heating, etc., and in conformity with the methods heretofore referred to, heaters specially constructed are now used, having large areas, so that an extended surface of the cotton-seed meal may be subjected to the dry heat emanating from the surrounding jackets and bottoms, thus procuring a thorough dissemination, thereby effecting evaporation of the surplus moisture in a more satisfactory manner than was heretofore possible by old methods.

MODERN HEATERS, THEIR CONSTRUCTION, AND MODE OF OPERATION.

In the manufacture of cotton-seed oil various forms of kettles or heaters are used. Two recent innovations, materially differing in design, though similar in principle, and constructed by different mechanics, are now in operation in some mills, and it is claimed for each that they obtain a better cooked material than is obtainable by any other contrivance. As a proper temperature in the treated material is of vital importance, no pains should be spared which conduce to this result. In order to produce a uniformity of temperature, great efforts have been made to devise appliances by means of which the manipulation of the meal may be facilitated.

It is essential to maintain a certain temperature consistent with prevailing atmospheric influences, and the acquisition of knowledge to efficiently perform this highly important process is secured only by practical experience. The arrangement now in operation in the leading mills consists in three kettles, or heaters, so organized that while one is delivering a cooked charge, another is preparing a second charge, and the third heater is receiving its *quantum sufficit*, to be in readiness for the succeeding cooking operation, the heat radiating from the bottoms and jacketed sides of the heaters continuously driving off the accumulation of natural moisture in the crushed material.

The heaters included in the various designs differ in size proportionate to the capacity of the mill. The design and mode of operation of the class including three in a single combination, and by the correct use of which a uniformly tempered product is obtained, is as follows: Two kettles, or heaters, which we will call Nos. 1 and 2, are placed

in an elevated position and resting on top of the lower heater, which will be represented by No. 3, the lower part of the latter being about four feet from the floor, and the whole supported by stout iron columns. The point at which the peripheries of the two upper heaters adjoin is immediately over the centre of the lower one.

In order to more fully describe the cooking operation, we will suppose it is Monday morning and the mill is about to commence the first watch of the week. The heaters are clean and, everything being in order, the engine starts, and soon the complicated mechanisms of the numerous machines are set in motion. The feed is turned on the rolls and the real manufacturing processes have fairly begun. The crushed seed is continuously elevated from the hopper beneath the rolls and falls in No. 1 heater until it contains a sufficient quantity, when it is shut off and permitted to fall into No. 2 heater.

Probably the form of heaters most suitable in the manufacture of cotton-seed oil, and that which has come into general use in the leading mills, and a large proportion of those of recent construction, consists in a set of three, situated in a continuous position and on the same plane. Under the heaters, and immediately beneath a segment of the circumference of each, a steam jacketed conveyer passes the treated material to the moulding machine to receive preliminary formation, prior to being subjected to the action of the great hydraulic press.

The arrangement of three permits an extended time for the dry heat evolved from the steam space around and beneath the heater to radiate throughout the crushed seed, and very materially facilitates the driving off of excessive moisture, when such is present.

The steam jacketed conveyer was designed with the object of maintaining continuously a uniform temperature on the crushed material from the moment the latter falls into

the heater until withdrawn from the conveyer, to be shaped into cake form, thereby producing uninterrupted and prolonged evaporation. The utility of such design, both in the form of heaters and conveyer, will be readily appreciated by the crusher whose raw material is similar to that which is offered in various districts in Texas, South Carolina, and other cotton-growing sections at the moment. The conditions which govern the cotton-seed market in these States and the quality—green, and consequently full of moisture—should act as salient incentives in pursuing the most economical course in the obtainment of best results. By exposing as large a proportion of the meal as possible to the action of the heat in bringing the former into direct contact with the steam jacketed sides and bottoms, a more perfect evaporation of moisture is obtained in the heater.

The sweeper or agitator revolving with the vertical shaft around the bottom, by continuously changing the position of the meal, facilitates the dissemination of the heat throughout the latter. A body of crushed seed eight or ten inches deep can be treated much more effectively in the heater than one of twelve or fourteen inches, owing to the fact that the former being less dense, the heat is more uniformly distributed, and more satisfactory results accrue. Here the superiority of the modern system of cooking over the older is made manifest. With a single heater from which charges were frequently withdrawn in rapid succession, as in the case of this now obsolete method, as far as cotton-seed oil manufacture is concerned, a uniformly cooked material became absolutely impossible to procure. The material was permitted to fall into the heater rapidly and withdrawn similarly, the cooking period being inadequate, owing to the generally crowded condition of the latter, and the ruinous policy of setting a standard time for the output of a certain daily amount of oil and cake, or, in other words,

for the consumption of a stated quantity of seed in a specified time, regardless of the means adopted for its accomplishment.

The mode of procedure with regard to the charging and emptying of the heaters in the three-set system, is conducted so that the contents of each will have been subjected to the same period of treatment, and the proportion of heated or cooked material permitted to fall into the steam jacketed conveyer beneath being the same, as nearly as practicable, in the respective heaters. On the commencement of operations on first watch of the week, Nos. 1, 2, and 3 heaters are charged in the order named. The feed should be so graded, that by the time No. 3 heater has received its *quantum sufficit*, the contents of No. 1 should be ready for the moulding machine, and so on continuously. By means of a conveniently arranged lever, attached to the bottom of each heater, a movable slide is removed, the cooked material falling to the conveyer, to be carried along to the mould. The formation of the heater sweeps exerts considerable influence in the agitation and changing of the position of the material.

The heat at once begins to act on the crushed seed, and is uniformly disseminated through the mass by the action of revolving agitators which sweep around the bottom, carrying the meal partly around at each revolution, thus momentarily changing its position, and preventing any portion from being singed or burned. When the charge in No. 1 kettle is sufficiently cooked, the withdrawal of a slide permits it to fall into No. 3, beneath, and at the same moment the cooking process is commenced in No. 2 kettle, which by this time has had a full complement of meal conveyed to it. The feed from rolls is now directed to the first, or No. 1 kettle, which at this point is empty, having discharged itself into the lower kettle.

When the cooked meal has been withdrawn from the lat-



ter kettle for its preliminary formation, prior to being subjected to the action of the hydraulic press, the material in No. 2 kettle is prepared, and permitted to fall into the lower kettle, now empty by reason of the withdrawal of the charge for the final processes, the successive operations being continuously maintained as described.

In almost all manufacturing industries, heat and the effects produced by its agency, take precedence of all others. In the production of most manufactured products, it will be found that in some essential process pertaining thereto, heat of greater or less intensity will be utilized in some form or other. The perfect extraction of oil from vegetable substances by hydraulic pressure is very materially dependent on this principle. To cotton-seed the application of this principle is of peculiar significance, and probably of greater moment than in the case of any other. Without heat and moisture in sufficient proportions, the extractable oil will remain in the crushed material, however efficiently the pressing operation may be maintained.

THE DIFFICULTY EXPERIENCED IN TREATING COTTON-SEED MEALS SO AS TO PROCURE BEST RESULTS.

Cotton-seed, of all known vegetable substances the oil from which is extracted by hydraulic pressure, is probably the most difficult to manipulate. The greatest drawback in the manufacture of cotton-seed oil consists in the changing conditions of the seed, necessitating special treatment for each phase. Meals containing an abnormal proportion of moisture and of inferior quality, require prolonged treatment for the evaporation of the surplus moisture to prepare them suitably for the pressing operation. These untoward conditions confronted the seed crushers of South Carolina and parts of Texas recently, and in the event of the first run of the season's seed being sufficiently remunerative

to meet current obligations, not a few considered themselves fortunate. The relatively high price for a comparatively inferior material exercises a salient influence on this vital question. Under these unfavorable conditions the greatest care must be employed in the avoidance of waste, by strict adherence to the fundamental principles of oil milling, or most assuredly the manufacturer will ultimately discover his financial balance on the wrong side of the ledger.

As the season advances the material will, however, prove of better quality, and the prospective profits be augmented in the same ratio.

The uniformity of moisture which may be present in other varieties of seed, linseed for instance, enables the manufacturer to proceed with the complementary processes at regular intervals, continuously maintained from watch to watch, and from week to week, without serious interruption. In well-regulated linseed-oil mills a certain amount of oil and cake, or in other words a regular consumption of seed and corresponding number of press charges, is effected weekly. Excluding break-downs of a serious nature, the stipulated aggregate of manufactured products is thus regularly turned out with a degree of absolute certainty. The proportion of moisture present in all varieties of linseed is comparatively uniform. Probably the most immature contains but little over seven per cent., while the East India variety contains very much less, by about two-thirds. It will be thus seen that in the manufacture of linseed oil, the heater operator, by *close attention*, is enabled to turn out a uniformly cooked product by means of slight alterations of the valve positions to meet the requirements of the material under treatment. Owing to this fact, an automatic signal is operated in the leading linseed-oil mills, by means of which the operatives are apprised that the moment has arrived when the press must be low-

ored, emptied, and recharged. In connection with this automatic signal a register may be brought into requisition, by means of which the exact amount of work done by the mill may be ascertained at a glance at any hour during the week. The register simply records the number of strokes the automatic signal has made, which number corresponds to the number of pressings effected up to that moment, thus demonstrating the exact amount of work performed.

The use of an automatic announcer of this description becomes impracticable in the operation of cotton-seed oil mills, owing to the variable nature of the seed—a circumstance which places the manufacturers at a decided disadvantage, as compared with other industries of the foregoing description. No comparatively reliable calculation can be made concerning the consumption of the raw material in a given time. Nevertheless, cotton-seed is operated with the same regularity in English mills to-day as the linseed, the material being in the main of the Egyptian variety. A number of years ago, the writer superintended the operation of a mill in England, run on this principle, the seed being, however, undecorticated, and the method—now almost obsolete in that country—being the old box press.

Seed produced by our soil, however, requires very different treatment, and in view of this fact and for the purpose of obtaining a uniformly cooked product in a stated time, so that the business may be conducted on a systematic basis, similar to that of the linseed crushing industry, the writer designed the following form of heater several months ago. The peculiar characteristics of American cotton-seed and the special requirements essential in rendering it a suitably cooked material, consist in manipulating the substance in the heater so that the heat may radiate throughout the mass in the most effective manner possible. Obviously, the less densely the meals rest on heater bottoms, the more surely and rapidly the influence of temperature will make

itself apparent, and for the same reason the more perfect the mixing will be. The heat radiating from the steam spaces will more readily permeate the mass.

And the continuously recurring motion of the sweep or agitator will materially facilitate this action. The most feasible design to procure a thoroughly cooked product, from the writer's standpoint, should consist of a three or four chambered cylinder, somewhat similar in design to the latest innovation, but differing from it in this important respect: more than six inches of the crushed seed should not be permitted to enter each chamber while undergoing treatment, and instead of having the sides steam jacketed, the space between the real and false bottoms of each chamber would be found to be sufficient for all purposes. With the density of the material limited to this amount, the action of the agitators would cause a continuous changing of position of every particle of seed, and at the same time facilitate the introduction of heat from the bottom.

Where a density of from eighteen to twenty-four inches of meals is being treated in one chamber, a uniform quality of work under any conditions becomes practically impossible. Masses will be discharged into the measuring-box at a comparatively low temperature, followed by an equal amount of over-heated material, the former lumpy and of irregular character, the result being an inferior yield of oil, and where the over-heated material is withdrawn in sufficient quantities the destruction of the press bagging will be the natural sequence. Treating the material in large masses as described, promotes the formation of lumpy matter, the interior of which heat cannot penetrate, and judged from any standpoint, is a very inefficient mode of treatment.

The formation of a heater, such as suggested, would consist of four upright stanchions or hollow iron supports at equal distances apart, and at a point about four feet from the floor surface the real and false bottoms of the lower

chamber of a series of chambers would be attached, with openings in the centre, to permit the entrance of a vertical shaft to operate the agitators, suitable space being left between each, the circumference being enveloped by large hoops or sheet-iron bands, perhaps eight or nine inches wide, in four sections to each chamber, a section embracing one-quarter of the circumference, or the arch formed between each support, to which latter they would be firmly bolted, and in such a manner that the bolts and nuts would be easy of access. In the event of it being found necessary to inspect the interior of a chamber, the removal of one or more of the bands or sheeting which thus form the side of the chamber, would be easy of accomplishment. In order to obviate crowding and a greater density than six inches of meals in each chamber, long narrow openings, probably one inch in width, could be made in the bands, about six inches and a half from the bottom of the chamber, which would have the effect of causing the seed to fall to the floor, and thus promptly draw the attention of the operator, causing him to check the feed.

Irregularity is an unavoidable feature of work on resuming operations after the mill has been closed down for a period extending over a few hours. Everything is cold—heaters, jacketed conveyers, press plates, *et al*—and not until three or four hours have elapsed after the first revolution of the engine has been made, can it be said that the respective processes are maintained with anything resembling uniform work.

But this irregularity, under careful treatment, should cease at the termination of this period.

The narrow and extended openings referred to in heaters which we have now under consideration, could be utilized to good advantage during these brief periods of immature work, but, after uniformity had been established (that is, regular charges entering and withdrawing from heater con-

currently) small sliding gates would effectually enclose the material. Sufficient heat could be imparted to the meals to obviate any influence of an atmospheric character caused by the side openings, while on occasions when an unusually moist material would be under treatment they would materially facilitate the exit of moisture by evaporation. The *modus operandi* would be as follows: The meals on being discharged into the first chamber at the top would pass through the opening in the centre, and by the action of the agitators gradually work their way to the sides, between which and the jacketed chamber bottom on which the material is being manipulated, sufficient space should be allowed to permit of their free discharge into the chamber beneath, the latter having its discharge opening around the vertical shaft in centre, and not at the sides as in the one immediately above it.

The action of the agitators in the chamber would gradually carry the material to the central opening, which, by reason of its being the only place of exit, the meals must of necessity move in that direction, and soon in succeeding chambers beneath, until withdrawn at bottom. The material would thus perforce make a zig-zag course, continued from the moment of its entry at upper chamber until its exit through sliding gate in bottom chamber, and throughout its entire passage being subjected to a dry heat suitable to any of its variable conditions. This design might be used to equal advantage in the treatment of ground linseed, or any other vegetable substance, for the expression of the oil. In the case of the latter, where the addition of artificial moisture becomes imperative, live steam could be injected into the mass in top chamber, so that before its withdrawal into mould frame beneath, a uniformly treated product would be the result, alike free from lumps, excessive dryness, or surplus moisture, and possessing the correct degree of temperature.



It is a comparatively safe assumption that the meals thus caused to automatically traverse the heated bottoms of each chamber, every particle of which has been subjected to heat and agitation, will be turned out of a uniform consistency and in prime condition for the extraction of the unctuous fluid.

With heaters of this design and of sufficient area, say five or six feet inside diameter, a set of presses could be operated with regular and well-prepared charges continuously.

#### HINTS TO PRACTICAL OIL MILLERS WITH REGARD TO PRESS-ROOM APPLIANCES AND METHODS.

Owing to the fact that the first pressings are necessarily defective, a very inferior oil yield being the result, the best interests of the manufacturer are subserved by gradually reworking the cake. Although the meals encompassed in their camel-hair wrappings may possess the normal degree of temperature at the moment of their discharge from the heater, the close contact with the cold press-plates at once reduces the temperature of the treated material, a still further reduction of temperature occurring on the application of the pressure, the inevitable result being a very defective oil yield. To procure the normal proportion of extractable oil, all preceding processes being analogous, it is thus clearly demonstrated that heat becomes an indispensable element.

To obviate this difficulty not a few of the linseed-oil manufacturers use steam coils of piping between the hydraulic presses. By this means heat, equal to about 100° F., may be applied to the presses for several hours before the mill commences the first watch of the week. The night watchman permits the passage of steam through the coils at a stated time, also through the jacketed heaters, so that before the introduction of the material for cooking or press-

ing, the respective machines will be transformed from an unsuitable condition to one in uniformity with the special requirements of the case.

To still further maintain a uniformity of temperature between and around the plates of the hydraulic presses, subsequently (that is, during the period in which the oil is being extracted, and the emptying and charging of each press is carried on), a set comprising four, five, or six of the latter is enclosed by wooden erections, a glass pane in the rear permitting a view of the flowing oil, while a small hinged door in the front is permitted to remain open sufficiently long for the termination and resumption of the successive pressings of each press, respectively.

Manufacturers of cotton-seed oil will do well to closely follow the example demonstrated by the economical methods pursued in kindred manufacturing industries, as far too little attention has been hitherto bestowed on these really important matters. When the complementary processes are in full operation and a sufficiently high temperature has been obtained in the immediate neighborhood of the presses, the valve may be shut on steam coil and reopened when occasion requires. The wooden enclosures, while facilitating the maintenance of a uniform temperature, effectually ward off cold blasts from any quarter. An open window in rear of the press, through which a draught circulates, will deleteriously affect the oil yield.

In the manufacture of linseed, rape, and cotton-seed oil the writer has made an invariable practice of reworking the first pressings. Thus the surplus oil which would otherwise remain unexpressed from the residue or cake, is recovered.

The writer has analyzed cake from which the oil had been expressed by cold presses, and which revealed from fifteen per cent. to sixteen per cent. of oil, while the cake selected for analysis several hours subsequently disclosed a fraction over seven per cent. of oil. This closely approaches the cold

pressure system of extracting oil, and while the expressed fluid is usually a very superior oil and more susceptible of manipulation in the refining processes than the ordinary crude product, its continuance under ruling prices for the raw and manufactured products, would materially expedite bankruptcy proceedings involving those concerned.

Cotton-seed oil made by the cold pressure system is regularly expressed, though on a limited scale, in Marseilles, France, but a price commensurate with the cost of production is readily obtained.

It is owing to the expense incurred in heating presses, heaters, etc., which renders the operation of an oil mill a very unprofitable proceeding, unless run continuously, night and day.

It may be considered by many manufacturers that time spent in thus reworking the cold pressed material would not be so remunerative as by continuing the processes in rapid succession, the reworked material taking the place of freshly treated meals, thus retarding or prolonging the period of the consumption of seed in stock. But while it is a matter of great moment to lose no valuable time in reducing the accumulated stock in the contiguous storehouses, it is of no less consequence to subject the material to suitable treatment, so that the extractable proportion of oil may be obtained. The policy of rushing the product through the heaters and presses, under contracted cooking and pressure periods, respectively, is most reprehensible, and in the effort to obviate the possibility of heating or decomposing of the seed in stock extreme measures are too frequently resorted to. Too many of the seed crushers look at the business in a superficial manner, and, as previously referred to, base their estimate on the success of the season's run, or on the fallacy that he who consumes the most seed, and therefore manufactures the most aggregated products, makes the most money. In the end efficient work must prevail, and

in these fiercely competitive times, the manufacturer who has regarded the maxim that, what is worth doing is worth doing well, will stand out as another exemplification of the "survival of the fittest."

A very heavy item of cost with which the oil miller is too frequently confronted, consists in the enormous bills which present themselves with unfailing regularity, having in view especially the fabric which encompasses the material when undergoing pressure. It would surprise most of the manufacturers to know how easily they could cut their bill in two by giving the question the consideration it deserves, and probing the apparent mystery until the cause is unearthed and remedial measures applied. Camel-hair wrapping is by all means the best material to use, and prodigality is best subserved by substituting bastard fabrics of the mixed or cotton variety.

As the business develops, the movement for the manufacture of compound lard conjointly with the manufacture of the crude product is more than likely to have numerous followers. It is according to the natural order of things that this allied industry should eventually become practically identified with the manufacture of the crude cotton-oil. Hitherto, the business—that of compound lard manufacture—has been almost exclusively conducted by the pork packers, but the phenomenally increased demand for the latter within recent years would portend a wide field for the progressive crusher whose mill capacity would warrant the combination, and without material prejudice to the former.

#### REFINING AND FILTER-PRESS CLARIFICATION.

A thorough knowledge of the oil refining processes becomes an absolute necessity, before the question of compound lard manufacture can be entertained. The peculiar characteristics of the remaining substances which form its

constituents, must also be fully understood. Under any conditions the manufacturer of the crude oil should know how to refine it, and thus secure the increased profits deriving therefrom. It therefore becomes expedient for the crusher, whose mill capacity will warrant a sufficient oil-supply in the prosecution of the succeeding work—that of refining to be followed by the blending of the respective ingredients in the artificial combination—to acquire proficiency in the art of oil refining. This may be looked upon as a preliminary step to more progressive and lucrative work than has characterized the business in recent years.

The refining of cotton-seed oil is considered by many as an acquisition easily attained, and the subject is treated by many with much less consideration than its importance deserves. To produce the exact color, taste, flavor, etc.—in a butter-oil, for instance—and to meet the fastidious views of the various consumers, together with a minimum of waste in the manipulation, skill of no mean order becomes an essential requirement. The technical detail in the chemical and mechanical treatment of the oil, together with the behavior of the latter at various stages of the processes, must be familiar to the refiner in the execution of economical and therefore efficient work.

Experiments of an empirical character, with the inevitably profitless results, very frequently depress the ambition of the would-be refiner, and for the time, at least, the project is abandoned. Small lots carefully treated, according to the most approved available formula, and the changing conditions of the fluid under treatment accurately noted as the process advances, should mark the progress of first efforts. The cotton-seed oil manufacturer whose mill capacity is inadequate to the erection of large refining tanks, with complete equipment, together with the necessity of securing the services of a high-priced refiner, would do well to commence in this unostentatious manner.

The methods of refining in the various establishments throughout the country differ somewhat, and are based on the preconceived ideas of the respective manipulators. Oil refining, as carried on by the American Cotton Oil Co., is based on the same principle throughout its refining stations. Several of the superfine grades of oil, winter white and yellow, the quotations of which may be observed daily, exert but a very restricted influence on the commercial world. A very limited demand obtains for this class of oils.

The first important step in the production of a refined oil consists in separating the impurities from the newly made product. This is best accomplished by a brief period of repose to effect the precipitation of the heavy matter, the oil to be subsequently treated to the filtration process by means of the ordinary filter press. An oil which has been made several weeks, and from which the settlings have been removed, being thus well settled, can be pumped into the refining tank without filtration, but when practicable the latter process should be carried out in every instance.

The general principles which govern the refining process most in general use, consist in the treatment of the clarified oil with a solution of caustic soda lye graded to a certain strength, and in suitable proportions, in conjunction with mechanical agitation and increased temperature, for a period consistent with the quality of the oil under manipulation. When sufficient time has elapsed for the soap stock and extraneous matter generally to subside, the clear oil is removed from the former, while the soap stock is subjected to a crude system of filtration by means of which the oil which it contains is recovered. The supernatant oil is then treated to a second filtration, the result being a beautiful yellow oil.

It is a mistake to permit oil to pass through the filter press at a point above the normal temperature. It has been demonstrated, in similar treatment accorded other vegetable



oils, that an accelerated temperature has the effect of assimilating the mucilaginous or gummy matter—characteristic of all vegetable oils—during the period said temperature is maintained. The objectionable substances in solution with the oil thus pass through the filtering medium, the texture of the latter, however fine, being incapable of retarding their progress, and a sample taken from the receiving tank when the temperature has subsided, will disclose the presence of the suspended vegetable matter, which in the heated oil was imperceptible.

Heated oil will pass through the press with less pressure and much more rapidity than when cold, but the system is defective and should be discontinued. Additional time is necessary to effect the complete precipitation of the suspended matter with this system, a circumstance which unmistakably points to the inefficiency of filtration under the conditions described. When the treated oil is filtered cold, or at the normal temperature, the insoluble and extraneous matter is retained by the filter cloths, on which it deposits and accumulates, a bright oil being produced, equal from any standpoint to a settled oil. Where the filter press is not in use in the preparation of a yellow oil, the latter is sometimes subjected to a secondary heating, which has the effect of expediting the subsidence of the impurities not yet removed.

The English method in refining consists in treating about 100 gallons of the crude oil with about 6 gallons of the soda lye of 25 or 30° Beaumé and heated for about two hours at a temperature of about 200° Fahrenheit under constant agitation. Very much larger quantities are treated at a single operation in the United States, and at a much lower temperature (100° F.), together with less powerful soda lye; the character of the English product being inferior, more energetic treatment is essential.

The winter oil is a production of the yellow (summer) oil,

made by the foregoing treatment, together with the supplementary process of filtration, and is obtained by the chilling process, the solid matter formed being known as stearine, used in the butterine and soap-making industries.

To produce the desired flavor in an edible oil various expedients are resorted to, the exact character of which is considered a trade secret. Refined oil is at times maintained at a temperature of about 140° F. for several days to produce certain results.

As a bleaching factor in the production of a white oil, fuller's-earth surpasses all other known substances; nevertheless its use is accompanied with a heavy percentage of waste, unavoidable by reason of its absorbent properties. In the filtration process, which succeeds the mixing of the earth and oil, the small percentage of the former is secured, but is heavily charged with the oil, and the cost of recovering same would scarcely pay for the labor involved. By the application of steam introduced to the filter press the charged chambers of caked earth and oil are saturated, the fluid slowly flowing, or separating from the earth with the condensed steam, leaving the used bleaching agent as a valueless product to be cast away.

The Scollay process, by means of which oil is bleached in a somewhat similar manner to the fuller's-earth system, has been introduced to some Southern refineries. Suitable ochres, such as hematite and limonite, or any similar pigment which does not injure the oil as an article of food properly manipulated and prepared for use, mixed and agitated with the oil in certain proportions will take up the gum, resin, and coloring matter, and separate it from the oil, thus purifying and refining it. From an industrial standpoint cotton-seed oil becomes more valuable as the years succeed each other. Its cheapness renders its use practicable in numerous industries, and its area of usefulness is gradually widening.

THE IMPRACTICABILITY OF MANUFACTURING COTTON-SEED OIL ON A SMALL SCALE COMPATIBLE WITH ECONOMY.

Owing to the heavy expense incurred in transporting the seed from the plantations and scattered cotton-growing districts to the mills, together with the generally low price—from the cultivator's standpoint—deriving from the trade, the practicability of introducing small oil-mill plants in the supply centres, and right on the soil which nurtures the product, has long been considered. A superficial view of the situation would endorse the feasibility of the scheme, but more mature consideration will demonstrate the fact that the manufacture of cotton-seed oil and cake on a small scale is anything but a profitable undertaking.

On a limited scale, as such a project would necessarily be, the manufacturing processes would be confronted with serious difficulties of an insuperable character.

Vegetable oils of other varieties, such as linseed, sunflower-seed, etc., are crushed and pressed in many parts of Russia, Egypt, and East India, in small quantities, and while the business is conducted on a basis of bare profit, the work is necessarily very defective. But, in the event of cotton-seed being worked similarly, the bare profit would be conspicuous by its absence, this, too, notwithstanding the fact that the cost of labor in Egypt and India will bear no comparison with that of the United States, and that the Egyptian and East India variety of seed can be handled much more economically than the American product. In the manufacture of prime oil and decorticated cake, the difficulty which would first present itself would be the expense involved—not to speak of the incongruity—of operating delinting machines hulling for the available supplies from a contracted area, which must of necessity be comparatively light. In the event of a plantation being sufficiently

extensive to raise supplies adequate for the consumption of a set of hydraulic presses, the manufacturing processes could be maintained according to the best established principles, but in small quantities efficient work with its usual concomitant—a reasonable profit—become impossible of attainment. The project might be carried into effect with better prospect of success by crushing and pressing the undecorticated seed. By this method the meals and hulls are crushed, heated, and pressed together without distinction, on the exact lines which obtained when the now vast cotton-seed oil manufacturing industry was in its incipency.

An "off" oil is the inevitable result produced by this crude method. This must be interpreted as a diminution of the questionable profit. The hulls submitted to the same heating process as the meals, and being thus intimately associated therewith, deleteriously affect the color of the oil, and a dark variety is obtained.

The cake as a feeding product would command a comparatively low price, the rough dark hulls distributed over the surface and interior of the cake proving decidedly detrimental to mastication.

In England the Egyptian and other varieties of cotton-seed are in the main worked in this manner, but by reason of the fact that a much less proportion of adhering cotton is found on the English imported seed, it can be manipulated with greater facility than the American product.

In the specified rules of the New York Produce Exchange, with regard to cotton-seed oil, it is stipulated (rule 9) that crude cotton-seed oil, to pass as prime, must be made from decorticated seed, and must be sweet in flavor and odor, and free from water and settlings. Obviously, the oil designated as prime, the output of the small plantation oil-mills, would be repudiated as such by the clearly defined rule.

In various parts of the South, small oil-mill plants are located and operated in conjunction with the regular me-

COTTON-SEED  
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chanical appliances essential to the cotton-grower on an extensive scale, but the character of the work executed precludes the possibility of reasonable returns.

Many have long been abandoned, and are to-day rusting away, being permanent reminders of ambitious projects irrecoverably wrecked. Many of these small mills range in capacity from five to ten tons of seed per day.

The impracticability of saddling an ordinary farm-hand with what may be justly designated skilled labor, in the manipulation of the raw material, is evidenced by the results, and while not wholly precipitating the latter, it unquestionably hastens the inevitable. It will be readily understood that plants operated on a smaller scale than the foregoing will proportionally still further reduce the chances of efficient work. The combination of small rolls, heater, press, and hydraulic pump may be worked to better advantage on any other vegetable product of an oleaginous nature, rather than cotton-seed.

Apropos of small plants, the attention of makers of hydraulic machinery in the United States might be profitably devoted to this class of mechanical work by developing an important industry hitherto dormant. The combination referred to has been regularly made in England and shipped to British colonial possessions for many years past. Colza, sesame (or her seed), castor, linseed, rapeseed, cocoanut, etc., are respectively treated, and the oil extracted therefrom in the location where the products flourish, the same apparatus being brought into requisition in the manipulation of each, when desired. Several of these valuable oil-yielding seeds flourish in the South, and ripen and decay as the seasons succeed each other. Here is a field for enterprising men in many Southern districts.

But to resume the subject under consideration. While the cake produced by a small plant could be consumed by the plantation stock, or in surrounding vicinity, thereby reduc-

ing cost of transportation, the question arises, would the reduced figures obtainable for the unavoidably poor yield of crude oil be sufficiently lucrative to meet increased current obligations by reason of the cost of fuel, labor, repair of machinery, etc., in the manufacturing processes?

Is it more profitable for the cotton cultivator to dispose of his seed to the crusher at a reasonable price per ton, than to transform the crude material into the manufactured products of oil and cake on his own premises?

Unless the crushing is continuously maintained on a sufficiently extensive scale to facilitate efficient work, the answer must be in the negative. To manufacture cotton-seed oil by means of the small portable combination previously referred to (the capacity being one or two barrels of oil per day) would be to invite financial disaster.

A cotton-seed crushing plant, having a capacity of about twenty tons per day—that is, twenty tons of oil and cake—can be operated economically and profitably when ruling prices for the crude and manufactured products are normal.

#### EVILS ATTENDING THE USE OF THE HAIR MAT.—HARD CAKE.—REMEDIAL MEASURES FOR ITS PREVENTION.

Just a word in passing with regard to the press mat system—abolish it without delay. The hair mat is an endless source of annoyance and expense. Where such is in use—and it is a matter for surprise that at this time it has not been abolished—a radical change in that respect should be effected. The extra expense involved by its use for a period of say six or eight months, would pay for the introduction of the bare corrugated plates. There is not to be found in the several hundred oil mills in England a single hair mat in use to-day.

Reverting to the subject of percentage of oil in cake, refiners prefer oil for treatment which has been obtained



under abridged pressure periods, and from cake in which a heavy percentage of oil is retained. To meet the requirement of this case, the subject of reducing the maximum pressure in several of the large mills is said to have been seriously contemplated, but as yet no positive steps have been taken in that direction.

Probably a higher market value for the oil thus obtained might put the suggestion into practical effect, while the residue or cake might be profitably reworked, and the extractable oil obtained under the maximum pressure subsequently.

This would seem the most feasible and practical method as a solution of the question. *Owing to the fact that oil made under short time pressure—the latter not maintained at the highest point—is much more susceptible of manipulation in the refining tanks, and deposits less foots, it is therefore less wasteful than oil made under the maximum pressure maintained unrelaxed for the usual stipulated period.*

Under light pressure very much less mucilaginous and vegetable matter generally is pressed out with the oil, consequently less treatment is necessary in the refining, and less waste results than in oil procured by the full-pressure system. The point of distinction to be drawn is embodied in the question, will the extra market value obtained for the refined product counterbalance the loss entailed by the presence of a heavy percentage of oil in the cake?

From time to time complaints reach the American crusher concerning the hardness of the cake exported to England. It has been asserted by an English agriculturist recently that the sidewalks might be advantageously flagged with some varieties of American cotton and linseed cake!

The foreign stock-feeder needs a soft material, rich in oil, and for which a price is offered far removed from the manufacturer here. The extreme hardness of the cake is attrib-

uitable in numerous instances—though not in all—to the presence of abnormal proportions of moisture, and the remedy consists in better cooking and prolonged evaporation. If the English consumer could be induced to purchase the material in ground or pulverized form, the difficulty would be obviated, however hard the original cakes might be; and with regard to the proportion of oil contained in the cake, according to a distinguished agricultural chemist, the cotton-cake meal, which contains a percentage of oil equal to about seven, is the most inviting to the palate of stock, and by far the most nutritive.

The method usually pursued in England in feeding the oil-cake to stock consists in breaking the cake into small fragments, preferably to being served in ground form, owing to the liability of the latter to be carried away by the wind.

As the American farmer is gradually realizing the value of cotton-seed meal as a stock-feeding material, the quantity ground for home consumption is annually increasing. In the not very distant past, the English agriculturist alone fully appreciated the advantages accruing from the use of cotton-seed meal. These conditions bidding fair to become still more important factors in the seed-crushing business than have characterized its past history, it behooves the manufacturer to be suitably equipped with regard to cake-grinding machines, and to operate those which experience has shown to be the most serviceable and reliable in quality of work performed.

**CONDENSED SURVEY**  
OF THE  
**MEAT AND PROVISION INDUSTRIES**  
OF THE  
**UNITED STATES.**

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THE meat and provision trade, taken in its entirety (and inclusive of its numerous allied industries), is without doubt the largest and most important in the United States. The value of live stock, meats, and meat products throughout all their various ramifications exceeds that of any other single business in the country.

Irrespective of manufactured meat products the values of live stock alone for the year 1893-94 were computed to be as follows: Cattle, including milch cows, \$344,905,827; hogs, \$236,267,765; and sheep, \$92,189,614, making in all a total valuation of \$673,363,206.

In addition to supplying the daily wants of a great nation of seventy millions of people, the meat and provision industries contribute very largely to the export trade of the United States, as appears by the following figures, culled from the latest corrected returns of the Government Bureau of Statistics. According to these returns the total value of domestic exports for the year ending December 31, 1894, amounted to \$807,312,953, of which amount \$573,687,474 was credited to agriculture, under which meats and provisions are classified. These agricultural exports include such large items as cotton, breadstuffs, tobacco, etc., but never-

theless animals and animal products aggregate a grand total of \$198,553,641, as is shown in detail in the following table :

TABLE OF EXPORTS FOR YEAR TO DECEMBER 31, 1894, OF THE MEAT AND PROVISION TRADES AND THEIR ALLIED INDUSTRIES.

|                                      |               |
|--------------------------------------|---------------|
| Beef, Fresh.....                     | \$17,404,768  |
| Beef, Canned.....                    | 5,333,795     |
| Fertilizers.....                     | 5,844,729     |
| Glue.....                            | 130,363       |
| Grease and Soap Stock.....           | 1,040,080     |
| Hair.....                            | 427,214       |
| Hides and Skins.....                 | 3,896,553     |
| Live Stock.....                      | 40,706,886    |
| Oil Cake and Meal.....               | 7,113,675     |
| Oils, Animal.....                    | 675,410       |
| Oil, Cotton-seed.....                | 5,840,801     |
| Provisions :                         |               |
| Bacon.....                           | \$37,736,893  |
| Cured Beef.....                      | 3,723,214     |
| Hams.....                            | 10,339,386    |
| Lard.....                            | 39,878,351    |
| Pork.....                            | 4,701,873     |
| Tallow.....                          | 1,732,085     |
|                                      | <hr/>         |
|                                      | 97,531,398    |
| Mutton.....                          | 195,539       |
| Oleo Oil.....                        | 10,678,609    |
| Oleomargarine.....                   | 593,401       |
| Other Meats, Game, Poultry, etc..... | 1,496,351     |
| Soaps.....                           | 1,069,397     |
| Wool, Raw.....                       | 233,163       |
|                                      | <hr/>         |
|                                      | \$198,553,641 |

Excluding the live-stock item quoted above, we find that the exports of the manufactured meat products reach the large total of nearly one hundred and fifty-eight millions of dollars. The exports classified as manufactures for the same period are given as \$177,786,069, so that the foreign

output of meats and provisions amounts to over *eighty-eight per cent.* of the total of all the other manufactured products of the country.

It has to be borne in mind that these are the figures of a dull business year, during which contracted commercial intercourse has been a marked characteristic not only of our own but of all other civilized countries. The trade of which we treat has suffered, in common with all others in the United States, more or less during the last two years, and the totals and comparisons are not the most favorable in the history of the business. They suffice, however, to indicate the relative position and importance of this immense trade, which is thus seen to be in the front rank of the great industries of a great country.

#### THE LIVE STOCK INTERESTS.

The cattle, hogs, and sheep of the United States, valued as we have seen, at close on seven hundred millions of dollars, form the broad and substantial base on which the industry, intelligence, and invention of the American people have erected the great meat and provision industries. As regards cattle, a few notes, historical and prospective, may be considered relevant here in connection with this leading department of live stock.

Up to the year 1876 it may be truly said that the home cattle market was practically the only one in existence in this country, the exports up to that time having been small and consisting almost entirely of live animals. But in 1876 was begun the greatest and most important movement in the trade. Long before that the decreasing production (in proportion to population) of live stock in Great Britain and other European countries and the consequent high prices of dressed meats had been closely watched by many American stock-growers and packers. It was the successful and economical application of cold storage and refrigeration,

however, which gave the opportunity to these enterprising traders to establish a trade in dressed beef which is as necessary now to the daily wants of "John Bull" as it is profitable to the pocket of "Brother Jonathan." This is proved by the following interesting quotations from the last report of the Secretary of Agriculture :

"During the nine months ending September 30, 1894, the farmers and stock-raisers of the United States have sold (and there have been exported to the United Kingdom of Great Britain) three hundred and five thousand nine hundred and ten (305,910) live beef cattle, valued at twenty-six million five hundred thousand dollars (\$26,500,000). During the same period of the year 1893 only one hundred and eighty-two thousand six hundred and eleven (182,611) live beef cattle from the United States were taken by the British markets, at a valuation of sixteen million six hundred and thirty-four thousand dollars (\$16,634,000). The small consumption of American beef in England last year was due to restrictions imposed by the law, and also to the low prices of domestic beef in England, because of the scarcity there of feeding-stuffs, which enforced slaughtering. The increase of the present year does not quite restore the average cattle trade between the United States and England. Canada is practically the only competitor with the United States for the English live cattle trade, and the regulations for import are the same as to animals from the United States and Canada—no discrimination being made for or against either class. All of the animals are, under the provisions of English law, slaughtered immediately upon arrival at British ports."

To resume. Far-reaching and unlooked-for results arose out of the great revolution in the cattle trade, which began in 1876. An enormous development in both live and dressed beef took place. The great Western dressed beef industry was created, and a new department, that of canned



beef, came into existence. Through these two new avenues of commerce millions of pounds of beef are annually shipped all over the world. The new demand for heavy steers stimulated production, but still the foreign demand remained unsatisfied, until, in June, 1882, prices rose to the highest known point, viz. : \$9.30 per 100 pounds for fancy native cattle. Capital, both foreign and domestic, was poured into the new enterprise, and the cattle "ranch" and the picturesque "cowboy" both achieved considerable prominence at this time. Such States and Territories as Texas, Indian Territory, Arizona, Colorado, Wyoming, Nebraska, the Dakotas, Montana, and New Mexico were extensively colonized by cattle-breeders, and for a time many thought the cattle "millennium" had been reached. Young steers, yearlings, and two-year-olds especially were in strong demand, and advanced three hundred per cent. in value in from two to three years' time. The whole Western country became a vast grazing-ground, and all the available bulls east, west, and south were bought up and despatched to the new ranches which sprang up like mushrooms on tracts hitherto inhabited only by Indians and buffaloes.

But the inevitable result of such rapid over-production soon arrived. In spite of the large foreign call for American beef and cattle, the business became overdone, and prices dropped until fancy natives in July, 1887, only brought \$4.75 per 100 pounds. This great cattle boom produced not only the usual effect of great depreciation following undue inflation, but had also a deleterious influence on the quality of stock generally. The much reduced grazing area and hasty cattle-raising of this period are largely responsible for some of the present degenerated breeds of weakly, ill-shaped, and half-fed cattle which cannot be made to carry flesh or make good weight even at full maturity and when well fed. The demand for well-bred and well-fed cattle both at home and abroad always continues, and such,

even in dull times, invariably command remunerative prices. It is for the feeder and breeder, therefore, to improve the breeds, to vary the feeds, and generally also to take adequate time in preparing for the market a greater number of steers which will pass into the first class of merit. The standing favorite is latterly a handy-weight steer of from 1,200 to 1,400 pounds.

The dressed beef system has created a demand for good, thick, fat, smooth quarters of beef, instead of heavy, coarse-boned cattle, and the cattle-raisers generally are rapidly becoming educated to the truth that twelve-month-old yearlings (whether heifers or steers) are always ready sale at almost as much money as coarse, heavy, rough export steers. And the early-matured cattle in the future that are always ready for market, and are prepared soon and always kept fat, will be much more profitable to the feeder and shipper than large-boned, four- or five-year-old, coarse, heavy animals. The cattle crop of 1894 fell off about five per cent. from that of 1893, and the average reduction of price at Chicago was reported to be about 25 cents per 100 pounds. In 1895 a scarcity of beef cattle is sure to be one of the leading causes of firmness in beef products, generally.

The live beef cattle exported and tagged by the government inspectors during the year 1894 numbered three hundred and sixty-three thousand five hundred and thirty-five (363,535). This is an increase of sixty-nine thousand five hundred and thirty-three (69,533) head, or an advance of more than twenty-five per cent. as compared with the previous year.

After the experience of supervising the transportation of export animals for some years, many modifications of the accommodations and conditions for their proper care have been insisted upon by the government and adopted. By these innovations and ameliorations the losses in shipping live cattle have been very much reduced. In 1891 those

losses were 1.6 per cent., in 1892, they were 0.75 per cent., in 1893, 0.47 per cent., and in 1894, 0.37 per cent.

Effective and valuable work has been rendered by the Bureau of Animal Industry to the commercial interests of the country during the past fiscal year by the inspection of meats for the export and interstate trade. At forty-six (46) abattoirs, situated in seventeen (17) cities, the number of animals inspected has been increased from four million eight hundred and eighty-five thousand six hundred and thirty-three (4,885,633) in 1893, to twelve million nine hundred and forty-four thousand and fifty-six (12,944,056) in 1894.

Referring to the recent prohibition by Germany and France of imports of American cattle and beef, the Secretary of Agriculture said recently :

“There has not been a case of pleuro-pneumonia in the United States for three years, and while it may be that an occasional steer suffering with Texas fever is landed in France or Germany, no harm could come from it beyond the loss of that particular steer, Texas fever not being contagious.”

These foreign prohibitory measures are understood to be instigated by the Agrarian party in each of the said countries, and it is believed that the said laws will be repealed before long in the interests of French and German consumers.

#### HOGS.

The Irish pig is said to enjoy unusual care and attention from the stock-raisers of Erin on the ground that he is the “rent-payer.” The American hog is fully entitled to equal consideration, because he is the sure and steady “mortgage-lifter” of the United States farmer. Of late years, owing to short crops of cereals at home and increased competition in same abroad, the value of hog-raising in the United

States, as a swift and ready cash-bringer, has much appreciated. As a result, more care is being given to the breeding, feeding, housing, and rearing generally of this useful animal. The various State and Federal experiment stations all over the country have conducted many valuable practical tests of new combinations and variations of feeding-stuffs, in which wheat and cotton-seed products have occupied a large place. The "Berkshire" or lard hog will be displaced gradually by the "Poland China" and other varieties, the object being to produce a hard-boned, stronger-framed animal with more and finer grained lean and less fat.

The new demand both at home and abroad is certainly for finer-flavored and leaner hams and bacon cut from hogs of medium size and weight. In England this subject has long assumed a practical shape, and a celebrated packing-house in Calne, Wiltshire, there, has for some time been offering premiums for medium-sized pigs running from 130 to 190 pounds, carrying back fat only of from  $2\frac{1}{2}$  to 3 inches in thickness. The English farmer has also been gradually changing his breed of pigs from the "Berkshire" to the "Tamworth" and "Yorkshire." A temporary revival for heavy hogs took place during the summer and fall of 1894, owing to the depleted stocks of lard at home and abroad at that time, but the medium-weight and leaner hog is the animal of the immediate future.

The volume of the hog supply is also one of paramount importance, not only to the Board of Trade speculator, but also to the smallest hog-raiser in the country. The year 1894 showed many fluctuations in supply, but the total showed a large increase over the crop of 1893. The comparative results at Chicago (the largest and most representative market) may be taken as an index of general conditions on this and most other points in the live-stock and packing trades. We find, then, that the live-hog entries at

the Union Stock Yards, Chicago, during 1894, amounted to 7,483,228 head, compared with 6,057,278 for 1893, the increase being 1,425,950 head, a twenty-three per cent. advance on the figures of the previous year. The consequent falling off in average price at the end of 1894 at this market was reported to be \$1.50 per 100 pounds. The average weight of these hogs is given as 233 pounds, compared with 240 pounds for the year 1893. The above-noted accretion of supply took place in spite of numerous losses from hog cholera among stock, chiefly in the Western States.

The bane of the trade has long been the sudden and unaccountable variations in the volume of the hog supply, which affect unfavorably every branch of the trade and all its allied industries. The Department of Agriculture at Washington has issued the following circular to its crop correspondents:

"What is the comparative condition of swine? How many in every thousand have died during the past year? What diseases, if any, have been unusually prevalent? Has the year been a healthy one for human beings? What diseases, if any, have been unusually prevalent?" These are very good inquiries, and if properly answered will lead to good results all round. But we believe strongly that the crop report of the government should be based on a declaration by every hog-raiser as to the number, age, and condition of his hog crop on a certain given date, said returns to be verified by the crop correspondents. This is somewhat similar to the English plan on cereals, and might be the beginning of a reliable national census of swine.

#### SHEEP AND LAMBS.

The enactment of "free wool" by Congress, in August, 1894, decided the future of the American sheep and accelerated the change long impending from the "wool" to the "mutton" sheep. Hereafter it will be the aim of the

American sheep-raiser to produce an animal combining both qualities, if possible, but to be primarily a mutton-grower. The prospects of "free wool" resulted in a perfect avalanche of sheep entries at all the live-stock markets in the country, which further reduced the prices of 1894 under the low range of those of 1893 by an average of over \$1 a head per 100 pounds for both sheep and lambs. The excess in receipts for 1894 at all Western points was reported to be 68,550 over those of the previous year. In the midst of these depressing influences, it was seen, however, that well-matured stock commanded paying prices all through the year, and that one or two enterprising houses had inaugurated a new trade in the export of fine sheep to England. This new movement resulted in the output of 210,684 head, which helped to set off the other losses incurred in this branch of the American live-stock business. France has also increased her imports of American sheep lately, and with good prospects of further additions in the near future. Including these just noted, the whole value of export sheep and lambs for 1894 figured up to \$1,711,355, compared with only \$145,586 for 1893.

With the advent of 1893 better values for sheep have set in and continued, and trade prospects are much improved. The chances are that those who rushed out of the sheep business in the "free-wool" scare of 1894 are likely to rush in again under the influence of the "fine-mutton" boom of 1895.

#### THE PACKING AND PROVISION TRADES.

Under this generic term are included a large number of commercial and manufacturing industries which, in combination with their allied and basic live-stock interests, may justly claim to rank as the largest and most important in the country. The magnitude and variety of these numerous but connected trades may be judged by the following



statistics, compiled from the last returns of the census of 1890. Allowances must, of course, be made for advances attained since that date, and for omissions arising from imperfect enumerations by census officials. The figures, however, give a relative idea of the value and extent of the several businesses connected with the manufacturing part of the business.

According to the *National Provisioner of New York and Chicago* (the organ of the meat-packing and provision industries of the United States), it appears from said returns that the business of combined wholesale slaughtering and packing had 611 establishments, with an aggregate capital of \$98,190,766, with products in 1890 of the value of \$433,252,315. These establishments gave employment to 34,601 male operatives.

The number of wholesale slaughtering houses (where no packing is done) was 507, with a capital of \$18,696,738, producing in value annually \$128,359,353.

The sausage-makers (apart from the packers) had 249 establishments, employing \$1,128,562 of capital, and produced yearly \$3,055,367 in value.

The separate industry of refined lard making had 17 factories, with a capital of \$3,898,215. The annual product was valued at \$15,474,848.

The grease and tallow manufactories numbered 233, having a total capital of \$4,336,193, and annual product of \$7,474,911.

The separate lard oil factories were 7 in number, having a combined capital of \$481,526, and annual product of \$1,181,613.

The oleomargarine industry reported 12 factories, having a combined capital of \$634,532, and producing \$2,988,525 in value annually.

The cotton-seed oil mills were then computed to be 119 in number, with an aggregate capital of \$12,808,996, and

an annual output valued at \$19,335,947. Since then cotton-seed oil pressing and refining now occupies over 300 mills (see separate list in the Directory division of this book), with a correspondingly increased capital and value of annual products. The varied and valuable applications of this fine product make it one of greatly increasing usefulness to our own people, as well as an important export of a very desirable character.

The soap and candle-making trades were said to have 578 establishments, with a capital of \$24,821,069, and an annual turn-over of \$43,600,285.

The manufacturers of axle grease reported 31 factories, employing \$451,228 capital, with a yearly value of products amounting to \$846,459.

Glue-making was enumerated as having 62 manufactories, employing \$4,859,266 of capital, and having \$4,270,460 as annual value of products.

Computing together those eleven principal branches of the trade, we have the following grand totals, viz :

|                             |               |
|-----------------------------|---------------|
| Establishments in 1890..... | 2,426         |
| Capital employed.....       | \$170,807,091 |
| Annual product.....         | 660,840,068   |

These magnificent totals are for the business year ending June 30, 1890, and are now, of course, much increased all round. To these should also be added (were they available) the totals of the fertilizer-making, hair, hoofs and bones, hides and skins, and raw-wool industries, some of which have materially increased of late, owing to great improvements in the manufacture and construction of fertilizer machinery and scientific methods applied to the treatment of offal, blood, etc. The foregoing summary, nevertheless, supports the contention that we are treating here of an industry which, in size, range, and aggregate value, ranks as the foremost one in the country, in fact, "*secund to none.*"

The business of meat-packing, which may be held to include every form of preserving animal food for future use, is one of long standing in the United States, being, in fact, one of the oldest industries of the country. Long before the rise of Chicago, Kansas City, or Omaha, and the establishment of the gigantic packing-houses there, the business was successfully carried on in Cincinnati, Baltimore, Philadelphia, Boston, Milwaukee, Hamilton, and Toronto, Canada, etc., and a considerable export trade in provisions done from these places by firms of long standing and high reputation.

In 1894 the publishers of *The National Provisioner*, in response to inquiries by a number of their subscribers, issued a circular letter to the leading firms in the trade with the view of ascertaining which were the oldest packing-houses in continuous operation in the United States and Canada. The following interesting replies were received, which show also the annual product of the long-established houses in the trade :

| Date of<br>Estab-<br>lishm't. | Firm Name.                                      | Locality.                                | Annual<br>Pack,<br>1893-1894. |
|-------------------------------|-------------------------------------------------|------------------------------------------|-------------------------------|
| 1760                          | Washington Butcher Company.                     | Philadelphia, Pa.,                       | No record                     |
|                               |                                                 | (Slaughterers and Meat Curers only now.) |                               |
| 1810                          | Chas. G. Kriel.....                             | Baltimore, Md.,                          | 53,000                        |
| 1840                          | Coffin, Fletcher & Co.....                      | Indianapolis, Ind.,                      | 35,000                        |
| 1843                          | John P. Squire & Co.....                        | Boston, Mass.,                           | 800,000                       |
| 1843                          | Isaac Whiffen's Sons.....                       | Utica, N. Y.                             | No record                     |
| 1843                          | By John Plankinton, now<br>Ondahy Bros. Co..... | Milwaukee, Wis.,                         | —                             |
| 1851                          | S. E. Merwin & Son.....                         | New Haven, Conn.,                        | —                             |
| 1852                          | F. W. Fearman.....                              | Hamilton, Canada,                        | 35,000                        |
| 1854                          | The Wm. Davies Co. (Ltd.)...                    | Toronto, Canada,                         | —                             |
| 1854                          | Sperry & Barnes.....                            | New Haven, Conn.,                        | 185,000                       |
| 1855                          | North Packing & Provision Co.                   | Boston, Mass.,                           | —                             |
| 1857                          | Robe & Bros.....                                | New York City,                           | —                             |
| 1859                          | Hammond, Stoddish & Co....                      | Detroit, Mich.,                          | 150,000                       |
| 1860                          | F. Lett & Sons.....                             | Louisville, Ky.,                         | 27,000                        |
| 1860                          | Lawry & Sons.....                               | Hamilton, Canada,                        | 20,000                        |
| 1860                          | Adam H. Warthman Co.,.....                      | Philadelphia, Pa.,                       | 75,000                        |
| 1863                          | Mohr & Yoerk Packing Co....                     | Sacramento, Cal.,                        | 8,000                         |
| 1866                          | Geo. Boeck.....                                 | Burlington, Ia.,                         | 15,000                        |

| Date of Estab-lishment. | Firm Name.                                     | Locality.                           | Annual Pack, 1893-1894. |
|-------------------------|------------------------------------------------|-------------------------------------|-------------------------|
| 1869                    | G. H. Hammond Co.                              | Hammond, Ind., & South Omaha, Neb., | 425,000                 |
| 1869                    | John Frederick.                                | Baltimore, Md.,                     | 18,000                  |
| 1870                    | J. T. McMillan.                                | St. Paul, Minn.,                    | 15,000                  |
| 1870                    | Armour Packing Co.                             | Kansas City, Kan.,                  | 525,524                 |
| 1871                    | Henry Krug.                                    | St. Joseph, Mo.,                    | 100,000                 |
| 1871                    | Blomer & Michael.                              | Quincy, Ill.,                       | 60,000                  |
| 1872                    | Henry Muhs.                                    | Paterson, N. J.,                    | 80,000                  |
| 1872                    | Pfaelinger & Co.                               | Louisville, Ky.,                    | 80,000                  |
| 1873                    | East St. Louis Packing Co.                     | East St. Louis, Ill.,               | 2,300,000               |
| 1873                    | Mowry & Barnes.                                | Syracuse, N. Y.,                    | 20,000                  |
| 1873                    | W. F. Weber.                                   | New York City,                      | 12,480                  |
| 1873                    | Kimball, Colwell & Co.                         | Providence, R. I.,                  | 27,000                  |
| 1874                    | W. A. Carpenter.                               | Amsterdam, N. Y.,                   | 10,000                  |
| 1874                    | W. A. McClean & Co.                            | Owen Sound, Can.,                   | 2,500                   |
| 1874                    | Henry Kohrs.                                   | Davenport, Ia.,                     | 6,500                   |
| 1878                    | Underwood & Co., now Viles & Robbins.          | Chicago, Ill.,                      | 260,000                 |
| 1878                    | Loyus Packing and Prov'n Co.                   | Lafayette, Ind.,                    | 10,000                  |
| 1881                    | Jas. L. Grant & Co., now Ingersoll Packing Co. | Ingersoll, Canada,                  | 78,000                  |
| 1887                    | Silzer & Bro.                                  | Pottsville, Pa.,                    | 22,484                  |
| 1888                    | Omaha Packing Co.                              | South Omaha, Neb.,                  | —                       |
| 1890                    | Parker, Webb & Co.                             | Detroit, Mich.,                     | —                       |
| 1890                    | Geo. A. Hormel & Co.                           | Austin, Minn.,                      | 6,000                   |
| 1894                    | Penn Packing and Provision Co.                 | Philadelphia, Pa.,                  | —                       |

There is probably no manufacturing business in this or any other country which equals in thoroughness and adaptability the manifold processes and utilizations of a great American meat Packing-house. Very few people have any idea of the rigid economy practised at these great plants. Scientific men are constantly cudgelling their brains to devise valuable chemical properties and new compounds out of materials heretofore wasted or imperfectly utilized. Every packing-house has a large laboratory and full staff of chemists constantly employed in turning to useful purposes offal and refuse which only a few years ago the packers paid to have taken away as entirely useless.

The principal scientific utilizations of the great modern meat-houses are as follows:

The choicer parts of the fat from cattle are utilized for

E.

held to in-  
or future use,  
being, in fact,  
Long before  
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, the business  
imore, Phila-  
Toronto, Can-  
visions done  
nd high repu-  
rovisioner, in  
ubscribers, is-  
he trade with  
dest packing-  
d States and  
ere received,  
ng-established

| Annual Pack, 1893-1894. | No record          |
|-------------------------|--------------------|
| Pa.,                    | (carers only now.) |
| nd.,                    | 52,000             |
|                         | 25,000             |
|                         | 800,000            |
|                         | No record          |
| s.,                     | —                  |
| onn.,                   | —                  |
| ada.,                   | 35,000             |
| la.,                    | —                  |
| onn.,                   | 185,000            |
|                         | —                  |
|                         | 150,000            |
|                         | 27,000             |
| ada.,                   | 20,000             |
| Pa.,                    | 75,000             |
| al.,                    | 8,000              |
|                         | 15,000             |

the manufacture of oleo oil, which is a constituent of butterine, and for oleo stearine.

All of the blood is carefully preserved, coagulated by cooking with steam, then pressed and dried, and sold to fertilizer manufacturers and for sugar refining.

Bones are dried, and either ground into bone meal or used for the manufacture of bone charcoal, which is afterward utilized for refining sugar and in some other refining processes.

Pig's feet, cattle feet, hide clippings, and the pith of horns, as well as some of the bones, are used for the manufacture of glue.

The horns and hoofs are carefully preserved and sold to the manufacturers of combs, buttons, etc.

All of the scrap from rendering operations is carefully preserved and dried and sold for fertilizers.

The intestines are used for sausage casings; the bladders are used to pack putty in.

The stomachs, etc., of hogs, instead of being sent to the rendering-tanks, are now used for the manufacture of pepsin, pancreatin, etc.

The paunches of the cattle are cleaned and made into tripe.

The long ends of the tails of cattle are sold to mattress-makers.

The undigested food in the cattle stomachs is pressed and used for fuel.

In addition to these varied uses of the by-products we must bear in mind that the modern American packing-house is also engaged in the manufacture of butterine and oleo oil and stearine, lard and lard compound, lard oil and stearine, tallow, tallow oil and soap stock, neatsfoot oil, sausages, and beef extracts and fluids. Also that it gives the initial manufacturing processes to the raw material in the great trades of wool, hides and skins, etc., besides carrying

on the numerous and diversified preparations of meats and provisions involved in the business of pork and beef packing, fully treated of in another part of this volume. When, therefore, we survey the magnitude, range, and variety of the American meat and provision trade, and endeavor to compute the extent and value of its numerous allied industries, it will be seen that it is, beyond comparison, the largest and most comprehensive business in this country.

## WINTER PACK OF HOGS SINCE 1849.

The following table shows the winter packing of hogs throughout the West for the last forty-six years, together with the average cost, live weight, per one hundred pounds:

| Season.   | Number.   | Average Cost. | Season.   | Number.   | Average Cost. |
|-----------|-----------|---------------|-----------|-----------|---------------|
| 1848-49.. | 1,560,000 | 23.75         | 1872-73.. | 5,410,314 | 23.73         |
| 1849-50.. | 1,633,320 | 2.13          | 1873-74.. | 5,457,200 | 2.34          |
| 1850-51.. | 1,332,867 | 3.00          | 1874-75.. | 5,336,226 | 2.66          |
| 1851-52.. | 1,132,846 | 3.56          | 1875-76.. | 4,880,135 | 2.35          |
| 1852-53.. | 2,201,110 | 4.31          | 1876-77.. | 5,101,303 | 2.74          |
| 1853-54.. | 2,534,770 | 3.35          | 1877-78.. | 6,605,446 | 3.39          |
| 1854-55.. | 2,124,404 | 3.37          | 1878-79.. | 7,330,343 | 2.85          |
| 1855-56.. | 2,490,502 | 4.60          | 1879-80.. | 7,933,451 | 4.13          |
| 1856-57.. | 1,818,468 | 4.75          | 1880-81.. | 7,919,356 | 4.64          |
| 1857-58.. | 2,310,773 | 3.89          | 1881-82.. | 5,747,760 | 6.06          |
| 1858-59.. | 2,465,552 | 5.02          | 1882-83.. | 6,132,212 | 6.23          |
| 1859-60.. | 2,350,322 | 4.73          | 1883-84.. | 5,402,064 | 5.13          |
| 1860-61.. | 2,135,702 | 4.57          | 1884-85.. | 6,400,240 | 4.29          |
| 1861-62.. | 2,893,666 | 2.42          | 1885-86.. | 6,293,925 | 3.66          |
| 1862-63.. | 4,069,520 | 3.36          | 1886-87.. | 6,459,009 | 3.19          |
| 1863-64.. | 3,261,105 | 5.36          | 1887-88.. | 5,921,131 | 5.04          |
| 1864-65.. | 2,422,779 | 11.46         | 1888-89.. | 5,433,852 | 4.99          |
| 1865-66.. | 1,735,955 | 9.34          | 1889-90.. | 6,663,902 | 3.66          |
| 1866-67.. | 2,490,791 | 5.73          | 1890-91.. | 6,173,126 | 3.54          |
| 1867-68.. | 2,731,034 | 6.36          | 1891-92.. | 7,761,216 | 3.91          |
| 1868-69.. | 2,499,373 | 3.13          | 1892-93.. | 4,663,520 | 6.54          |
| 1869-70.. | 2,633,313 | 9.22          | 1893-94.. | 4,835,000 | 7.93          |
| 1870-71.. | 3,696,251 | 5.36          | 1894-95.. | 7,100,000 | 5.07          |
| 1871-72.. | 4,331,553 | 4.12          |           |           |               |



RANGE  
MEANS

| Year. | Lowest Prices in  | Range of |
|-------|-------------------|----------|
| 1870  | December...       | \$ 18.00 |
| 1871  | August.....       | 12.00    |
| 1872  | March.....        | 11.00    |
| 1873  | November....      | 11.00    |
| 1874  | Jan., Feb., M. E. | 12.75    |
| 1875  | January.....      | 17.70    |
| 1876  | October.....      | 15.50    |
| 1877  | December....      | 11.40    |
| 1878  | December....      | 6.08½    |
| 1879  | January.....      | 7.37½    |
| 1880  | April.....        | 9.37½    |
| 1881  | January.....      | 12.40    |
| 1882  | March.....        | 16.00    |
| 1883  | Sept. & Oct..     | 10.30    |
| 1884  | December....      | 10.55    |
| 1885  | Oct. & Nov..      | 8.00     |
| 1886  | May.....          | 8.50     |
| 1887  | January.....      | 11.00    |
| 1888  | December....      | 12.00    |
| 1889  | December....      | 8.35     |
| 1890  | December....      | 7.50     |
| 1891  | December....      | 7.45     |
| 1892  | April.....        | 9.25     |
| 1893  | August.....       | 10.25    |
| 1894  | December....      | 11.10    |

|      |          |       |
|------|----------|-------|
| 1890 | December | 7.30  |
| 1891 | December | 7.45  |
| 1892 | April    | 9.30  |
| 1893 | August   | 10.35 |
| 1894 | December | 11.10 |

**THE**

**TRADE**



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