BRYSONS CANADIAN HRWHRN IUNING,

FOR THE YEAR OF OUR LORD


Being the first after Bissextile or Leap Year, and till the Twentieth day of June, the Twelfth Year of the Reign of Her Most Gracions Majesty Queen V-otoma:

Calculated for the Meridian of Montreal, in Latitude 450 39' 2611 Novth, and Longitude $73^{\circ} 34^{\prime} 29^{\prime \prime}$ West, from the Royal Observatory, Greensoinh, but arranged so as to serve onithout essential wariation for every other powtinn of Canada.

Astronomical Part by 0. WELLS, Provincial Surveyor. MONTREAL
PUBLISHED BY CAMPBELL BRYSON,
No. 24, St. Frangois-Xavier Street, AND MAY BE HAD OF ALL BOGK-SELLERS.

## EXPLANATIONS OF THE CALENDAR PAGES.

At the head of the respective pages for each month are given the ordinary tables of the changes and quadratures of the Moon. The 1st and 2nd columns show the mean times of the rising and setting of the Sun. The quantities are only set down to the nearest minute, the uncertainty of the observed times of the rising or setting of heaventy bodies on land, caused by the varging amount of horizontal refraction and the general liability to the intervention of terrestrial objects in such observations, renders a closer approximation unnecessary for ordinary practical purposes. In the 3rd column, marked "souths," are given the times which should be shown by a well regulated clock or watch when the Sun is on the Meridian. The 4th column shows the Moon's place. The 5th column contains the mean times of the rising or setting of the Moon. The quantities are only set down to the nearest minute, for the reasons mentioned above in respect to the Sun.

## EXPLANATIONS OF ASTRONOMICAL SYMBOLS AND ABBREVIATIONS.



> |so Cancer. The Crab, Q Leo, The Lion,
> n Virgo, The Virgin,
> I Libra, The Balance.
> m Scorpio, The Scorpion, I Saggittarius, The Archer, ig Capricornus, The Goat, A Aquarius, The Waterman,犬 Pisces, The Fishes.

CHRONOLOGICAL CYCLES.


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## EMBER DAYS



## COMMENCEMENT OF THE SEASONS.



## ECLIPSES OF THE SUN AND MOON.

In the year 1849 there will be two Eelipses of the Sun and two of the Moon.
1.-An Annular Eclipse of the Sun, February 22nd, invisible at Muntreal. Conjunction in Right Ascension, at 9 hoars 7 minutes in the evening. The visibility of this Eelipse will be confined to the extreme Northern parts of North America and Asia.
II.-A PartialEclipse of the Moon, March 8th, visible at Montreal as follows :-
н. м.

Moon rises.
First contact with the Dark Shadow
$\begin{array}{ll}5 & 46 \\ 6 & 31\end{array}$
w...............

Middle of the Eclipse. $\left.\begin{array}{ll}8 & 1 \\ 9 & 31\end{array}\right\}$
 0.738 on the Southern Jimb.
III.-A Total Eclipse of the Sun, August 18th, invisible at Montreal. The mean time of Conjunction in Right Ascension will be at 1 hour and 5 minutes in the morning. This Eclipse will be visible from the Indian Ocean, the Islands of Australia and Madagascar, and at the Cape of Good Hope.
IV -A partial Eelipse of the Moon, September 2nd, invisible at Montreal. Mean time of Opposition in Right Ascension at 11 hours and 53 minutes in the morning Magnitude of the Eclipse (Moon's diameter -1) 0.591 on the Northern Limb.

## QUEEN AND ROYAL FAMILY.

The Queen - Victoria, of the United Kingdom of Great Britain and Ireland, Queen, ODefender of the Faith, was born 24th May, 1819; succeeded to the Throne, 20 th June, 1837, on the death of her uncle, King William IV; crowned, 28th June, 1838, and married, 10th February, 1840, to His Royal Highness Prince Albert, named below. Her Majesty is the only daughter of His late Royal Highness Edward, Duke of Kent, son of King George III. Her mother, the Duchess of Kent, is named below.

His Royal Highness Francis Albert Augustus Charles Emanuel, Duke of Saxe, Prince of Cobourg and Gotha, K G., consort of Her Majesty, born 26th August, 1819.
Her Royal Highness, Viecoria Adelatde Mary Louisa, Princess Royal, born 21 st November, 1840 .
His Royal Highness, Albert Edward, Prince of Wales, born 9th November, 1841.
Her Royal Highness, Alice Maud Mary, born 25th A pril, 1843.
His Royal Highness, Alfred Frnest Albert, born 6th August, 1844.
Her Royal Highness, Princess Helena Augusta Victoria, born 25th May, 1846.
Her Royal Highness, Princess Louise Carolina Alberta, born 18th March, 1848.
The Oneen Dowager-Amelia Adelaide Louisa Theresa, born 13th August, 1792. Married 11th July, 1818. Crowned 8th September, 1831.

King of Hanover, born 6th Jun2, 1771.
Duke of Cambridge, born 24th Feb., 1774.
Duchess of Gloucester, born 26th A pril, 1776. Princess Sonhia, born 3rd November, 1777.
Duchess of Kent, born 17th August, 1786.
Duchess of Cambridge, born 25 th July, 1797. Prince Royal of Hanover, b. 27th May, 1819.

Prince George of Cambridge, born 26th March, 1819.
Princess Augusta Caroline of Cambridge, born 19th July, 1822.
Princess Mary of Cambridge, born 27th No. vember, 1833.

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Gardening is farming in the superlative degree ; the plough is an inveried spade, and the harrow is a horse rake. Many of the best practices in farming have been transferred from the garden to the field, and the nearer that feld culture ean bo made to appronch to gardening, the nearer it approaches to perfection. And, though a very strict analogy may not exist, yet, the connecting link is evidently not very lengthy, and may be much shortened. Gardening is very generally believed to be unprofitable, and an employment of luxury, and a source of amusement. But, domestic gardening, when properly arranged and conducted, may be made a source of much profit, as it affords materials for the kitchen, the cow stall, the piggery, and the poultry yard; and to these ends, our views will all be directed. Fine fruits, and a profusion of flowers, are not much in the farmer's way; but the family table must be supplied with vegetables, the most wholesome and innocent of all human food.

Nothing can be done in the open ground during this month.
Fruit Room and Cellar.-Examine the fruit in barrels and on shelves, and

Farm Buildings.-Convenience and simplicity should be morestudied than symmetry in farm-buidings. Neatness, compactness and solidity should be attended to; but the main object is, to have the house and offices so arranged as to save all the time and labour possible, and to enable the farmer to carry on his business with the fewest number of servants.
 plants.


| DAYS． |  | Calenidat，çperts，\＆c． | THE SUN， |  |  | moon． |  |
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| M． | WEEK |  | RIsEs | SkTs． | souths | P． | R．\＆ 8. |
| 1 | Thur． |  | 22 | 5 7 | 1214 | 8 | Morai |
| 2 | Frid． | Purification of V．M．storm | 721 | 58 | 1214 |  |  |
| 3 | Sa | Blasius B．\＆M．© Perigee． | 720 | $5 \quad 9$ | 1214 | II | 32 |
| 4 | SUN． | Septuagesima Sunday．$\quad$ in | 19 | 510 | 1214 | \％ | 29 |
| 5 | Mon． | Agatha V．\＆M．North Easterty | 17 | 512 | 1214 | $\overline{0}$ | 526 |
| 6 | Tues． |  | 16 | 5 | 12 |  | 623 |
| 7 | Wed． | Pitt＇s administratio | 715 | 514 | 12 |  | rises． |
| 8 | Thur． | ४̧ Greatest Elongat | 14 | 516 | 1214 |  | 70 |
| 9 | Frid． | \％In Perihelion． | 12 | 518 | $12 \quad 15$ |  | 50 |
| 10 | St | Q．Vict，and P．Albert marri | 10 | 520 | 1215 |  | 840 |
| 11 | SUN． | Sexagesima Sunday．Cold nights． | 79 | 521 | 1215 |  | 930 |
| 12 | Mon． | Revolution in Mexico， 1845. |  | 522 | 121 |  | 1020 |
| 13 | Tues． | Captain Cook killed， 1779. |  | 523 | 12 | 1 | 1110 |
| 14 | Wed． | Valentine Bp．ఫ\％stationary． |  | 525 | 121 |  | Morning |
| 15 | Thur． | © Apogee． |  | 527 | 1214 |  | 015 |
| 16 | Frid． | Ghent treaty ratified， 1815. |  | 528 | 1214 | 7 | 121 |
| 17 | Sat | Michael Angelo died，1563．wind | 70 | 530 | 1214 |  | 227 |
| 18 | SUN． | Quinquagesit | 658 | 531 | 1214 |  | 3 |
| 19 | Mon． | 今 d Very changeable | 656 | 532 | 1214 | 9 | 4 |
| 20 | Tues． | \％Greatest Hel．Latitude North． | 654 | 534 | 121 |  |  |
| $21$ | W ed． | Ash Wednesday．weather． |  |  | 12 |  | 6 |
| $22$ | Thur． | $\bigcirc$ Eclipsed，invisible at Montreal． | 651 | 536 | 12 |  | sets |
| 23 | Frid． | ¢ ¢ H゙ 9 d | 649 | 537 |  |  | 6 |
| 24 | Sat． | St．Mathias A．$\quad$ in Inf．$\delta$－ | 647 | 539 | 1214 |  | 741 |
| 25 | SUN． | First Sunday in Lent． | 646 | 541 | 12 |  | 8 |
| 26 | Mon． | H⿰亻犬 d d o d d | 645 | 542 | 12 |  | 10 |
|  | Tres． | Dr．Arbuthnot died 1735．Fair |  |  |  | 8 | 1110 |
|  | W | 14 Perigee．cold nights．， | 6 42 | 5 | 12 |  | Oorning |

Put up and prepare a few hot beds，for early forcing of radishes and let－ tuces，and sow cucumber and melon seeds in pots，to be afterwards transplant－ od．Lonk over your vegetables．Give air to your green house when wee－ ther is fine，and water sparingly．You may begin to move large forest trees， with a ball of earth at the root．In planting shrubs and herbaceous roots， great attention must be paid，first，as to the height they will ettain when in flower；arranging them so that the dwarf sorts may be in front，and the taller at the back．Flowering shrubs，which have grown too luxurant，should be cut and tied up．Cutting a shrub entirely down，is often resorted to with success，when it appears to be dying，after all other means have failed to res． tore it．

Datry Shelves.-For Dairy Shelves, slates have been found to be much the best material. Fishmongers find that slate preserve fish 24 hours longer than marble.

and let-nsplanton weaest trees, us roots, when in he taller lould be I to with d to res.


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This is the best month for early forcing. Put up and prepare hot beds for cucumbers, melons, lettuces, radishes, Early York, cauliflowers. Sow a few tender annuals towerde the latter end of the month, for tranaplanting in the open ground. Give air to greenhouse in fine weather. Sow in a sheltered situation, if the season will allow a few early peas. Begin to prune your orchard trees, but keep in mind that just before the sap commences to rise is the best season. Plant indigenous shrubs $q$ d evergreens. They must be taken up with good balls of earth attached to the roots, that the smaller fibres may be disturbed and broken as little as possible. Transplant rose trees.

Memorandums for March.

Poultry.-Although poultry yards are seldom thought of much importance, yet, cleanliness and warm th will make a considerable difference in their flavor and product; and, if it be possible so to construct their house as to let it have the benefit of a flue from the kitchen chimney, they will greatly profit by it. In this manner, vast quantities of that delicate bird, the turkey, are reared without any peculiar attention to its food, but merely by allowing it the warmth of a roost in the chimney.



| Days． |  | calclidar，Asprcts，\＆r． | THE SUN． |  |  | MOON． |  |
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| M， | we |  | RISEs | sETs． | souths | P． | R．\＆ 8. |
| 1 | SUN． | Palm Sunday．Marriage of Buonaparte | 541 | 628 | 12 | $\Omega$ | 213 |
| 2 | Mon． | $2 ¢$ © Batt．of Copenh．Frosty nights． | 539 |  | 12 |  | 249 |
| 3 | Tues． | Richard B． | $5 \quad 37$ | 630 | 12 | 双 | 326 |
| 4 | Wed | St．Ambrose． | 535 | 631 |  | 仡 |  |
|  | Thur | Gioldsmith died，1774．Cold and high | 533 | 633 | 123 | $\sim$ | 442 |
| 6 | Frid． | Good Friday． | 532 | 634 | 12 | 几 | 514 |
| 7 | Sat． | Storming of Badajoz． | 530 | 635 | 12 | $\simeq$ | $\bigcirc$ rises． |
| $8$ | SUN． | Easter Sunday．winds． | 528 | 637 | 12 | m | 744 |
| 9 | Mon． | D．of Wellington took Badajoz， 1812. | 526 | 639 | 12 | $m$ | 834 |
| 10 | Tues． | Admiral Byron died， 1786. | 524 | 640 | 12 | $f$ | 924 |
| 11 | Wed | George Canning born， 1770. | 523 | 641 | 12 | 7 | 1014 |
| 12 | Thur． | （ Apogee，गु \＆$\odot$ Rain． | 521 | 642 | 12 | vo | 11 |
| 18 | Frid． | Catholic emancipation assented， 1829. | $\begin{array}{ll}5 & 19\end{array}$ | 644 | 12 | \％ | Morning |
| 14 | Sat． | Battle of Alamanza， 1707. | $5 \quad 17$ | 646 | 12 | $\sim$ | 039 |
| 15 | SUN． | Low Sunday．¢¢ Greatest Hel．Lat．S． | 516 | 647 | 12 |  | 14 |
| 16 | Mon． | Battle of Culloden．Fair and mild． | 514 | 648 | 12 |  | 139 |
| 17 | Tues． | Brock＇s Monument blown up， 1840. | 512 | 649 | 1159 |  | 214 |
| 18 | Wed． | English Fleet Mutiny， 179 | 510 | 650 | 1159 | $\uparrow$ | 249 |
| 19 | Thur． | Alphe A．B．$\hat{\text { ¢ }}$ ¢ Fair，if wind |  | 651 | 1159 |  | 324 |
| 20 | Frid． | Abernethey died， 1831. |  | 652 | 1159 | ४ | 359 |
| 21 | Sat． | \％Stationary．is North or |  |  | 1158 | 8 | 437 |
| 22 | SUN． | 2nd Sunday after Easter．Hु才 ${ }^{\text {d }}$ |  | 654 | 1158 | ૪ | sets． |
| 23 | Mon． | St．George．North East－Rain |  |  | 1158 | II | 746 |
| 24 | Tues． | （ Perigee．if | 459 | 657 | 1158 | II | 845 |
| 25 | Wed， | St．Mask，Evan．South or | 458 | 658 | 1158 | छ | 943 |
| 26 | Thur． | Bruce died，1794．South West． | 456 | 659 | 1158 | उ | 1044 |
| 27 | Frid | Martial law revoked in D．of Montreal， | 455 |  | 1157 | $\Omega$ | 1150 |
| 28 | Sa | Battle of York，U．C．，1813．［1838． | 454 |  | 1157 | S | Morning |
| 29 | SUN． | 3rd Sunday after Easter． 24 |  |  |  |  | ． 040 |
| 30 | Mon | Washington el．Pres．U．S．Changeable． | 4 |  | 1147 |  | 140 |

You may go on putting up and preparing frames during this month．Sow your melons and cucumbers，for general crop，about the 10th，and transplant them about the 18th of next month into frames in the open ground，Sow early peas，radishes，onions，carrots，and winter cabbages．Cut all useless shoots from gooseberry and currant bushes before the sap rises．Transplant fruit trees and other plants，and proceed with your pruning，Give air to your greenhouse and water more freely，syringing is necessary as the heat in－ creases．This is the best season for propagating，by cuttings from all green－ house plants．Divide and plant the roots of any hardy herbaceous plants that are too large．Plant out any half－hardy annuals that are ready；or，if your soil is stiff，pot them，three or four in a pot，and keep them in a frame，

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Transplant your melons and Cucumbers for general crop about the 18th. All vegetables that were not sown last month, must be laid down as early as possible. Corn should not be sown later than the 20th, to ensure ar good crop. Sow annuals early this month. APlant dahlias abopt the 20th. This is the proper season for transplanting fruit and forest trees. Propagate plants by cuttings and slips, early this month. Give plenty of air to your greenhouses, and syringe freely every other day. The latter end of this month is about the best season for removing evergreens. Finish your pruning before the sap rises. Turn out into the open air your half-hardy annuals, after they have rooted well in the pots, they will not be so much checked by the change, as in transplanting them at once from the hot bed.

The Dairy.-In farm-houses, where the dairy forms a material portion of the concern, it is important that the buildings should be airy and detached, yet so near to the dwelling as to be under the eye of the mistress, and to have the command of the back kitchen, if not, a boiling house with a regular steaming apparatus, which has now become essential to the preparation of the

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| $1$ | Frid. | Neivmede M. \% Stationary. Fair | 415 | 741 |  |  |  |
| 2 | Sat. | Harvey died, 1658. if |  | 741 | 1158 |  | 250 |
| 3 | SUN. | Trinity Sunday, of Great. Elongation. |  | 742 | 1158 |  | 321 |
| $4$ | Mon. | र̂̀ in Perihelion. wind North |  | 741 |  |  | 350 |
| 5 | Tues. | Boniface Bp. © Apogee, West, |  | 74 |  |  | $\bigcirc$ rises. |
| 6 | Wed. | Riot in London, 1780. Rainyif S. or S. |  | 745 | 1158 |  | 812 |
| $7$ | Thur. | Corpus Christi. Ref. Act passed, 1832 |  | 746 |  |  | 852 |
|  | Frid. | Louis 17th died in prison, 1795. West. 4 |  | 7471 | 1159 |  | 32 |
| 9 | Sat. | Cholera first ap. at Montreal, 1832. | 4127 | 7481 |  |  | 1012 |
| 10 | SUN. | First Sunday after Trinity. Very fine |  | 748 | 1159 |  | 1052 |
| 11 | Mon. | St. Barnabas. $\forall$ in 8 weather. | 4117 | 7491 |  |  | 1133 |
| 12 | Tue | Duke of Berwick killed, 1734. | 4117 | 7491 | 120 |  | Morning |
| 13 | Wed. | Battle of Free | 4117 | 749 |  |  |  |
| 14 | Thur. | $40^{\circ}$ | 4107 | 750 |  |  | 045 |
| 15 | Frid | to 0 ( Magna Charta sig. 1215. Fair | 410 | 750 |  |  | 124 |
| 16 | Sa | Ho d ostationary. weather |  | 750 | 120 |  | 210 |
| 17 | SUN | 2nd Sunday after Trinity. continu |  | 750 | 12 |  | 5 |
| 18 | Mon. | o at greatest brilliancy. Battle of Wa- | 4107 | 7511 | 12 |  | - 330 |
| 19 | Tues. | K. Will. IV. d., 1837. [terloo, 1815 | 4117 | 7511 | 12 | 5 | 3 |
| 20 | Wed. | Tr. of Edw. Kg. of W. Sax. © Perigee. | 4117 | 751 | 12 |  | sets. |
| 21 | Thur | $\bigcirc$ enters of Summer commences. | 4117 | 752 | 12 |  | 840 |
| 22 |  | 2nd abdic of Napoleon, 1815. Ver |  | 752 | 12 |  |  |
| 23 | Sat. | Newfoundland discov., 1497. variable | 4127 | 752 |  |  | 958 |
| 24 | SUN | 3rd Sun. after Trinity. St. J. Baptist. | 4127 | 753 |  |  | 1037 |
| 25 | Mo | Flavel died, 1691. weather. | 4127 | 7531 | 12 |  | 1116 |
| 26 | Tues. | Accession of William IV., 1830. | 4137 | 7531 | 12 |  | 1155 |
| 27 | Wed. | Dr. Dodd executed, 1777. | 41317 | 7531 | 12 |  | Morning |
| 28 | Thur. | 2nd great Fire at Quebec, 1845. | 4137 | 7521 |  |  | 024 |
| 29 | Frid. | St. Peter and St. Paul. | 4147 | 752 |  |  | 052 |
| $30$ | Sa | $\forall$ in Inf. $\langle\bigcirc$ - Rainy. | 14 | 752 | 12 |  | 121 |

Sow cucumbers for pickling about the 13 th, which is the best senson for ensuring a good crop. Transplant winter cabbages. Plant potatoes, not later than the 20th. 'Trapsplant celery. Sow endive, to be transplanted in August. Sow black radishes for winter use. Ttrn out your greenhouse plants into a half shaded expoeure. No crop, if sown after this month, can be depended on. Cut down and clear away all weeds. Continue to sow both hardy and tender annuals, to keep up a succession of flowers. This is an important point to attend to, so as to prevent your flowers from being so sown or planted, as to blow all at one time.
food of most animals whichlare supported upon roots, and especially to cows. It should have a north, and if possible, also an eastern aspect, to guard it as much as possible from the sun; the walls also should be well shaded by a projecting parapet roof, and if the floor were sunk a few feet below the ground, it would improve the temperature of the air.
$\qquad$

Salt. rable sea dition of thinly sp palatable


Sow a few annuals in succession, about the beginning of this month. Greenhouse plants require to be regularly watered, according to the heat. Propagate plants, going out of flower, by cuttings. Earth up beans, neas and potatoes, and destroy weeds everywhere. Pot a few layers of your finest carnations to blow in pots. Gather the seed of your spring flowers that are ripe. Pinks and carnations, raised from seed last year, will blow about this
times Lay shoots of those worth preserving, and water them moderately in dry weather. This is about the best season for budding roses trece.
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his month. ) the beat. as, peas and your finest ers that are v about this derately in is.
1849.]

Memorandums for July.

Salt.-Hay of all kinds, when coarse or injured by the wet of an unfavorable season, has been proved to be so far improved in its quality, by the addition of a quantity not exceeding about a peck of pure salt to a ton of hay, thinly sprinkled over the layers in the stack, as not merely to be rendered palatable to stock, but in many cases to be consumed with even superior relish.


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Attend to your greenhouse plants. Go on propagating plants by cuttings and slips. Transplant strawberries: This is the proper season for budding fruit trees. Cut off all supernumerary shoots from transplanted trees, and train the retained bearers of the next year. Take up your bulbous roots and dry them. Plant the roots again about October. Sow the seeds of bulbous roots in pots. If the weather is moist, transplant into borders your seedling biennials ngd perennials, which were sown early. In hot weather, shade the root with a garden pot through the day, which remove at night so that the plant may have the benefit of the dew.

When the crop has been much exposed to rain, it checks fermentation, and prevents mouldiness.

Clay Kilas.-There are two modes of burning clay commonly employed, one by kilns partly constructed of masonry, and the other of sods; in both of
mannernens MOON.
R. \& 8 .

230
323
O rises.
738
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950
1022
1055 1128
Morning
014
115
217
318
419
(1) sets.

751
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116
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cuttings budding es, and bots and bulbous seedling ane the hat the
1849.


17


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\overline{22}
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\overline{23}
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which th a lime $k$ to be lai

Drais with a vi


Continue transplanting evergreens and strawberries. Prepare ground for transplanting and fall sowing. Propagate plants by cuttings. Remove all plante to the greanhonse for the winter, during thiemonth Talee un enions, \&c., as they ripen. Coflect seeds as they ripenf choose a dry day for gathering them, if put away in a damp state they are apt to decay ; from carelessness in this respect, great disappointment often teemes, Some seeds ought to be gathered a little before they are ripe, otherwise, they will be entirely lost. Begin to prepare compotts for opring wibe.
which the earth is piled upon them, instead of being placed under cover, as in a lime kiln. They are usually formed in the very field, on which the clay is to be laid, and out of which it is to be dug.

Drainage, - The subdivision of $\boldsymbol{n}$ farm into fields should always be done with a view to the drainage. The ditches may be so contrived as to act not only



| DAYS． |  | Calenoar，Asperts，\＆x． | THE SUN． |  |  | MOON． |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M． | WEEK． |  | RISEs | SETs． | souths | P． | R．\＆${ }^{\text {s．}}$ ． |
| 1 | Mon． | Remigius Bp．ち¢（ Hard frost 5 | 58 | 541 | 1150 | $r$ |  |
| 2 | Tues． | Dr．Channing died，1842．unless the 6 |  | 539 | 1149 | $\bigcirc$ | Orises． |
| 3 | Wed． | H ${ }^{\text {d（ }}$ wind 6 |  | 537 | 1149 | ૪ | 651 |
| 4 | Thur． | Belgian independence， $1830 . \quad$ is 6 | 6 | 535 | 1149 | ૪ | 738 |
| 5 | Frid． | New Style instituted，1582．South or |  | 533 | 1148 | II | 825 |
| 6 | Sat． | Faith V．\＆M．© Perigee．$\widehat{\text { in }}$ \＆ | 64 | 532 | 1148 | 픞 | 912 |
| 7 | SUN． | 18th Sunday after Trinity． |  | 530 | 1148 | ㅍII | 959 |
| 8 | Mon． | ¢ Greatest Lat．South．South West． |  | 528 | 1147 | © | 1049 |
| － | Tues． | St．Denys Bp．아 d 4 | 68 | 526 | 1147 | छ | 1153 |
| 10 | Wed． | West born，1783．Fair and frosty 6 | 69 | 524 | 1147 | 几 | Morning |
| 11 | Thur． | Adl．Duncan beat Dutch Fleet， 17 |  | 523 | 1147 |  | 18 |
| 12 | Frid． | Penn born，1644．if wind is Nor |  | 521 | 1146 | 牫 | 212 |
| 13 | Sat． | Trans．of King Edward，Conf．or |  | 519 | 1146 | 双 | 316 |
| 14 | SUN． | 19th Sunday after Trin．North East． | 616 | 517 | 1146 |  | 420 |
| 15 | Mon． | Rain or snow if Sou | 618 | 515 | 1146 |  | 525 |
| 16 | Tues． | Battle of Leipsic，1813．South West． |  | 5 | 1146 |  | sets． |
| 17 | Wed． | Etheldreda V．У才 『 H8\％ | 620 | 512 | 1145 | m | 622 |
| 18 | Thur | St．Luke Eva | 621 | 511 | 1145 |  |  |
| 19 | Frid． | French ret．from Moscow，1812．Ver |  |  | 1145 | f | 750 |
| 20 | Sat． | H．K．White died，1806．hard frost |  |  | 1145 | 7 | 834 |
| 21 | SUN． | 20th Sunday after Trinity．but | 62 |  | 1145 |  | 919 |
| 22 | Mon． | Netherland＇s Tr＇y，1832，clear and fine |  |  | 1144 | 19 | $10 \quad 3$ |
| 23 | Tues． | L．Seaton leaves Canada，1839．days． | 628 |  | 1144 |  | 1047 |
| 24 | Wed． | $\underset{\square}{\forall}$ in Inf．$\delta \bigcirc$ 1st Brit．Parliam．， 1707. | 630 |  | 1144 | $\sim$ | 1134 |
| 25 | Thur． | Crispin Mart．Stormy the | 631 |  | 114 | \＃ | Morning |
| 26 | Frid． | Battle of Chateauguay， 1813. | 632 |  | 1144 |  | 033 |
| 27 | Sat． | Cook born，1727．remainder of |  |  |  |  | 139 |
| 28 | SUN． | 21 st Sunday after Trinity．St．Simon |  |  | 1144 |  | 245 |
| 29 | Mon． | Cunningham d．，1842．［and St．Jude． |  |  |  |  | 351 |
| 30 | Tues． | Swift died， $1745 . \quad$ the nonth． |  |  |  |  | 457 |
| 31 | Wed． | $\succ$ in Perihelion． | 638 | 450 | 114 |  | Orises |

This is the best month for transplanting fruit and forest trees．Attend to and take in all your greenhouse plants early．Save the seeds of all vegeta－ bles and annuals．Take up and secure your vegetables as they ripen．Pre－ pare your soil for early forcing．Gather in and store up your fruit．Unnail and loosen，for a short time，the branches of your wall－trees，to give air and freedom of action to them，and destroy the deposits of all sorts of vermin． Take up your dahlia roots after the first frost．Plant bulbous roots this month．Anemonies and ranunculuses，which are intended to flower early， should be planted about the middle of the month，unless the soil be cold and wet，in which case they may be put down in March．In severe wenther corer them with straw or mats．
as ducts b planned fe the place

Pig－St placed cor

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R. \& 8 .

## 50

O rises.
651
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1153
Morning
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212
316
420
525

- sets.

622
76
750
834
919
103
1047
1134
Morning
033
139
245
351
457 rises.

Attend to all vegetapen. Pret. Unnail ve air and of vermin. roots this wer early e cold and ather corer
1849.]

Memorandums for October.
as ducts but as drains, and much wet land might be laid dry by judiciously planned fences. The wet should always be separated from the dry land, ns the place and depth of the ditch may thus often lay both dry.

Pig-Sties.-The pig-sties for small farms will be found very useful if placed convenient to the kitehen; for, although not a sightly view, no offal


| Last Quarter, | , |  | 28 | Morning. |
| :---: | :---: | :---: | :---: | :---: |
| New Moon, | 14 | 4 | 19 | Evening. |
| D First Quarte | 22 | 9 | 30 | Evening. |
| (3) Full Moon | 29 | 10 |  | Evening. |


| Days. |  | Calenæar, casperts, \&c. | THE SUN. |  |  | MOON. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M. | WERK, |  | 21sEs | 88) ${ }^{\text {P }}$ | souths | P. | F. \& 8. |
|  | Thurs | All Saints. |  |  |  | $\checkmark$ |  |
| 2 | Frid. | © Perigee, Stormy | 40 | 446 | 1144 | 파 |  |
| 3 | Sut. | 2nd Ttebellon in Lower Canada, 1838 | 42 | 44 |  | II | 758 |
| 4 | SUN. | 22nd Sunday after Trinity. § ¢ d | 643 | 4.43 | 1114 | 9 | 855 |
| 5 | Mon. | Gunpowder plot, 1605. | 645 | 4.42 | 1144 | 70 | 952 |
| 6 | Tues. | Leonard Conf. and | 647 | 441 | 1144 | \% | 1051 |
| 7 | Wed. | Princess Charlotte | 48 | 439 | 1144 |  | 1159 |
| 8 | Thur. | the time of New Moon | 649 | 438 | 1144 |  | Morning |
| 9 | Frid. | ¢ Stationary. ४\% Great. Elongation, | 650 | 437 | 1144 |  | 15 |
| 10 | Sat. | Milton died, 1674. | 652 | 436 | 1144 | 收 | 224 |
| 11 | SUN. | 23rd Sunday after Trinity. | 653 | 435 | 1144 |  | 343 |
| 12 | Mon. | \% Venus greatest Hel. Lat. North. | 654 | 434 | 1145 | $\bumpeq$ | 5 |
| 13 | Tues. | Britius Bp. Montreal taken, 1775. | 655 | 433 | 1 I 45 | $\sim$ | 621 |
| 14 | Wed. | Arnold ar, before Quebec, 1776. Fair | 657 | 432 | 1145 | 17 | sets. |
| 15 | Thur. | Machutus Bp. and mild days | 659 | 430 | 1145 | m | 529 |
| 16 | Frid. | Austrians take Cracow |  | 429 | 1145 | $f$ | 619 |
| 17 | S | Hugh, Bp. up to the |  | 428 | 1145 | f |  |
| 18 | SUN. | 24th Sunday after Trinity. time of |  | 427 | 1145 | 19 | 759 |
| 19 | Mon. | Attempt to ass. L. Phillipe, 1832. the |  | 426 | 1145 | 19 | 851 |
| 20 | Tues. | Edward King \& Martyr. first quarter. |  | 425 | 1145 |  | 941 |
|  | Wed. | First Steamer on St. Lawrence, 181 |  | 424 | 1146 |  | 1031 |
| 22 | Thur. | Cecilia V. \& M. Fair and frosty 7 |  | 423 | 1146 |  | 1120 |
| 23 | Frid. | St. Clement M. if wind is North or | 711 | 422 | 1147 |  | Morning |
| 24 | Sat. | Peace with U. S., 1814. North East. |  | 421 | 1147 |  | 023 |
| 25 | SUN. | 25 th Sunday after Trinity. $\quad$ d © | $\begin{array}{ll}7 & 13\end{array}$ | 421 | 1147 | $p$ | 131 |
| 26 | Mon. | Great storm, 1703. Rain or snow if S. | 714 |  | 1148 |  | 239 |
| 27 | Tues. | Frontenac d. at Quebec, 1698. or South | $7 \quad 15$ | 420 | 1148 | $p$ | 347 |
| 28 | Wed. | Polish Revolution, 1830. East. | 716 | 420 | 1148 |  | 455 |
| 29 | Thur | Lord Hailes died, 1792. | 717 |  | 1149 |  | rises. |
|  | Fri | St. Andrew. © Perigee. | 718 |  |  |  | 527 |

Secure every department for the coming winter. Attend to your greenhouse; water sparingly, and give air when the weather will permit. Transplant fruit and forest trees. Protect all tender plants. Dig and lay out borders for the winter. Prune such shrubs as require it. Take off all suckers where they are not wanted. Manure all soils that are exhausted or worn out. Cover over with straw, and protect all plants likely to suffer from severe rains and frosts, otherwise the plants will rot and die.
is thus al more reg corner of

Cattli young cal


30 days.
1849.]

Memorandums for November.
is thus allowed to escape the brood; but on large farms, where they require more regular attendance, it will perhaps be better to place them in a far corner of the yard.

Caprye Sheds.-Cattle sheds are used either for lodging milch cows or young cattle, or for stall feeding for the butcher. The principal requisites in


D．H．M．

|  | st $Q$ | 6 | 1 |  | Evening． |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | New Moon， | 14 | 10 | 44 | Morning． |
|  | First Quart | 22 | 2 |  | Evening． |
|  | Full Moon | 29 | 9 |  | S Morning． |


| DAYs． |  | ©alentul，¢̧gnerts，\＆c． | THE SUN． |  |  | MOON． |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| M． | WEEK． |  | RISES | gers． | souths | P． | R．as s． |
| 1 | Sat， |  | 20 | 418 | 1149 | $\sigma$ | 627 |
| 2 | SUN． | Advent Sunday．Buonaparte c．， 1804. | 21 | 418 | 1150 | \％ | 731 |
| 3 | Mon． | King James II，abdicated，1688，snow | 722 | $4 \cdot 18$ | 1150 |  | 835 |
| 4 | Tues． | ४ in Q and raik also | 723 | 418 | 1151 |  | 939 |
| 5 | Wed． | Battle of Missisquoi Bay， 1837. | 724 | 418 | 1151 |  | 1055 |
| 6 | Thur． | Nicholas Bp． | 726 | 417 | 1152 |  | Morning |
| 7 | Frid． | 24 d $\mathbb{4}$ | 727 | 417 | 1152 | $\bumpeq$ | 03 |
| 8 | Sat． | Conception B．V．M．weather | 28 | 417 |  | $\bumpeq$ |  |
| 9 | SUN． | 2nd Sunday in Adv．Milton b．， 1608. | 729 | 417 | 1153 | $\sim$ | 26 |
| 10 | Mon． | Wilna taken by Russians，1812．buti | 730 | 417 | 1154 | 叹 | 317 |
| 11 | Tues． | Charles 12th killed，1718．moderate． | 731 | 417 | 1154 | m | 410 |
| 12 | Wed． | q d © Gay died， 1732. | 732 | 417 | 1155 | 7 | 511 |
| 13 | Thur． | Lucy V \＆M． | 733 | 417 | 1155 | 7 | 612 |
| 14 | Frid． | ఛ̧ © ४̧ in Aphelion．Coldy | 734 | 417 |  | 19 | －sets． |
| 15 | Sat． | Re－inter of Napoleon， 1840. | 734 | 417 | 1156 | 179 | 531 |
| 16 | SUN． | 3rd Sunday in Advent．© Apogee． | 735 | 417 | 1157 |  | 627 |
| 17 | Mon． | 1st Parliament in L．C．， 1792. and | 735 | 418 | 1157 | ＂m | 723 |
| 18 | Tues． | § $8 \bigcirc$ Bolivar d．，1830．high wind． | 736 | 418 | 1158 |  | 819 |
| 19 | Wed． | Battle of Niagara， 1813. | 736 | 418 | 1158 |  | 915 |
| 20 | Thur． | Slight fall of smow． | $7 \quad 37$ | 418 | 1159 | 长 | 1011 |
| 21 | Frid． | St．Thomas A．© enters V\％winter | $7 \quad 37$ | 419 | 1159 | $\bigcirc$ | 1111 |
| 22 | Sat． | ち d d［commences． | 738 | 419 | 12 | ${ }^{\circ} \mathrm{P}$ | Morning |
| 23 | SUN， | 4th Sunday in Advent．$\quad \square \bigcirc$ | 738 | 419 | 12 | ४ | 016 |
| 24 | Mon． | H／d d Tr．of Ghent s．1814．Fair and | 739 | 420 | 12 | ४ | 125 |
| 25 | Tues． | Christmas Day．uncommonly mild | 739 | 420 | 12 | 1 II | 235 |
| 26 | Wed． | St．Stephen M．weather |  |  | 12 | 2 III | 344 |
| 27 | Thur． | St．John Ap．up to the time | 740 | 421 | 12 | 2 ¢ | 453 |
| 28 | Frid． | Innocents＇Day．ef the | 740 | 422 | 12 | 3 － | 64 |
| 29 | Sat． | © Perigee．Full Moon． | 741 |  | 12 | ¢ | O rises |
| 30 | SUN． | Sunday after Christmas． | 741 | 424 | 12 | O | 616 |
| 31 | Mon． | Silvester Bp．$\odot$ in Perigee． | 741 | 425 | 12 |  | 727 |

Attend to your greenhouse plants，and water sparingly．More attention is requisite for their preservation during this month，than at any other season． Raise large trees with balls of earth at the roots．Examine carefully your vegetables and fruit，removing every decayed article from amongst them． The frame plants must be attended to，they must have air when the weather is mild，and be protected with mats from the frost．More attention is now being paid to gardening，in this country．Our Horticultural Societies are strenuously exerting themselves，by their exhibitions，to awalken publie atten－ tion，and the Garden and Greenhouse will ere long be places of much plea－ sure and attraction．
building be const and cles animals collect t

| $\frac{1}{2}$ |
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| $\frac{23}{24}$ |
| $\frac{25}{26}$ |
| $\frac{27}{28}$ |
| $\frac{29}{30}$ |
| $\frac{31}{31}$ | Second of a Degree; and calculated for each Minute of Latitude, from the 43rd to the 47th degree North, inclusively, together with the reduced Polar distances of the Star for each of the above days, and the interval, in time, from its Meridian passage to the moment of the greatest Azimuth


| MONTHS. | POLAR DISTANCES. |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Lat. 43. | Lat. 43, 30 | Lat. ${ }^{\circ} 4$. | Lat. ${ }^{\circ} 4$, 30 | Lat. $\stackrel{\circ}{4}^{5}$. | $\text { Lat. } \stackrel{\circ}{4}, 3_{30}$ | Lat. 46. | Lat. 46, 30. | Lat. 47. |
|  | - 11 | - $1 / 1$ | O ' " | - $1 /$ | - 11 | - ' 11 | - ' 11 | O $1 / 1$ | - $1 /$ | - 1 / |
| JANUARY, | 12928 | 2220 | 2321 | 2423 | 2527 | 2634 | 2740 | 2849 | 2100 | 21112 |
| FEBRUA | 12931 | 2224 | 2325 | 2427 | 2531 | 2638 | 2744 | 2853 | 2104 | 211116 |
| MARCH | 12938 | 2234 | 2335 | 2437 | 2541 | 2647 | 2754 | 293 | 21014 | 211127 |
| APRIL | 12948 | 2249 | 2349 | 2452 | 2556 | 271 | 289 | 2918 | 21029 | 21142 |
| MAY, | 12956 | 2259 | 240 | 253 | 267 | 2712 | 2820 | 2929 | 21040 | 21153 |
| JUNE | 1300 | 234 | 245 | 257 | 2612 | 2718 | 2826 | 2935 | 21048 | $2 \begin{array}{lll}2 & 12 & 0\end{array}$ |
| JULY, | 12959 | 233 | 244 | 256 | 2611 | 2717 | 2825 | 2934 | 21047 | 21159 |
| AUGUST | 12953 | 2255 | 2356 | 2459 | 263 | 278 | 2816 | 2925 | 21036 | 21149 |
| SEPTEMBER,.. | 12943 | 2241 | 2343 | 2445 | 2549 | 2555 | 282 | 2911 | 21022 | 21135 |
| OCTOBER, ...... | 12932 | 2226 | 2326 | 2428 | 2532 | 2639 | 2745 | 2854 | $210 \quad 5$ | $2 \begin{array}{llll}2 & 11 & 17\end{array}$ |
| NOVEMBER,... | 12921 | 2211 | 2311 | 2413 | 2417 | 2624 | 2730 | 2839 | 21050 | 2112 |
| DECEMBER,... | 12913 | 221 | 221 | 243 | 247 | 2614 | 2720 | 2829 | 21040 | 21052 |
| Intervals from Meridian passage, $\qquad$ |  | $\begin{aligned} & \text { H. M. } \\ & 5 \quad 53 \\ & 5 \end{aligned}$ | $\begin{aligned} & \text { H. M. } \\ & 5 . \\ & 5 \\ & 53 \end{aligned} 18$ | $\begin{aligned} & \text { H. M. } \\ & 5 . \\ & 5 \\ & 53 \\ & 12 \end{aligned}$ | $\begin{array}{ccc} \text { H. M. } & \text { S. } \\ 553 & 6 \\ \hline \end{array}$ | $\begin{array}{ll} \text { H. M. } & \text { S. } \\ 5 & 53 \\ \hline \end{array}$ | $\begin{aligned} & \text { н. м. } \\ & 5 . \\ & 52 \\ & 52 \end{aligned}$ | $\begin{aligned} & \text { H. M. } \\ & 5 . \\ & 52 \end{aligned} \mathbf{S}^{26}$ | $\begin{array}{lcc} \text { H. M. } & \text { S. } \\ 5 & 52 & 40 \end{array}$ | $\begin{array}{lll} \text { H. } & \text { M. } & \text { S. } \\ 5 & 52 & 33 \end{array}$ |
| Mean difference in Latitude,... ........ | Azimuth for $\qquad$ | $\begin{array}{cc\|c} \mathbf{1} & \text { of } & 11 \\ \cdots \cdots \cdots & 2 \\ \hline \end{array}$ | $\begin{array}{r\|r}  \\ 03 & 11 \\ \hline \end{array}$ | $10 \quad 2$ | 16 . ${ }^{\prime}$ | $\begin{array}{l\|l}  \\ 20 & 1 / \\ \hline \end{array}$ | $\begin{array}{r\|r} 11 \\ 23 & 2 \\ \hline \end{array}$ | $30 \quad \begin{aligned} & 11 \\ & 2\end{aligned}$ | 37 ,$1 /$ <br> 2 | 43 |

Explanation.-Opposite the given time and under the Latitude will be found the required greatest A zimuthal distance of Polaris. If there be any dd Minutes of Latitude, not at the head of the table, take the next lesser Latitude, and add to the Azimuth corresponding thereto, the product of the given excess of Minutee multiplied into the difference for 11, standing below, rejecting the froctions in such product : the sum will be the Azimuth required. The corresponding time from Meridian passage added to, or substracted from the hour of transit, will show the true mean time of such greatest Azimuth, West or East of the Meridian.


## FARMING CALENDAR.

The exertions of mental emanations would be wholly useless without the instrumentality of matter; for they would only consist of beautifut ideas and deductions, without any visible benefit. The earth affords the materials of every kind, on which mental energy is exerted; and as Agriculture, or that part of the fabrication of gross materials, supplies food, or the moving principle of all bodily exertion, without which all other arts would stand still, it is fairly entited to the first consideration, and deserves the chief attention. In the following summary of the art we shall adbere strictly to the most approved practice, as sanctioned by science and experience:

## JANUARY, FEBUARY AND MARCH.

During the winter, in Canada, Agricultural operations in the fields are altogether suspended. The collection of manure, taking it to the fields, where it will be required the ensuing Spring-attention to the farm stock of cattle, and threshing out, and disposing of the produce of the previous crops, will fully occupy the time upon a well-managed farm, where stock, manure and crops are in due proportion. Where sufficient stock are not kept, manure has to be brought to the farm, otherwise, good crops cannot be raised. When farm-yard manure is carted to the fields in winter, it should be carefully piled up on dry ground, or there will be considerable waste, and the manure deteriorated. When the urine of the cattle cannot be preserved in tanks, the cattle should we constantly well littered with sfraw in the stables, which will imbibe most of the urine and save it as effectually as in tanks. Where this plan is adopted, very little loss of useful manure will be incurred. It has been strongly recommended to mix gypsum with manure during the winter, and also common salt, both may occasionally be scattered over the manure in the yards, or on the heaps in the fields as they are piled. Fire and fencing wood should be provided during winter, where these articles cannot be obtained by water in summer. Broken fences, in boggy or swampy situations, may now be repaired. Thresh every two days by a machine, or with the flail, fill the straw barn with straw, and the granary with the dressed grain, and this storing will not stop the labor in good weather. The threshing should be so proportioned to the stock of lean cattle, as to make the supply of straw for the yard always sufficient, and yet equally distributed throughout the winter. Feeding and store animals will require the most earnest and careful attention. Give the former the roots regularly before daylight for a day's consumption, and being eaten before night fall will prevent any accidents to the animals from gorging, or hoving, after darkness sets
in. Clean the wooden cribs daily from all earthly filth, the bored bottoms will let escape the moisture from rain. Litter the yards daily evenly and thinly with straw, and change the place of the straw cribs frequently, in order to make the manure of uniform quality in point of moisture and excrementitious mixture. All animals need a dry bed. The store catile require the same treatment-a dry yard, a feed of roots in the morning, and fresh straw daily, and also water in a trough for drinking. Milch cows require much attention; ample littering daily, and feeding with steamed roots and chaffs, dry hay, and raw cabbages, and mangel wurzel. Sell to the butcher all the fattening bullocks that are ready, and give the others that remain an increased supply of food, as the long days require a greater supply. Grains in some reasonable proportion should always be given with roots, as it will greatly facilitate the fattening of the animals of whatever kind.
The working horses will do well with an evening feed of steamed potatoes, in addition to the regular supply of the chaffs of hay and straw.
Calves will begin to be dropped in these months; suckle all, both for veal and weaning: no substitute is equal to the mother's milk. The calve's pens must open by a door into the cow shed, either from the end or from the side of the building, each calf in a single apartment; about four feet by eight feet, and a boarded floor, raised one foot above the floor of the shed, and bored thickly with augor holes, will carry away every moisture, and admit fresh air from beneath. Keep them dry by clean littering. On the partitions, or boarded railings, have racks for holding strawy food, and in the corners of the apartments have boxes for holding chalk and bruised oil cake for the animals to lick and eat.

## APRIL.

In general, farming operations may be commenced this month, both by ploughing and sowing, and the eariy commencement and proper execution of this work, will mainly depend on the state of the drainage of the soil. Oats, peas, beans and potatoes may be put in the moment the soil is fit to work, taking care to have clean and good seed. All newly ploughed or newly sown fields should be immediately water furrowed with the plough, and scoured with the spade, if necessary. Top dressing of meadows should now be completed, if the land will bear carting upon it.' Summer fallows should be ploughed during this month, to check the growth of weeds. In wet weather, which stops the field work of sowing, cart the dung from the feeding yards to the fields. Finish the dressing of grass lands, and shut up the fields for hay or pasture.

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## MAY.

The sowing and planting of spring crops must now be finished as quickly as possible. The sowing of wheat should not be commenced previous to the 21st of this month, if Black Sea Wheat is the variety sown. Mangel wurzel, carrots, parsnips and Swedish turnips should be put in on lands well prepared, and cleaned as early as possible. Three things are essential in furnip farming-land well puiverized and cleaned-dung in a fermentative process, and regularly spreadand despatch in bringing into contact the fresh moved soil, the hot vapoury manure, and the seed. For all the above crops, as well as for potatoes, manure if from the farm-yard should be ploughed in, in the fall previous ; but if ashes or other special manures are used, they may be applied when the seed is being sown. Deep mellow soil, free from weeds and grass, is necessary for all small seeds. Indiancorn may be sown from the 15 th to the end of this month; on light clay soil it succeeds best.

## JUNE.

Turnip sowing must be finished in quick succession, and buckwheat during this month. Continue the horse and hand hoeing of potatoes, and the early Swedish turnips ; the former may be earthed up, and any tall weeds that may afterwards arise must be pulled by hand. The sowing of turnips being finished, go on with the preparation of the summer fallows for wheat, if the farm contains any land of that nature, plough, harrow, and roll in repeated succession; pick off every stone and weed, and get forward the dung and lime. If any arable lands be drained, they must now be finished.

Draining is much best done on the grass surface, which affords a hard surface for the cartage, and a clean handling of the stones and tiles. But the courses of the drains should be previously marked out, as shown by the watery appearances of the surface. Burning weeds and clay for manure, if there is opportunity, should not be neglected, particularly on summer fallows. This, however, cannot be done unless the weather is dry. Vermin of every species that are in the power of man should be prevented from injuring the crops, as this is the season insects commit their ravages.

## JULY•

In this month, the harvesting of hay and grain commences, which will be greatly influenced by the state of the weather during the last fortnight. Hay is generally fit for mowing about the 15 th, as timothy flowers about that time, and the sooner it is afterwards cut down the better. The hay harvest will be nearly finished during this month; the eut grass must be dried and carried with every possible
despatch consistent with safety. Heavy crops of clover may be well dried by turning the swathe two or three times, and then put into large cocks. Too much moving breaks of the leaves, which are the best part of the plant. When hay is damaged, 20lbs. to 30lbs. of salt sprinkled on each load in stacking will do much to recover the moist succulence of the plant. About the end of this month, in early situations, the corn harvest will conmence with peas and barley; Have waggons and barns in good repair, and in readiness. Prepare thateh, and have as little farming work left to the next busy harvest months as you possibly can. Turnip hoeing must now be going on, and on no account neglected, from these depend more than one future harvest.

## AUGUST.

The probable result of the harvest is ascertained this month. A very excellent crop, however, may be greatly injured if there is unfavorable weather in harvesting; it is from this cause that crops so frequently suffer when at maturity. Early sown oats and peas as well as barley, will be now ripe for the harvestmen. Do not let them become too ripe before you begin to cut; it is a very common error, and is attended with several disadvantages; the crops often become ripe altogether; the laborers caınot cut with sufficient rapidity, much seed is lost, and if wet comes on, the corn begins to sprout. We are not, however, advocates for cutting the corn too green. The grain when once cut should not be exposed to rain upon the swathe, if possible; but if wet after getting dry in the swathes, the crop may be tied in sheaves and stooked. Cut the grain crops low by the ground, to get all the straw possible for manure. The cradie scythe is now much in use, and by a person who can manage it properly, grain may be cut down well with this implement. When the crop is heavy and lodged, the sickle will answer better. Grain may be safely preserved in well built stacks, when there is not sufficient barn-room, but they must be carefully thatched. During this month, the turnip crop must be again hoed and set up.

## SEPTEMBER.

The reaping and harvesting of wheat and other valuable crops, is usually the chief and prominent part of the farm work of September; all minor preparations should have been made; and the whole work of reaping and harvesting must be carried on with all possible energy and judgment, in adaptation to the ripening of the crops and the vicissitudes of the weather. In harvesting corn, prefer stacking; wheat and barley are safer from vermin when on frames ; the sample is always of a better colour, and you may cart it earlier for stacking
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crops, is Septemhe whole possible :rops and stacking; e sample stacking
than for the barn. The cradle scythe may be used for cutting wheat to great advantage by an expert hand, and when the crop is clean, it should be tied up at once and put into stacks. Summer fallows should be well attended to this month, and all grass and weeds gathered and destroyed. It should now be manured with ashes, or from the farm yard, and be ploughe! into ridges as soon as possible, for the spring sowing, taking care to have the land thoroughly drained where required. Compost heaps may now be applied to top dress meadows, or any other manure may be put on.

## OCTOBER.

Root crops are now to be raised by plough, fork or spade, and secured in this month. They will be best secured in a temperature not too cold or too hot, and ventilation should be given until the season becomes very cold. They should be perfectly dry when put up, and covered or mixed with saw dust, straw, or any other dry substance. Secure in the same way the crops of carrots and other roots; some may be left in the soil, if dry and sandy, till spring. The fall ploughing should be far advanced this month, and the draining attended to ; if this is not done, the land will not be in the best condition for spring sowing. Thorough draining is the most imporiant part in any good system of ogriculture, and ought to be particularly attended to, where necessary. The manure should be ploughed in, in the fall, if the soil is dry ; there is no better mode of applying farmyard manure for crops of any kind ; in this country, it will answer much better than placing it in drills, where it becomes dried up.

## NOVEMBER.

This month, if favorable, is advantageous to farmers, by enabling them to complete fall ploughing and other work before the frost sets in. It is generally a good season for draining, and top dressing may also be executed if the land is not in too soft a state. In woodland districts, all fallen tree leaves which can be obtained, should be collected and carted to the farm-yard, for litter and conversion into manure. Carry all earthy and vegetable matter to the compost heap and the tank. Scour open ditches, clean road sides, and open and enlarge water courses, which will afford materials for the compost heaps. Vegetable matters are valuable in mixtures. Get the liquid tank ready, and all the gutters and drains clean for conveying the oozings of the farmery to the proper receptacle. To absorb the urinary liquid with earths is much the best use of the watery manure. There are many other things necessary to be looked to, as the stables and cattle houses, that they are made snug and warm for the cattle. The farmer need have no idle time, as work of some des-
eription is constantly to be done, although, the hurry of one season is not so great as that of another. Much of our success depends upon the work of the farm, being performed in the proper season. The labors of the barn now commence for the supply of fodder and litter to the farm-yard, and must be so continued as to render the supply ample and regular.

## DECEMBER.

Very frequently there is more interruption to the farmers' work, this month than any other in the year, as the roads and rivers may not be in a fit state to travel upon, or the farm to work on. Threshing may however proceed, and cattle have to be attended to, if nothing more can be done. Cattle put up for stall feeding require the most careful attention from the commencement, or they will not repay the food and trouble. The fattening of swine should be finished before the end of this month, as they do not fatten so well when the weather is extremely cold. A proper degree of temperature is very necessary for all animals in this country, during the winter.

## ON THE USE OF MECHANICS.

Of all the sciences, mechanics have proved the most useful to agriculture. If implements may be characterised as the right hand of agriculture, mechanical science, in improving their form and construction, may be said to have given cunning to that right hand, for mechanical science, testing the strength of materials, both relatively and absolutely, employs no more material in implements than is sufficient to overcome the force of resistance, and it induces to the discovery of that form which overcomes resistance with the least power. Simplicity of construction, beauty of form of the constituent parts, mathiematical adjustment, and symmetrical proportion of the whole machine, are now the characteristics of our implements; and it is the fault of the hand that guides them if field work is not now dexterously, neatly, and quickly performed. In saying thus much for the science that has improved our implements to that state in which they now are, when compared with their state some years ago, I am not averring they are quite perfect. They are, however, so far perfect as to be correct in mechanical principle, and light in operation, though not yet simple enough in construction, and I consider the machinist, who simplifies the action of any useful instrument thereby rendering it less liable to derangement, does as good service to agriculture as the inventor of a new and useful implement. -Stephens' Book of the Farm.
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## GOOD FARMING.

Here is the secret of good farming. You cannot take from the land more than you restore to it, in some shape or other, without ruining it, and so destroying your capital. Different soils may require different modes of treatment and cropping, but in every variety of soil these are the golden rules to attend to:-Drain until you find that the water that falls from the heavens does not stagnate in the soil, but runs through it and off it freely. Turn up and till the land until your foot sinks into a loose powdery loam, and the sun and air pass readily through them. Let no weed occupy the place where a useful piant could possibly grow. Collect every particle of manure that you can, whether liquid or solid. Let nothing on the farm go to waste. Put your crops in that course which experience has shown to lead to success in their growth, and to an enrichr 3nt, and not empoverishment of the land. Give every plant room to spread its roots in the soil, and leaves in the air.

## ROTATIONS.

The following have been laid down by eminent agriculturists, as the principles upon which a judicious rotation of crops ought to be founded :-"1st. Crops consisting of the same or similar species, ought not to follow in succession, but to return at as distant intervals as the case will allow. 2nd. Crops consisting of plants, whose mode of growti or cultivation tends to the production of weeds, ought not to follow in succession. 3rd. Crops, whose culture admits of the destruction of weeds, ought to be cultivated when we cultivate plants which favour the production of weeds. And further, crops, whose consumption returns to the scil a sufficient quantity of manure, should be cultivated at intervals, sufficient to maintain or increase the fertility of the farm. And, 4th. When land is to be laid down to grass, it should be done when the soil is fertile and clean."

## HINTS O.N LIME.

1st. Before the application of lime, the land should be thoroughly drained and laid dry. 2nd. It may be carried on whenever the teams are most at leisure; but summer is the best season, and it never should be laid upon the land unless in dry weather. 3rd. It should be laid on while in a powdering state-the drier the better-and kejt as near the surface as possible, as then best adapted to mix intimately with the soil. 4th. It may be applied either quick or effete; but if in the former state, it will have more effect in the cleansing of the land, and a less quantity will serve the immediate purpose-it
should, however, be carted upon the land as soon as possible, and spread directly before the plough, ${ }^{\text {R }}$ letting that follow so quickly as that the body of the lime shall be slaked in the soil ; and it must be cautiously applied to light soils. 5th. As it has a tendency to sink into the ground, and it is important to preserve it near the surface, it should be ploughed with a shallow furrow. 6th. When found, after a few years, in lumps, and much below the surface of the land, it should be ploughed up and repeatedly harrowed, so as to ensure its intermixture. 7hth. Clays and strong loams require a full dose ; but for sands and other light soils, chalk, or a much less quantity of lime will 'serve-each in, proportion to the strength of the lime and the land. 8th. If the land be not supplied with the same quantity of putrescent manure that is usually laid upon other soils, the crops will suffer; and if it be not then laid down to grass for a long series of years, it will be worn out and exhausted.

## PLOUGHING RULES.

1st. The horses should be harnessed as near to the plough as they can be placed, without imporang the freedom of their step; for the closer they are to the point of the draught, the less exertion will be required to overcome the resistance. 2nd. When ploughing with a pair abreast, the most forward and powerful horse eshould be worked in the furrow; but if the team be harnessed in line, and there be any difference in the height of the cattle, the tallest? should be put foremost, if he be in every respect equal to the other. 3rd. When at work, they should be kept at as regular and good a pace as the nature of the work will permit ; for they are thus more manageable, and the draught easier than when slow. By due attention to this, the heavy soil will also cling less to the coulter, and the land will be found to work more freely. 4th. The breadth and depth of the furrow being ascertained, the plough should be held upright, bearing equally all along on a straight sole, and be made to move forward in a regular line, without swerving to either side. The edge of the coulter should also be set directly forward, so that the land side of it may run on a parallel line with the land side of the head, and in such a position as that their slant or sweep may exactly correspond. 5th. The ploughman should walk with his body as nearly as possible upright, without leaning on the stilte, and without ueing force to any part further then may be absolutely necessary to keep the implement sleadily in a direct line. He should also be sparing of his voice, and of correction to the team: of the former, because too much cheering and ordering only confuse the cattle ; and of the latter, because punishment, when ofien reneated, at length ceases to have due effeet, and thus leads to unnecessary beating.

## TABLE OF WAGES

From Two Shillings and Six Pence a Week, to Thirty Shillings, shewing the amount from One Day up to Six Days, at the rate of Ten Hours a Day, Farthings allowed in favor of the Workmen.

|  | 6 D. | 3s. | 3s. 6D. | 4s. | 4s. 6D. | 5s. | 5s. 6D. | 6 s. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D. | H. £ s. d. | D. H. $\begin{aligned} & \text { E } \\ & \text { s. } \\ & \text { s. } \\ & \text { d. }\end{aligned}$ | D. H. £ s. d. | D. H. £ s. d. | D. H. $£$ s. d. | D. H. £ s. d. | D. H. $£$ s. d. | D. H. £ | s. d. |
| 0 | $100000 \frac{1}{2}$ | 0 0 $11000000 \frac{1}{2}$ | $\begin{array}{llllll}0 & 1 & 0 & 0 & 1\end{array}$ | $00_{0} 1$ | 0 0 1100001 | 0 1 0 0 1 | $\begin{array}{llllll}0 & 1 & 0 & 0 & 1\end{array}$ | 010 | 0 1 $1 \frac{1}{2}$ |
| 0 | 200001 | $0{ }_{0}^{0} \mathbf{2} 0000011$ | 0 210 0 $1 \frac{1}{2}$ | $0{ }_{0} 0200001 \frac{1}{2}$ | 0 0 200002 | $\begin{array}{lllll}0 & 2 & 0 & 0 & 2\end{array}$ | 0 2 0 0 $2 \frac{1}{2}$ | 020 | $02 \frac{1}{2}$ |
| 0 | $300011 \frac{1}{2}$ | $\begin{array}{lllll}0 & 3 & 0 & 0 & 2\end{array}$ | 0 0) 310 | $\begin{array}{llllll}0 & 30 & 0 & 21\end{array}$ | 0 0 300000 | $\begin{array}{lllll}0 & 3 & 0 & 0 & 3\end{array}$ | $\begin{array}{lllll}0 & 3 & 0 & 0 & 3 \frac{1}{2}\end{array}$ | 0 0 30 | 0 3 $\frac{1}{2}$ |
| 0 | 400002 | $0{ }_{0} \mathbf{4} 000021$ | 0 0 4000003 | $03400003 \frac{1}{2}$ | 0 | 0 4 0 0 4 | $\begin{array}{llllll}0 & 4 & 0 & 0 & 4 \frac{1}{2}\end{array}$ | 040 | 05 |
| 0 | $500002 \frac{1}{2}$ | $0{ }_{0} 05000003$ | $0{ }_{0} 05000031$. | $0{ }^{0} 51000004$ | 0 | 0515006 | $0 \begin{array}{lllll}0 & 5 & 0 & 0 & 5 \frac{1}{2}\end{array}$ | 050 | 06 |
| 0 | $6\left[\begin{array}{lll}0 & 0 & 3\end{array}\right.$ | 006000031 | 0 0 $6: 0$ | 0 0 6, 0005 | $0{ }_{0} 06000051$ | $\begin{array}{lllll}0 & 6 & 0 & 0 & 6\end{array}$ | $0{ }_{0} 06000065$ | 0 0 60 | $0 \quad 7 \frac{1}{2}$ |
| 0 | 700031 | $0{ }^{0} \quad 7 \left\lvert\, 00004 \frac{1}{2}\right.$ | $\begin{array}{llllll}0 & 7 & 0 & 0 & 5\end{array}$ | $\begin{array}{lllll}0 & 7 & 0 & 0 & 5 \frac{1}{2}\end{array}$ | $0 \cdot 70006$ | $0{ }_{0} \mathbf{7} 100007$ | 0 $\quad 7100008$ | 070 | $08 \frac{1}{2}$ |
| 0 | 800004 | 0.80005 | $\begin{array}{llllll}0 & 8 & 0 & 0 & j \frac{1}{2}\end{array}$ | $\begin{array}{lllll}0 & 8 & 0 & 0 & 6 \frac{1}{2}\end{array}$ | $\begin{array}{lllll}0 & 8 & 0 & 0 & 7 \frac{1}{2}\end{array}$ | $\begin{array}{llllll}0 & 8 & 0 & 0 & 8\end{array}$ | 0 8 0 0 9 | 080 | 0 9 ${ }^{2}$ |
| 0 | 90000812 | $\begin{array}{lllll}0 & 9 & 0 & 0 & 5 \frac{1}{2}\end{array}$ |  | $\begin{array}{llllll}0 & 9 & 0 & 0 & 7 \frac{1}{2}\end{array}$ | $\begin{array}{lllll}0 & 9 & 0 & 0 & 8\end{array}$ | $\begin{array}{lllll}0 & 9 & 0 & 0 & 9\end{array}$ | $\begin{array}{llllll}0 & 9 & 0 & 0 & 10\end{array}$ | 090 | 011 |
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| 2 | $010 \quad 0 \quad 10$ | 2000010 | 2 l | $2{ }^{2}$ | $20^{2} 000015$ |  | 200010 | 200 | 20 |
| 3 | 00013 | $\begin{array}{lllll}3 & 0 & 0 & 1 & 6\end{array}$ | 3 l | 3 l | 3,1000203 | 3 0 0 2 6 | $3{ }^{3}$ | 300 | 30 |
| 4 | 00018 | $4) 00020$ | $4 \begin{array}{lllll}4 & 0 & 0 & 2 & 4\end{array}$ | 4100028 | 41010 | $4{ }^{4}$ | $4{ }_{4}^{4}$ | 400 | 40 |
| 5 | 00021 | $5 \begin{array}{lllll}5 & 0 & 0 & 2 & 6\end{array}$ | 50000211 | 500000304 | $5 \begin{array}{lllll}5 & 0 & 0 & 3 & 9\end{array}$ | 5 5 | 51000807 | 500 | 50 |
| 6 | 00126 | $6{ }^{6}$ | 6 | 6 6 010040 | $6{ }^{6}$ | 6 0 0 5 0 | $6 \|$6 0 5 6 | $6{ }^{6} 0$ | 60 |

## TABLE OF WAGES

From Two Shillings and Six Pence a Week, to Thirty Shillings, shewing the Amount from one Day up to Six Days, at the rcte of Ten Hours a Day, Farthings allowed in favour of the Workmen.

| 68. 6D. | 7 s . | 7s. 6d. | 8 s . | 8s. 6D. | 9s. | 9s. 6D. | 10s. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D. $\mathrm{H} .1 \begin{array}{llll}\text { ¢ } & \text { s. } \\ \text { d. }\end{array}$ | D. H. $£$ | D. H. $£$ ¢ s. d. | D. H. | D $\quad$ H, $\begin{array}{llll}\text { ¢ } & \text { s. } & \text { d. }\end{array}$ | H. $£$ s. d. | D. H £s. d. | D. H. $£$ |
| 0 0. 100 | $0{ }^{0}$ 1 $1000001 \frac{1}{2}$ | 0 1 0 0 $1 \frac{1}{2}$ | 00100 | 0 0 100000 | 0 0 1000002 | 00100002 | 0 0 1 10002 |
| 0.200022 | 0 2 0 0 3 | 008200003 |  |  | 0 0 $2000003 \frac{1}{2}$ | $0 \cdot 200004$ | 0 2 0 0 4 |
| 0 0 3000004 | 0) $3 \cdot 0$ | 0) 310000 | 0) 3 O 0 O 005 | 0 0 300005 | 0 $3100005 \frac{1}{2}$ | $0 \cdot 300006$ | 0) 300 |
| $00400005 \frac{1}{2}$ | 00400 | 0 4 0 0 6 | 0 4 0 0 $6 \frac{1}{2}$ | 0 4 0 0 7 | 0) 400000 |  | 0 4 0 0 8 |
| 0 0 $5000006 \frac{1}{2}$ | 05050 | 0 5 0 0 76 | 0 0 500008 |  | 0 5 0 0 9 | $0{ }_{0} 05000009 \frac{1}{2}$ | 0 5 0 0 10 |
| 06600008 | $00600008 \frac{1}{2}$ | 0 6 0 0 9 |  | 0 0 $6000010 \frac{1}{2}$ | $00^{0} 6 \left\lvert\, \begin{array}{lllll} & 0 & 11\end{array}\right.$ | $00^{0} 6000011 \frac{1}{2}$ | 0 6 0 1 0 |
| 077000 | 0 7 0 0 10 | 0)7 0 0 $10 \frac{1}{2}$ | $0{ }^{0} 7 \left\lvert\, \begin{array}{llllll} & 0 & 0 & 11 & \frac{1}{2}\end{array}\right.$ | 0 7 0 1 0 | 0 $0 \cdot 7 \left\lvert\, 01010 \frac{1}{2}\right.$ | $0{ }^{0} \mathbf{7}$ | 0 7 0 1 |
| 0 0 $8000010 \frac{1}{2}$ | $00^{0} 800011 \frac{1}{2}$ | $0{ }_{0} 08000100$ | $0 \cdot 80011$ | $0 \cdot 8000111 \frac{1}{2}$ | $00^{0} 800$ | $08800113 \frac{1}{2}$ | 0 8 0 1 |
| 0990010 | $00^{0} 900010 \frac{1}{2}$ |  | $00900122 \frac{1}{2}$ |  | 0 9 0 1 $4 \frac{1}{2}$ | 0 9 0 1 5 | 0 9 0 1 |
| 1000011 | 1.00012 | 1) 0000113 | $1{ }_{1} 0000018$ | 1. 000015 |  | 1) 00001 | 001 |
| 20022 | 2.00020 | 2) 000 | 2000028 | 2 2000 20 | $2{ }^{2} \mathbf{0} 00030$ | $2{ }^{2} \mathbf{0} 000312$ | $2{ }^{2} \mathbf{0} 000$ |
| $3{ }^{3} 00000313$ | 3 O |  | 3 l | 3 l | $3{ }^{3}$ | 3 3 | 3 l |
| $4{ }^{4} \mathbf{0} 000484$ | $4{ }^{4} \mathbf{0} 0004808$ | $4{ }^{4} 000050$ | $4{ }^{4} 5005$ | 0 0 $0 \times 5$ | $4{ }^{4} 500060$ | $4{ }^{4} \mathbf{0} 00664$ | $0 \mid 06$ |
| 50005 | 550000510 | 5 5 000 063 | $\begin{array}{llllll}5 & 0 & 0 & 6 & 8\end{array}$ | 007 | $\begin{array}{llllll}5 & 0 & 0 & 7 & 6\end{array}$ | $55^{5}$ | $00_{0} 8$ |
| $6{ }_{6} 0006$ | $6{ }_{6} \mathbf{0} \mid 08$ | $6{ }_{6} 000076$ | $66^{6} 0 \mid 0880$ | $6{ }_{6} 0 \mid 018$ | $6{ }_{6} 0 \mid 0090$ | 6100 | $6{ }^{6} 0010$ |



## TABLE OF WAGES

From Two Shillings and Six Pence a Week, to Thirty Shillings, shewing the Amount from One Day up to Six Days, at the rate of Ten Hours a Day, Farthings allowed in favour of the Workmen.


TABLE OF WAGES-continued.

| 27s. |  |  | 28 s . |  |  | 29 s . |  |  | 30s. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D. | H. | £ s. d. | D. | H. | $\pm \mathrm{so}$ d. | D. | H. | $\pm$ s. d. | D. | H. | £ | 8. d. |
| 0 | 1 | $\begin{array}{llll}0 & 0 & 5 \frac{1}{2}\end{array}$ | 0 | 1 | 0 O 005 | 0 | 1 | 0006 | 0 | 1 | 0 | 06 |
| 0 | 2 | 0011 | 0 | 2 | 010 | 0 | 2 | $0 \quad 0 \quad 11 \frac{1}{2}$ | 0 | 2 | 01 | 10 |
| 0 | 3 | $0 \begin{array}{llll}0 & 1 & 4 \frac{1}{2}\end{array}$ | 0 | 3 | $0 \quad 15$ | 0 | 3 | $0115 \frac{1}{2}$ | 0 | 3 | 01 | 16 |
| 0 | 4 | $\begin{array}{llll}0 & 1 & 9 \frac{1}{2}\end{array}$ | 0 | 4 | $0 \quad 110 \frac{1}{2}$ | 0 | 4 | $0111 \frac{1}{2}$ | 0 | 4 | 02 | 20 |
| 0 | 5 | 028 | 0 | 5 | 024 | 0 | 5 | $0 \quad 2{ }^{\text {a }}$ | 0 | 5 | 0 | 26 |
| 0 | 6 | $\begin{array}{llll}0 & 2 & 8 \frac{1}{2}\end{array}$ | 0 | 6 | $0 \quad 2 \quad 9 \frac{1}{2}$ | 0 | 6 | $0 \quad 211$ | 0 | 6 | 03 | 30 |
| 0 | 7 | $\begin{array}{llll}0 & 3 & 2\end{array}$ | 0 | 7 | $0 \quad 3 \quad 3 \frac{1}{2}$ | 0 | 7 | $0 \quad 3 \quad 4$ | 0 | 7 | 03 | 36 |
| 0 | 8 | - 3 7 7 | 0 | 8 | $0 \quad 39$ | 0 | $\varepsilon$ | $0 \quad 310 \frac{1}{1}$ | 0 | 8 | 0 | 40 |
| 0 | 9 | $0 \quad 40 \frac{1}{2}$ | 0 | 9 | $0 \quad 4 \quad 2 \frac{1}{2}$ | 0 | 9 | 044 | 0 | 9 | 0 | 46 |
| 1 | 0 | $0 \begin{array}{llll}0 & 4\end{array}$ | 1 | 0 | $0 \quad 48$ | 1 | 0 | $0 \quad 410$ | 1 | 0 | 05 | 50 |
| 2 | 0 | $0 \quad 9 \quad 0$ | 2 | 0 | $0 \quad 9 \quad 4$ | 2 | 0 | 098 | 2 | 0 | 010 | 00 |
| 3 | 0 | 0136 | 3 | 0 | 0140 | 3 | 0 | 0 14 6 | 3 | 0 | 015 | 50 |
| 4 | 0 | 0180 | 4 | 0 | 0188 | 4 | 0 | 0194 | 4 | 0 | 10 | 00 |
| 5 | 0 | 126 | 5 | 0 | $1 \begin{array}{lll}1 & 3 & 4\end{array}$ | 5 | 0 | 142 | 5 | 0 | 115 | 50 |
| 6 | 0 | 170 | 6 | 0 | 180 | 6 | 0 | 190 | 6 | 0 | 110 | 00 |

## FERTILIZING LAND.

The exhaustion occasioned by crops is proportionately repairad, and the land is restored to its former nutritive powers, in three ways, namely :-By the application of putrescent manure, according to its quantity and quality. By the ground being left a certain time under pasture ; according to the number of stock which it can support. By the operation of a summer fallow ; according to the manner in which it is performed. The soil is never so utterly impoverished by cropping, as not to be still capable of producing something. The productive faculty composes what may be termed its natural fecundity; which, although existing in various proportions according to its original fertility, yet, when capable of producing five bushels of rye per acre, besides the seed, may be supposed equal to 40 degrees; its full value being estimated at 100. Now, from various experiments which have been made upon a large scale, it is supposed that the application of about 8 tons per acre of well fermented farm-yard manure, of average quality, are equal in its effects to 50 degrees of nutritive matter ; and that a bare summer fallow-not only by the influence of its working on the land, but also by producing the decomposition of the weeds which it destroys-is equivalent to 10 degrees ; thus bringing the soil round to its former state, and rendering it again fit for the production of further crops.

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## CURRENCY TABLE.

One Pound, Sterling, equal to One Pound, Four Shillings and Four Pence, Currency.

| POUNDS. |  | POUNDS. |  | Pounds. |  | POUNDS. |  | Pounds. |  | shillings. |  | pence. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stg. | Currency. | Stg. | Currency. | Stg. | Currency. | Stg. | Currency. | Stg. | Currency. | Stg. | Currency. | Stg. | Currency. |
| £ | $\pm$ s. d. | £ | £ s. d. | £ | $\pm$ s. d. | £ | $\pm \mathrm{s} . \mathrm{d}$. | £ | $\pm$ s. d. | 8 s, | £ s. d. | d, | $\pm$ s. d. |
| 1 | $1 \begin{array}{ll}1 & 4\end{array}$ | 21 | $25 \quad 110$ | 41 | $49 \quad 17 \quad 8$ | 61 | $\begin{array}{llll}74 & 4 & 4\end{array}$ | 81 | 9811 | 1 | $\begin{array}{lll}0 & 1 & 3 \\ 0 & 2 & 5\end{array}$ | $\begin{aligned} & 1 \\ & 2 \end{aligned}$ | $\begin{array}{lll}0 & 0 & 1 \frac{1}{4} \\ 0 & 0 & 21\end{array}$ |
| 2 | $\begin{array}{llll}2 & 8 & 8\end{array}$ | 22 | $\begin{array}{llll}26 & 15 & 4\end{array}$ | 42 | $\begin{array}{lll}51 & 2 & 0\end{array}$ | 62 | $\begin{array}{llll}75 & 8 & 8 \\ 76 & 13\end{array}$ | 82 | 98 99 100 1 | 2 3 | $\begin{array}{llll}0 & 2 & 5 \frac{1}{1} \\ 0 & 3 & 8 \frac{1}{4}\end{array}$ | $\begin{aligned} & 2 \\ & 3 \end{aligned}$ | $\begin{array}{llll}0 & 0 & 2 \frac{2}{3} \\ 0 & 0 & 3 \frac{3}{4}\end{array}$ |
| 3 | $\begin{array}{ll}313 & 13\end{array}$ | 23 | $27 \quad 19 \quad 8$ | 43 | $\begin{array}{llll}52 & 6 & 4\end{array}$ | 63 | $\begin{array}{llll}76 & 13 & 0 \\ 77 & 17 & 4\end{array}$ | 83 | $\begin{array}{lllllllllllll}100 & 19 & 8\end{array}$ | 3 | $\begin{array}{rrrr}0 & 3 & 8 \frac{1}{4} \\ 0 & 4 & 10 \frac{1}{2}\end{array}$ | $\begin{aligned} & 3 \\ & 4 \end{aligned}$ | $\begin{array}{llll}0 & 0 & 3 \frac{3}{4} \\ 0 & 0 & 5\end{array}$ |
| 4 | $\begin{array}{llll}4 & 17 & 4\end{array}$ | 24 | 29480 | 44 | $\begin{array}{llll}53 & 10 & 8\end{array}$ | 64 | 779 | 84 | 10240 | 4 | $\begin{array}{llll}0 & 4 & 10 \frac{1}{2} \\ 0 & 6 & 1\end{array}$ | $\begin{aligned} & 4 \\ & 5 \end{aligned}$ | $\begin{array}{lll}0 & 0 & 5 \\ 0 & 0 & 6 \frac{1}{4}\end{array}$ |
| 5 | $\begin{array}{lll}6 & 1 & 8\end{array}$ | 25 | $\begin{array}{llll}30 & 8 & 4\end{array}$ | 45 | $\begin{array}{llll}54 & 15 & 0\end{array}$ | 65 | $\begin{array}{llll}79 & 1 & 8\end{array}$ | 85 | $\begin{array}{rrrr}103 & 8 & 4 \\ 104 & 12 & 8\end{array}$ | 6 | $\begin{array}{llll}0 & 6 & 1 \\ 0 & 7 & 3 \\ 0\end{array}$ | $\begin{aligned} & 5 \\ & 6 \end{aligned}$ | $\begin{array}{llll}0 & 0 & 6 \frac{1}{4} \\ 0 & 0 & 7 \frac{1}{2}\end{array}$ |
| 6 | $\begin{array}{lll}7 & 6 & 0\end{array}$ | 26 | $\begin{array}{llll}31 & 12 & 8\end{array}$ | 46 | $\begin{array}{llll}55 & 19 & 4\end{array}$ | 66 | $\begin{array}{lrr}80 & 6 & 0\end{array}$ | 86 | $\begin{array}{lllll}104 & 12 & 8 \\ 105 & 17 & 0\end{array}$ | 6 | $\begin{array}{lll}0 & 7 & 3 \\ 0 & 8 & 3 \\ 0 & 8 & 6\end{array}$ | 6 | $\begin{array}{llll}0 & 0 & 7 \frac{1}{2} \\ 0 & 0 & 9\end{array}$ |
| 7 | 8104 | 27 | $3217 \quad 0$ | 47 | $\begin{array}{llll}57 & 3 & 8\end{array}$ | 67 | $81 \quad 10 \quad 4$ | 87 | $\begin{array}{rrrr}105 & 17 & 0 \\ 107 & 1 & 4\end{array}$ | 7 8 | $\begin{array}{lll}\mathbf{0} & 8 & 6 \\ \mathbf{0} & 9 & 9\end{array}$ | 7 8 | $\begin{array}{rrrr}0 & 0 & 9 \\ 0 & 0 & 10\end{array}$ |
| 8 | 9148 | 28 | $\begin{array}{lll}34 & 1 & 4 \\ 35 & 5 & 8\end{array}$ | 48 | $\begin{array}{rrr}58 & 8 & 0 \\ 59 & 12 & 4\end{array}$ | 68 | $\begin{array}{llll}82 & 14 & 8 \\ 83 & 19 & 0\end{array}$ | 88 | $\begin{array}{lll}107 & 1 & 4 \\ 108 & 5 & 8\end{array}$ | 8 | $\begin{array}{cccc}0 & 8 & 9 \\ 0 & 10 & 113\end{array}$ | 8 | 0 ${ }^{0}$ |
| 9 | $10 \quad 19 \quad 0$ | 29 | $\begin{array}{llll}35 & 5 & 8\end{array}$ | 49 | $\begin{array}{llll}59 & 12 & 4 \\ 60 & 16 & 8\end{array}$ | 69 | $\begin{array}{rrrr}83 & 19 & 0 \\ 85 & 3 & 4\end{array}$ | 89 90 | $\begin{array}{rrrr}108 & 5 & 8 \\ 109 & 10 & 0\end{array}$ | 9 10 | $\begin{array}{cccc}0 & 10 & 11 \frac{3}{4} \\ 0 & 12 & 2\end{array}$ | 9 10 |  |
| 10 | $\begin{array}{llll}12 & 3 & 4\end{array}$ | 30 | $36 \quad 10 \quad 0$ | 50 |  | 70 | $\begin{array}{llll}85 & 3 & 4 \\ 86 & 7 & 8\end{array}$ | 90 | $\begin{array}{llll}109 & 10 & 0 \\ 110 & 14 & 4\end{array}$ | 10 | 0 12 2 <br> 0 13 4 | 111 | ${ }^{0}$ |
| 11 | 1378 | 31 | $\begin{array}{llll}37 & 14 & 4\end{array}$ | 51 | $\begin{array}{llll}62 & 1 & 0\end{array}$ | 71 | 85 86 78 | 91 | $\begin{array}{llll}110 & 14 & 4 \\ 111 & 18 & 8\end{array}$ | 11 12 | $\begin{array}{llll}0 & 13 & 4 \frac{3}{4} \\ 0 & 14 & 7 \frac{1}{8}\end{array}$ | 11 |  |
| 12 | $14 \quad 120$ | 32 | $\begin{array}{llll}38 & 18 & 8\end{array}$ | 52 | $\begin{array}{lll}63 & 5 & 4 \\ 64 & 9 & 8\end{array}$ | 72 73 | $\begin{array}{lll}87 & 12 & 0 \\ 88 & 16 & 4\end{array}$ | 92 | $\begin{array}{rrrr}111 & 18 & 8 \\ 113 & 3 & 0\end{array}$ | 12 13 | $\begin{array}{llll}0 & 14 & 7 \frac{1}{2} \\ 0 & 15 & 10 \frac{1}{4}\end{array}$ | 12 | $\begin{array}{llll}0 & 1 & 3 \\ \text { convert Ster. }\end{array}$ |
| 13 | $1516 \quad 4$ | 33 | $\begin{array}{llll}40 & 3 & 0\end{array}$ | 53 | $\begin{array}{lrr}64 & 9 & 8 \\ 65 & 14 & 0\end{array}$ | 73 | $\begin{array}{rrrr}88 & 16 & 4 \\ 90 & 0 & 8\end{array}$ | 93 | $\begin{array}{llll}113 & 3 & 0 \\ 114 & 7 & 4\end{array}$ | 13 14 | $\begin{array}{ccccc}0 & 15 & 10 \frac{1}{4} \\ 0 & 17 & 1\end{array}$ |  |  |
| 14 | $\begin{array}{llll}17 & 0 & 8\end{array}$ | 34 | $\begin{array}{llll}41 & 7 & 4\end{array}$ | 54 | $\begin{array}{llll}65 & 14 & 0\end{array}$ | 74 | $\begin{array}{llll}90 & 0 & 8 \\ 91 & 5 & 0\end{array}$ | 94 95 | $\begin{array}{rrrr}114 & 7 & 4 \\ 115 & 11 & 8\end{array}$ | 14 15 | $\begin{array}{lll} 0 & 17 & 1 \\ 0 & \text { 18 } & 3 \end{array}$ |  | to Currency, one-fifth and |
| 15 | $18 \cdot 50$ | 35 | 42118 | 55 |  | 75 | $\begin{array}{llll}91 & 5 & 0\end{array}$ | 95 | 115118 | 15 | $\begin{array}{lll} \mathbf{0} & 18 & 3 \\ 0 & 10 & 5 \end{array}$ |  | elfth of that |
| 16 | 1989 | 36 | $43 \quad 16 \quad 0$ | 56 | $\begin{array}{llll}68 & 2\end{array}$ | 76 | $\begin{array}{llll}92 & 9 & 4\end{array}$ | 96 | 116160 | 16 | $\begin{array}{llll}0 & 19 & 5 \frac{3}{4}\end{array}$ |  | or multiply by |
| 17 | 20138 | 37 | $\begin{array}{llll}45 & 0 & 4\end{array}$ | 57 | $\begin{array}{lll}69 & 7 & 0\end{array}$ | 77 | $\begin{array}{llll}93 & 13 & 8\end{array}$ | 97 | $\begin{array}{llll}118 & 0 & 4\end{array}$ | 17 | $1088 \frac{1}{2}$ |  | ivide by 60. |
| 18 | 21180 | 38 | $46 \quad 4 \quad 8$ | 58 | $70 \quad 11 \quad 4$ | 78 | $9418 \quad 0$ | 98 | 11948 | 18 | $1 \begin{array}{llll}1 & 1 & 11 \frac{1}{2}\end{array}$ |  | convert Cur- into Sterling |
| 19 | 23124 | 39 | $\begin{array}{llll}47 & 9 & 0\end{array}$ | 59 | 71158 | 79 | $\begin{array}{llll}96 & 2 & 4\end{array}$ | 99 | $120 \quad 9$ | 19 | $13101 \frac{1}{2}$ |  | y by 60 , and |
| 20 | $24 \quad 68$ | 40 | $48 \quad 13 \quad 4$ | 60 | 7300 | 80 | $97 \quad 6 \quad 8$ | 100 | 12113 | 20 | 144 | divid | by 73. |

READY RECKONING, OR MARKETING TABLE.

| $\bigcirc$ | $1{ }_{2} \mathrm{D}$. | 2D. | $2 \frac{1}{2} \mathrm{D}$. | 3 D. | $3 \frac{1}{2} \mathrm{D}$. | 4D. | $4 \frac{1}{2} \mathrm{D}$. | 5D. | $5 \frac{1}{2} \mathrm{D}$ | 6 D. | $6 \frac{1}{2} \mathrm{D}$. | 7 D. | $7 \frac{1}{2} \mathrm{D}$. | 8D. | $8 \frac{1}{2} \mathrm{D}$. | 9D. | $9 \frac{1}{2} \mathrm{D}$. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | s. d. | S. d. | s. d. | s. d. | s. d. | s. d. | 8. d. | s. d. | s. d. | S. d. | s. d. | s. d. | s. d. | S. d. | s. d. | s. d. | s. d. |
| 2 | 03 |  | 05 | 06 | 07 | 08 | 19 | 010 | 011 | 10 |  | 12 | 13 | 14 | 15 | 6 |  |
| 3 | 0 | 06 | $07 \frac{1}{2}$ | 09 | $010 \frac{1}{2}$ | 10 | 1 1 $1 \frac{1}{2}$ | 13 | 141 | 16 | 17 | 19 | $110 \frac{1}{2}$ | 20 | $21 \frac{1}{2}$ | 23 | $24 \frac{1}{2}$ |
| 4 | 06 | 08 | $0 \quad 10$ | 10 | 12 | 14 | 16 | 18 | 110 | 20 | 22 | 24 | 26 | 28 | 210 | 30 | $3 \quad 2$ |
| 5 | $0 \quad 7 \frac{1}{2}$ | 010 | $10 \frac{1}{2}$ | 13 | $15 \frac{1}{2}$ | 18 | $110 \frac{1}{2}$ | 21 | $23 \frac{1}{2}$ | 26 | $28 \frac{1}{2}$ | 211 | $31 \frac{1}{2}$ | 34 | $3 \quad 6 \frac{1}{2}$ | 39 | $311 \frac{1}{2}$ |
| 6 | 09 | 10 | 13 | 16 | 19 | 20 | $2 \quad 3$ | 26 | $2 \quad 9$ | 30 | $3 \quad 3$ | 36 | 3 9 | 40 | 43 | 46 | 49 |
| 7 | $0 \quad 10 \frac{1}{2}$ | 12 | $15 \frac{1}{2}$ | 19 | $20 \frac{1}{2}$ | 24 | $27 \frac{1}{2}$ | 211 | $3 \quad 2 \frac{1}{2}$ | 36 | $39 \frac{1}{2}$ | 41 | 4 41 | 48 | $411 \frac{1}{2}$ | 53 | $5 \quad 6 \frac{1}{2}$ |
| 8 | 10 | 14 | 18 | 20 | 24 | 28 | 30 | 34 | 38 | 40 | 4 4 | 4.8 | 50 | 54 | 58 | 60 | 64 |
| 9 | $1 \frac{1}{2}$ | 16 | $110 \frac{1}{2}$ | 23 | $27 \frac{1}{2}$ | 30 | 3 41 | 39 | $41 \frac{1}{2}$ | 46 | $410 \frac{1}{3}$ | 53 | $5 \quad 7 \frac{1}{2}$ | 60 | 64 | 69 | $71 \frac{1}{2}$ |
| 10 | 3 | 18 | 21 | 26 | 211 | 34 | 39 | 42 | 47 | 50 | 55 | 510 | 63 | 68 | 71 | 76 | 711 |
| 11 | $4 \frac{1}{2}$ | 110 | $2 \quad 3 \frac{1}{2}$ | 29 | $3 \quad 2 \frac{1}{2}$ | 38 | $4 \quad 1 \frac{1}{2}$ | 47 | $5 \quad 0 \frac{1}{2}$ | 56 | $511 \frac{1}{2}$ | 65 | $610 \frac{1}{2}$ | 74 | $7 \quad 9 \frac{1}{2}$ | 83 | $8 \quad 8 \frac{1}{3}$ |
| 12 | 6 | 20 | 26 | 30 | 36 | 40 | 46 | 50 | 56 | 60 | $6 \quad 6$ | 70 | 76 | 80 | 86 | 90 | 96 |
| 13 | $17 \frac{1}{2}$ | $2 \quad 2$ | $28 \frac{1}{2}$ | 33 | $3 \quad 9 \frac{1}{2}$ | 44 | $410 \frac{1}{3}$ | 5 5 | $511 \frac{1}{2}$ | 66 | 70 | 77 | $81 \frac{1}{2}$ | $8 \quad 8$ | $9 \quad 21$ | $9 \quad 9$ | 10 3 |
| 14 | 19 | 24 | 211 | 36 | 41 | 48 | $5 \quad 3$ | 510 | 65 | 70 | 77 | 82 | 89 | 94 | 911 | 106 | 11 |
| 15 | $110 \frac{1}{2}$ | 26 | $311 \frac{1}{2}$ | 39 | 4 41 | 50 | $5 \quad 7 \frac{1}{2}$ | 63 | $610 \frac{1}{2}$ | 76 | $8 \quad 1 \frac{1}{2}$ | 89 | $9 \quad 4 \frac{1}{2}$ | 100 | $10 \quad 7 \frac{1}{2}$ | 113 | $1110 \frac{1}{2}$ |
| 16 | 20 | 28 | $34^{2}$ | 40 | 48 | 54 | 60 | 68 | 74 | 80 | 88 | 94 | 100 | 108 | 114 | 120 | 128 |
| 17 | 2 1 1 I | 210 | $36 \frac{1}{3}$ | 43 | $4.11 \frac{1}{2}$ | 58 | $64 \frac{1}{5}$ | 71 | $7 \quad 9 \frac{1}{2}$ | 86 | $92 \frac{1}{3}$ | 911 | 10 71 | 114 | $120 \frac{1}{2}$ | 129 | 13 5 1 |
| 18 | 23 | 30 | 39 | 46 | 53 | 60 | 69 | 76 | 83 | 90 | $9 \quad 9$ | 106 | 113 | 120 | 129 | 136 | 14 |
| 19 | $24 \frac{1}{2}$ | 32 | $311 \frac{1}{2}$ | 49 | 5 6 ${ }^{2}$ | 64 | $7 \quad 1 \frac{1}{2}$ | 711 | $8 \quad 8 \frac{1}{2}$ | 96 | 103 | 11 | $1110 \frac{1}{2}$ | 128 | 13 51 | 143 | $150 \frac{1}{2}$ |
| 20 | 26 | 34 | 42 | 50 | 510 | 68 | 76 | 84 | $9 \quad 2$ | 100 | $\begin{array}{ll}10 & 10\end{array}$ | 118 | 126 | 134 | 142 | 150 | 1510 |
| 28 | 36 | 48 | 510 | 70 | $8 \quad 2$ | 94 | 106 | 118 | 1210 | 140 | $15 \quad 2$ | 16 | 176 | 188 | 1910 | 210 | $22 \quad 2$ |
| 56 | 70 | 94 | 118 | 140 | 164 | 188 | 210 | 234 | 258 | 280 | 304 | 328 | 350 | 374 | 39 | 420 | 44 |

READY RECKONING－continued．

| $0^{\circ}$ | 10D． | 1012 D ． | 11D． | $11 \frac{1}{2} \mathrm{D}$. | 1 s. | 18．1D． | 1s． 2 D ． | 1s．3D． | 1s． 4 D ． | 18．5D． | 1s．6D． | 18． 7 D ． | 1s．8D． | 18．9D． | 1s 10d． | 1s 11d． | 2 s ． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | s．d． | s．d． | s．d． | s．d． | s．d． | S．S． | s．d． | s．d． | S．d， | s．d． | s．d． | s．d． | 8．d． | s，d． | s．d． | s．d． | s．d． |
| 2 | 18 | 19 | 110 | 111 | 20 | 22 | 24 | 26 | 28 | 210 | 30 | 32 | 34 | 36 | 38 | 310 | 40 |
| 3 | 26 | $27 \frac{1}{2}$ | 29 | $210 \frac{1}{2}$ | 30 | 33 | 36 | 39 | 40 | 43 | 46 | 49 | 50 | 53 | 56 | 59 | 60 |
| 4 | 34 | 36 | 38 | 310 | 40 | 44 | 48 | 50 | 54 | 58 | 60 | 64 | 68 | 70 | 74 | 78 | 80 |
| 5 | 42 | $4 \quad 4 \frac{1}{2}$ | 47 | $4 \quad 9 \frac{1}{2}$ | 50 | $5 \quad 5$ | 510 | 63 | 68 | 71 | 76 | 711 | 84 | 89 | 92 | 97 | 10 0 |
| 6 | 50 | $5 \quad 3$ | 56 | 59 | 60 | 66 | 70 | 76 | 80 | 86 | 90 | 96 | 100 | 106 | 110 | 116 | 120 |
| 7 | $5 \quad 10$ | $6 \quad 1 \frac{1}{2}$ | 65 | $6 \quad 8 \frac{1}{2}$ | 70 | $7 \quad 7$ | 82 | 89 | 94 | 911 | 106 | 111 | 118 | 123 | 1210 | 135 | 140 |
| 8 | 68 | 70 | $7 \quad 4$ | 78 | 80 | 88 | 94 | 100 | 108 | 114 | 120 | 128 | 134 | 140 | 148 | 154 | 160 |
| 9 | 76 | 7 10⿺⿻十⺝丶 | 83 | $8 \quad 7 \frac{1}{2}$ | 90 | $9 \quad 9$ | 106 | $11 \quad 3$ | 120 | 129 | 136 | 143 | 150 | $15 \quad 9$ | $16 \quad 6$ | 17 3 | 180 |
| 10 | 84 | $8 \quad 9$ | $9 \quad 2$ | $9 \quad 7{ }^{8}$ | 100 | 1010 | 118 | 126 | 134 | 142 | 150 | 1510 | 168 | 176 | $18 \quad 4$ | 192 | 200 |
| 11 | $9 \quad 2$ | $9 \quad 7 \frac{1}{2}$ | 101 | $10 \quad 6 \begin{aligned} & 10\end{aligned}$ | 110 | 1111 | 1210 | 139 | 148 | 157 | 166 | 175 | 184 | $\begin{array}{ll}19 & 3\end{array}$ | $20 \quad 2$ | 211 | 220 |
| 12 | 100 | 106 | 110 | 116 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | $20 \quad 0$ | 210 | 220 | 230 | 240 |
| 13 | $10 \quad 10$ | 11 4 11 | 1111 | $12 \quad 5 \frac{1}{2}$ | 130 | 141 | $15 \quad 2$ | 16 | 174 | $18 \quad 5$ | 196 | $20 \quad 7$ | 218 | 229 | 2310 | 2411 | 260 |
| 14 | 118 | 123 | 1210 | $13{ }^{2}$ | 140 | $15 \quad 2$ | 164 | 176 | $18 \quad 8$ | $19 \quad 10$ | 210 | $22 \quad 2$ | 23 4 | $24 \quad 6$ | $25 \quad 8$ | 2610 | 289 |
| 15 | 126 | 1311 | 139 | 14 4 1 | 150 | 163 | 176 | 189 | $20 \quad 0$ | 213 | 226 | 231 | 250 | $26 \quad 3$ | $27 \quad 6$ | $28 \quad 9$ | $30 \quad 0$ |
| 16 | 134 | 140 | 148 | $154^{\text {a }}$ | 160 | 174 | 188 | $20 \quad 0$ | 214 | 228 | 240 | 254 | 268 | 280 | $29 \quad 4$ | $\begin{array}{ll}30 & 8\end{array}$ | 320 |
| 17 | 142 | $1410 \frac{1}{2}$ | 157 | $16 \quad 3 \frac{1}{2}$ | 170 | 185 | 1910 | 213 | 228 | $24 \quad 1$ | 256 | $26 \quad 11$ | 284 | $29 \quad 9$ | 312 | $\begin{array}{ll}32 & 7\end{array}$ | 340 |
| 18 | 150 | $15 \quad 9$ | $16 \quad 6$ | $17 \quad 3$ | 180 | 196 | 210 | $22 \quad 6$ | $24 \quad 0$ | 256 | 270 | 286 | 30 | 316 | 330 | $34 \quad 6$ | 360 |
| 19 | $15 \quad 10$ | $16 \quad 7 \frac{1}{2}$ | $17 \quad 5$ | $18 \quad 2 \begin{array}{ll}18\end{array}$ | 190 | $20 \quad 7$ | $22 \quad 2$ | $23 \quad 9$ | 254 | 2611 | 286 | 301 | 31 8 | 331 | 3410 | $36 \quad 5$ | 380 |
| 20 | $16 \quad 8$ | 176 | 18 4 | $19{ }^{2}$ | $20 \quad 0$ | 218 | 234 | 250 | 268 | 284 | 30 | 318 | 33 4 | 350 | 368 | $38 \quad 4$ | 400 |
| 28 | 23 4 | 246 | 258 | $26 \quad 10$ | 280 | 304 | $32 \quad 8$ | 350 | 374 | 398 | 420 | 44 | 468 | 490 | 514 | 53 8 | 560 |
| 56 | $46 \quad 8$ | 490 | 514 | 538 | 560 | $60 \quad 8$ | 654 | $70 \quad 0$ | 748 | $79 \quad 4$ | 840 | $88 \quad 8$ | 934 | 980 | 102 8 | 1074 | 1120 |

## REASONS FOR DEEP DRAINING.

1st. Its safety to the materials used in draining, in preventing their disturbance by vermin and tread of horses and cattle, and their displacement by contraction and expansion of the soil, in alternate dry and wet weather. 2nd. Its drawing the water from a greater distance than shallow drains. 3rd. Its allowing the rain water to percolate through a greater body of the soil, and so, imparting its chemical contents thereunto. 4th. Its filtrating the water so as to prevent the finer particles of soil going off in the water discharged. 5th. Its lowering the water surface sufficiently to prevent stagnation in the sub-soil, which is almost as injurious in chilling the surface as the surface water iteelf. 6th. Its carrying of the water even from stiff clays, sufficiently early to prevent injury to vegetation, whilst all the benefits from rain intended and bestowed by nature are retained.Essay on Draining, by_Wiggins.

## QUALITIES OF A GOOD PLOUGH.

1st. It should be as simple in its construction as the end which is destined to attain will admit ; and consequently should have no useless or too complicated portions. 2nd. It should not be very expensive. If, indeed, a plough which costs three times as much as another, will last four times as long, it will of course be cheaper. 3rd. It should be durable and not liable to injury, shock, or strain; not on'y in order that it may not cost too much, but also because it should not require repairing too often, and thus occasion an interruption of the operations and the loss of considerable time. 4th. It should be capable of being easily guided and regulated, in order that the soil may be ploughed more or less deeply at will, and the furrows up of that size and form which are deemed best. This disposition of things should be wholly independent of the ploughman, both because it is not always possible to confide in him, and because the cattle have to work harder when the labour is striving against the natural tendency of the plough.

## FARM-YARD ADVICE.

1st. To boitom the farm-yard with furze, fern, or any other loose refuse, that takes the longest time to dissolve ; and over that to bed it deep with straw. 2nd. To occasionally remove the cribs of store catte to different parts of the straw yard, in order that their dung may be dropped, and their litter trodden equally. 3rd. To spread the dung of other animals, when thrown into the yard, in equal layers
over every part. 4th. To remove the dung from the yard at least once, or oftener, during the winter, to be mixed. 5th. To turn and mix all dung hills, until the woody or fibrous texture of the matter contained in them, and the roots and seeds of weeds, be carefully decomposed, and until they emit a foul putrid smell, by which time they reach their greatest degree of strength, and arrive at the state of spit-dung. 6th. To keep the dung in a state of equal moisture, so as to prevent any portion of the heap from becoming fire-fanged. If the fermentation be too rapid, heavy watering will abate the heat; but it will afterwards revive with increased force unless the heap be either trodden firmly down or covered with mould to exclude the air. 7th. To ferment the dung, if to be laid upon arable land during the autumn, in a much less degree than that to be applied before a spring sowing. 8th. To lay a larger quantity on cold and wet lands than on those of a lighter nature, because the former require to be corrected by the warmth of the dung, while on dry, sandy, and gravelly soils the application of too much dung is apt to burn up the plants. Stiff land will also be loosened by the undecayed fibres of long dung, which, although its putrefaction will thus be retarded, and its fertilizing power delayed, will yet ultimately afford nourishment. 9th. To form composts with dung or other animal and vegetable substances and earth for application to light soils. 10th. To spread manure upon the land when carried to the field, with the least possible delay; and, if laid upon arable, to turn it immediately into the soil. 11th. To preserve the drainage from stables and dung hills in every possible way ; and if not applied in a liquid state, to throw it again upon the mixen. 12th. To try experiments, during a series of years, upon the same soils and crops, with equal quantities of dung, laid on fresh, and afterwards rolled, in order to ascertain the results of their application to the land. The whole quantity to be first weighed or measured, and then divided.

## THRESHING MACHINERY.

It has been proposed to turn the threshing machinery by the attractive power of the magnet. A number of magnetized pieces of steel may be fixed in the periphery of the spurwheel, and a magnet, one or more in number, could be brought within the reach of attraction, which would produce a continual rotary motion, by means of the continued line of attracting influence. The magnets being moveable, the placing of them "forwards," or the removal " backwards," would create or stop the motion. This is a grand principle, being matter working upon matter, and without any artificial creation of an agency.

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Breaking of straw by threshing machinery is now removed, by means of upright iron pegs being fixed in the concave of the machine, at stated distances, so as to allow to pass between them similar pegs, that are fixed in the arms of the revolving cylinder. The unthreshed grain passes lengthwise between the pegs, and in passing, the pickles are torn from the straw, which undergoes no cross scutching, and is not broken.

## GUANO.

A very valuable auxiliary manure has been established in " guano," which is the dung of birds, and deposited in very large quantities on the rocky islands in the Pacific Ocean, which form places of resort for the vast multitudes of aquatic fowls that live in those climates. It has been long used as a manure in South America, and has been thence imported into Britain.
"Dr. Ure" has given, as follows, the average results of different examinations of guano :-

1. Azotised organic matter, including urate of ammonia, and capable of affording from 8 to 17 per cent. of ammonia by slow decomposition in the soil,............................
2. Water,.................................................................... 11.0
3. Phosphate of Lime,................................................ 25.0

4. Siliceous matter from the crop of birds,...................... 1.0
100.0

He mentions African guano as varying in composition as follows:
Moisture, per cent,.............................................. from 21 to 36
Ammonia, ................................................... " 5 " 10
Organic matter,................................................ " 35 " 50
Phosphate of lime,.......................................... " 23 " 35
Phosphate of magnesia and ammonia,................... ". 3 " 6
Alkaline salts,................................................ " 1.5 " 5
Sand, \&c.,.................................................... " 1 " 2
Guano is very beneficially used as a top dressing on all young plants, as grains and clovers ; and, for turnips, it is best when mixed with sifted ashes and fine earths, in the proportion of five times its bulk, in order to check the corrosive quality which hurts the tender germination of the plants. It may be sown unmixed in the hollowis of shallow drills, which are then reversed, and the turnip seed is
sown in the usual way on the tops of the ridges. This mode interposes a quantity of soil between the guano and the seed. The quantity per acre varies from 2 to $\mathbf{4} \mathbf{c w t}$.; and the average price is $\boldsymbol{£ 1 0}$ per ton, thus making the expense of manuring an acre to be 30 s . stg.

## BONES AND SULPHURIC ACID.

A very valuable preparation of bones for manure has been effected, by mixing a quantity of bones with four times their weight of sulphuric acid, which has been diluted with three times its weight of water. The acid acts upon the carbonate of lime that is contained in the bone, which parts with its carbonic acid, and unites with so much of the sulphutic acid as in equivalent to the lime, in order to form the sulphate, or gypsum. Tho remaining portion of the acid then unites progressively with the bone, and produces the superphosphate of lime, which has obtained a very great repute as a manure for turnips. The acid separates much gypsum ; it carbonises much of the organic animal substances, and produces a thick dirty coloured gruel, if made in the wet way, or a pulpy mase, if prepared by acid in a more concentrated state, in which case it is usually mixed with some powdery substance to prepare it for being passed with the seed into the turnip drill. The mixing with peaty soil, or sawpit dust, is the best mixture for drying the bones, as there will be no chemical agency between the substances that may interfere with the arid developed.

The successful theory of acidulated bones may consist in the extreme state of division in which the vitriolated pulp, or the superphosphate of lime exists, and the consequent qualification to enter into the absorbent roots of plants. Bones are thus prepared by acidulation, dried and packed in casks, and sent to any part of the kingdom. A mixture of sawpit dust, peaty soil, or riddled coal ashes, suits for the drill sower. Lime is objectionable for being mixed with them, on account of its alkaline nature.

The price of prepared bones is $£ 7$, sterling, per ton : and from three to four cwt . are used on an acre by the drill, thus raising the crop of turnips at the cost of 20 s . to 25 s . sterling, per acre. Experience has now fully established the efficiency of this manure.

## LIQUID MANURE.

Experience has now established the fact that the most economical method of asing the urinary liequid of the farm, consists in absorbing it with earths and vegetable matters. These bodies are enriched by the animial secretions-the earthy constituents hold them in solution,
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and afford a lasting supply of food to plants, by the gradual decomposition of the vegetablejand earthy ingredients. The more evanescent and perishable materials are thus rendered more lasting and efficacious. In order to effect this purpose, it is necessary that the pit for the reception of all the liquids of the farmery be placed on ground somewhat lower than the farm-yards, and that a main covered drain lead to it, and that open drains from every cattle house and yard discharge the liquids into this main drain, through a close barred iron grate, in order to prevent the choking of the drain by the entrance of any bulky matter. A clear descent must be given to every conducting drain. The receiving pit must be kept constantly full, and must be filled without delay after being emptied, and the contents laid upon the land for use. This manure being composed of earths and vegetable matters, and being very richly impregnated with the urinary liquids, needs no further preparation, but may be immediately applied either on arable or grass lands.

## REMEDIES FOR THE DISEASES OF LIVE STOCK.

Horses.-Cough or colds are"best treated by cold bran mashes, with half a pound of linseed, 1 Tounce of saltpetre each mash.

Cows.-Cleansing drink: 1 ounce of bayberry, powdered, 1 ounce of brimstone, powdered, 1 ounce of cummin seed, powdered, 1 ounce of drapente. Boil these together for ten minutes; give, when cold, in a little gruel.

Calves.-Navel ill.-The best treatment for this dangerous disease is, first, to administer two or three doses (about a wine-glassful) of castor oil (linseed oil does just as well, and is much cheaper); and secondly, cordials, which can be made of 2 drachms of caraway seeds, 2 drachms of coriander seeds, 2 drachms of powdered gentian; bruise the seeds, and simmer them ingbeer or gruel for a quarter of an hour; give these once or twicefa day.

SheEp,-Foot Rot.-One drachm of verdigris (acetate of copper) 1 drachm of blue vitriol (sulphate of copper), 1 drachm of white vitriol (sulphate of zinc), 2 ounces of water, 2 drachms of nitric acid, 2 drachms of butter of antimony ; pare away the horn and apply the lotion upon a feather to the part affected.

Pigs.-For the common diseases of pigs, the following recipe may be employed:-half a pound of sulphur, half a pound of madder, quarter a pound of saltpetre, 2 ounces of black antimony ; mix these tugether, and give a table spoonful night and morning in their food.

## PREPARING A HORSE FOR PHYSIC.

The following instructions will be found useful in preparing and treating a horse during physic, viz:-Treatment, 1st. He should have cold bran mash for about two days before any physic at all is given ; and if fat or gross, it will be well to keep him short of hay the night previous to physicking. 2nd. The physic must be given about "80 9 oclock in the morning, upon an empty stomach ; ahout an hour after, the horse may have water and cold bran mash with;oats ; at 4, or 5 o'clock in the afternoon, he may have chilled water, and a little warm bran mash with hay, if he will take it; about 8 o'clock in the evening, a little more mash may be given, if he will take it ; early next mo:ning, the horse should have as much chilled water,as he can take, and about 8 or 9 , if the physic has not operated, he should "be walked out for ten or twenty minutes; but should the physic have previously operated, he must be kept still and quiet. 3rd. The day after the physic has operated, the horse should rest from all work, but should the physic continue to operate more than two days, means must be had recourse to, in order to stop the purging, otherwise, there will be more harm than good done. Lastly. During physicing, the horse must by all means be kept warm.-G. Holmes.

Physic Ball for Horses.-Cape aloes from 6„to 8 drachms, "castile soap 1 drachm, spirit of wine 1 drachm, syrup to form the ball. If mercurial physic be wanted, add from half a drachm to 1 drachm of calomel.

Previous to physicing a horse, and during its operation, he should be fed on bran mashes, allowed plenty of chilled water, and have exercise. Physic, except in urgent cases, should be given in the morning, and on an empty stomach ; and, if required to be repeated, a week should intervene between each dose.

Physic for Cattle.-Cape aloes, 4 drachms to 1 ounce, Epsom salis, 4 to 6 ounces, powdered ginger, 3 drachms; mix, and give in a quart of gruel. For calves, one-third of this will be a dose.

Physic for Dogs.-Cape aloes, half a drachm to 1 drachm, calomel, 2 to 3 grains, oil of caraway, 6 drops; syrup to make a ball. May be given every 5 hours till the dog purges.

Tonic for Horses and Cattle.—Sulphate of copper, 1 ${ }^{\text {Mounce }}$ to 12 drachms, white sugar, half an ounce. Mix, and divide into 8 powders, and give one or two daily, in the animal's feed. This is a good astringent powder for grease.

Cordial for Horses and Cattle.-Powdered opium, 1 drachm, powdered ginger, 2 drachms, allspice (powdered), 3 drachms, caraway seeds (powdered), 4 drachms ; make into a ball with treacle, or give as a drench in gruel.
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Diuretic Ball.-Hard soap and common turpentine, each 4 drachms, oillof juniper, 20 drops, powdered resin to form the ball.
For dropsy, water farcy, broken wind, or febrile diseases, add to the above, allspice and ginger, each 2 drachms. Make 4 balls, and give one morning and evening.

Alterative or Condition Powder.-Resin and nitre, each 2 ounces, levigated antimony, 1 ounce. Mix for eight or ten doses, and give one night and morning. When this is to be given to cattle, add Glauber salts, 1 lb .

Fever Ball.-Cape aloes, 2 ounces, nitre, 4 ounces, treacle to form a mass. Divide into 12 balls, and give one morning and evening till the bowels are relaxed; then give an alterative powder, or worm ball.

Vomit or Emetic for Dogs.-Two to four grains of tartar emetic, in a meat ball, forms an excellent emetic ; or a tea spoonful or two of common salt. Give twice 2 week.

Distemper Powder for Dogs.-Antimonial powder, 2, 3 or 4 grains, nitre, 5, 10 or 15 grains, powdered ipecacuanha, 2,3 or 4 grains. Make into a ball, and give two or three times a day. If there is much cough, add from $\frac{1}{2}$ a grain to 1 grain of digitalis, and every three or four days give an emetic.

Cordial Astringent Drench, for Diarrhca, Purging or Scour-ing.-Tincture of opium, $\frac{1}{2}$ an ounce, allspice, $2 \frac{1}{2}$ drachms, powdered caraways, $\frac{1}{2}$ an ounce, catechu powder, 2 drachms, strong ale or gruel, 1 pint. Give every morning till the purging ceases. For sheep, this will make four doses.

Alterative for Dogs.-Ethiop's mineral, $\frac{1}{2}$ an ounce, cream of tartar, 1 ounce, nitre, 2 drachms. Divide it into from sixteen to twen-ty-four doses, one night and morning, in all cutaneous diseases.

Oil for Wounds.-Oil of thyme, $\frac{1}{2}$ an ounce, neat's foot oil, 1 pint. Mix, and add, by degrees, oil of vitriol, 6 drachms, stirring till well mixed, then bottle it for use. For wounds in feet, and all foul sores.

Mange Ointm ent.-Powdered aloes, 2 drachms, white hellebore, 4 drachms, sulphur, 4 ounces, lard, 6 ounces. For the red mange in dogs, add 1 ounce of mercurial ointment, and muzzle dog.

Blister Ointment.-Hog's lard, 4 ounces, oil of turpentine and spanish flies, each 1 ounce. Mix. For dogs, omit the turpentine.

Tar or Hoof Ointment.-Tar and tallow, each 1 lb ., common turpentine, $\frac{1}{2} \mathrm{a} \mathrm{lb}$; melt together. For dressing feet, \&c.

Astringent Ointment.-Tar, 4 ounces, spirit of salte and verdigris, each 1 ounce. Mix. For thrush, grease, grapes, canker, and loo, in cattle. For the latter, the oil for wounds is a specific.

Ointment for swollen Udder.-Marshmallow ointment, 4 ounces, olive oil, 1 ounce, oil of origanum, 2 drachms, camphor, 2 drachms. Mix. To be rubbed on twice a day after drawing the milk.

Lotion for Strains, Tumours, \& \& . - Nitre and muriate of Ammonia, each 1 ounce. Dissolve in a quart of hot water, and add two quarts vinegar.

Mixture for Grease, Ulcers, and all Foul Sores.-Sulphate of zinc, 1 ounce, corrosive sublimate, 1 drachm, spirit of salt, 4 drachms, water, 1 pint. Mix.

Eye Lotion.-Sulphate of Zinc, 1 drachm, water, 1 pint, tincture of opium, 1 drachm. Mix, and apply two or three times daily. For dogs, take infusion of green tea, 3 ounces, tincture of opium, $\frac{1}{2}$ a drachm.

Gripes or Colic.-In the absence of a veterinary surgeon, in this dangerous complaint, the following is the best remedy for a horse :$1 \frac{1}{2}$ pint of linseed oil, $1 \frac{1}{2}$ ounce of laudanum, given in a little warm gruel-some persons assist the operation of the above with a glyster, composed of $\frac{1}{2} \mathrm{lb}$. of Epsom salts, $\frac{1}{2} \mathrm{lb}$. of treacle, dissolved in three quarts of warm water.

Cows,-Calving,-The treatment before calving is to keep the cow moderately well, neither too fat nor too lean; remember that she commonly has the double duty of giving milk and nourishing the fæetus: dry her some weeks before calving; let her bowels be kept moderately open ; put her in a warm sheltered place, or house her; rather reduce her food; do not disturb her when in labour, but be ready to assist her in case of need; let her have warm gruel ; avoid cold drinks. A pint of sound good ale in a little gruel is an excellent cordial drink. A cordial is easily made by 1 ounce of caraway seeds, 1 ounce of aniseeds, $\frac{1}{4}$ ounce of ginger powdered, 2 ounces of fenugreek seeds. Boil these in a pint and a half of beer for three minutes, and administer when cold.

Red-water.-Bleeding, says Youatt, firts, and then a dose of 1 lb . of Epsom salts, and $\frac{1}{2} \mathrm{lb}$. doses repeated every eight hours, until the bowels are acted upon; or 4 ounces of bole ammoniac, and 2 ounces of spirits of turpentine in a pint of gruel.

## GRIPES AND INFLAMMATION. colic.

Sudden in its attack.-Pulse rarely much quickened in the early period of the disease, and during the intervals of ease ; but evidently fuller. Legs and ears of the natural temperature. Relief obtained from rubbing the belly. Relief obtained from motion. Intervals of rest. Strenghiscrarcely affected.
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## INFLAMMATION OF THE BOWELS.

Gradual in its anproach with previous indications of fever.
Pulse very much quickened, but small, and often scarcely to be felt. Legs and ears cold.
Belly exceedingly tender and painful to the touch.
Motion evidently increasing the pain.
Constant pain.
Rapid and great weakness.

## HOW TO FEEL THE PULSE OF A HORSE.

The best place to feel the pulse is at the corner of the under jawbone. It is soft and moderate in its action when the horse is in health, being about 36 beats in a minute. During inflammation, the pulse is hard, and like a cord to the finger; it is likewise quick in proportion to the force of the disease. A slow small pulse, accompanies debility ; and a quick, small, irregular pulse, generally attends fever.

## HOW TO TELL A HORSE'S AGE.

A foal of six months old has six grinders in each jaw, three in each side, and also six nippers or front teeth, with a cavity in each. At one year old, the cavities in the front teeth begin to decrease, and he has four grinders on each side, one of the permanent and the remainder of the milk set. At two years old, he loses the first milk grinders, above and below, and the front teeth have their cavities filled up, just as horses of eight years old. At three years old, or two and a half, he casts his two front uppers, and in a short time after the two next fall. At four, the grinders are six on each side; and, about four and a half, his nippers are permanent, by the replacing of the remaining two corner teeth, which have dropped; the tushes then appear, and he is no longer a colt. At five, a horse has his tushes, and there is a black coloured cavity in the centre of all his lower nippers. The corner ones are thinner. At six, this black cavity is obliterated in the two front lower nippers. At seven, the cavities of the next two are filled up, and the tushes blunted; and at eight, that of the two corner teeth. The horse may now be said to be aged. The cavities in the nippers of the upper jaw are not obliterated till the horse is about ten years old, after which time the tushes become round, and the nippers project and change their surface.

## HORSE POWER.

It is well known among engineers that a horse is capable of raising a weight of 150 lbs .220 feet high in a minute, and to continue exertions enabling him to do that for eight hours a day.

Multiplying the number of pounds by the height to which they are raised in a minute [ 150 by 220], gives $33,000 \mathrm{lbs}$, and the power of a horse is generatly expressed by a sum varying from $30,000 \mathrm{lbs}$. to $36,000 \mathrm{lbs}$, raised one foot high in a minute. Bolton and Watt express it by $32,000 \mathrm{lbs} . ;$ Woolf, by $36,000 \mathrm{lbs} . ;$ Tredgold, Palmer, and others, by 33,333 lbs. One horse can draw, horizontally, as much as seven men.

Friction.-In trains of machinery, from one-fourth to one-third is allowed for friction.

Table of Horse Power at different rates of speed.-Let us suppose 15 to represent the greatest unloaded speed, and the square of 15 , or 225 , to represent the greatest load which can be sustained without moving; the following table gives, for each degree of speed, from 1 to 15 , the corresponding load and useful effect:
Speed, $0 \begin{array}{llllllllllllllll}1 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 & 13 & 14 & 15\end{array}$ Load, $22519616914412110081 \quad 64$ Effect, $0 \begin{array}{llllllllllllllll}196 & 338 & 432 & 484 & 500 & 486 & 448 & 392 & 324 & 250 & 176 & 108 & 52 & 14 & 0\end{array}$
Thus, if the greatest unloaded speed of a horse be 15 miles an hour, and the greatest weight, he is capable of sustaining without moving, be divided into 225 equal parts, his labour will be most advantageously employed, if he be loaded with 100 of those parts, and travel at the rate of 5 miles an hour. If he be thus employed, it will be found that he will carry a greater weight through a distance, in a given time, than under any other circumstances.

A horse, upon a well-constructed rail-road, can draw 10 tons, at the rate of 2 miles per hour, or 5 tons, 4 miles per hour.

The absolute force of the horse, drawing horizontally, is on an average 770 lbs . From various calculations, it would appear when the period of continuance is made an element in the calculation, that the power of a horse, working eight hours a day, is on an average not more than equivalent to that of five men, working ten hours ; the most useful mode of applying a horse's power, is in draught, and the worst, is in carrying a load; it has been found that three men, carrying each 100 lbs. , will ascend a hill with greater rapidity than one horse carrying 300 lbs . The best disposition of the traces in draught is when they are perpendicular to the collar.

When a horse is employed in moving a machine in a circular path, the diameter of his path should not be less than twenty-five or thirty feet ; forty feet would be better than either.

## CHEMICAL TESTS FOR ACIDS.

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Acetic acid exhales the odour of vinegar; carbonate of potass forms by evaporation; acetate of potass extremely deliquescent.-Christison.

Gallic Acid.-Infusion or tincture of Galls precipitates, metallic salts as iron in form of gallates.-Dumas.

Hydrochloric (Muriatic) Acid.-When diluted, a solution of nitrate of silver gives a white precipitate, the chloride of silver.

Nitric acid, when diluted with an equal volume of water, bits of copper will disengage ruddy fumes, the nitrous acid gas.

Oxalic acid, when concentrated, gives with ammonia radiated crystals, produced by no other acid.-O'Shaughnessy.

Hydrochlorate of lime gives a white precipitate, the oxalate of lime.-Christison.

Sulphuric acid, one grain in 386,597 grains of water, reddens litmus paper.-Wilson.

Nitrate of baryta gives a heavy white precipitate, the sulphate of baryta.-Christison.

Tannic acid, or tannin, gives from solution of gelatine a white precipitate, tanno-gelatine.-Brande.

## CHEMICAL TESTS FOR METALS.

Arsenic.-Sulphuretted hydrogen gas will give a yellow precipitate, with one part of arsenious acid in $\mathbf{1 0 0 , 0 0 0}$ parts of water.-Ure.

Moisten writing paper with a concentrated solution of arsenious acid, and draw over it a bit of nitrate of silver, which will make a yellow moist curdy streak.-Paris.

Bismuth.-The trisnitrate of bismuth is taken up by nitric acid of the density of 1280 , and this solution poured into water gives a white precipitate, the original trisnitrate.-Apjohn.

Chromium.-Any of the soluble salts of lead give with chromate of potass a yellow precipitate.

Cobalt.-The salts are precipitated black by hydrosulphuret of ammonia.-More.

Carbonate of ammonia gives a red precipitate, and potass a blue one.-Brande.

Manganese.-The protochloride gives with chloride of lime a black precipitate, a hydrate of the peroxide.

Bichloride of mercury (corrosive sublimate) causes a milkiness in 2000 parts of water, containing one part of atbumen.-Bostock.

Nickel.-The salts are precipitated pale grey or greenish white by ferrocyanide of potassium, and yellowish green by iodide of potas-sium.-Brande.

## CHPMICAL TESTS FOR SIMPLE SUBSTANCES.

Bromine bleaches litmus paper, and chlorine changes it to a fine orange, discharged by agitation with æther.

Carbon, when pure, is not changed by the most intense heat; carbonic acid gas extinguishes flame, and renders lime-water turbid by forming carbonate of lime.

Chlorine dissolves gold, bleaches all animal and vegetable colours, when moist ; and the nitrate of the oxide of silver gives with a dense white precipitate a inixture of chlorine and metallic silver,-Turner.

Iodine, when free, one part in 450,000 parts of cold water, is rendered deep blue, by solution of white starch.-Colin and Stromeyer.

Phosphorus is known by its burning spontaneously at common temperatures, with an odour like garlic.

Sulphur is known by its burning at 300 degrees with a peculiar blue flame and suffocating vapour.

## COMMON RE-AGENTS.

Paper tinged purple with litmus, juice of violet flowers, or Brazil wood becomes red by most acids, and green by most alkalies.

Tincture of red cabbage of litmus, or of Brazil wood, becomes red with most acids, and when red, purple with alkalies.

Paper tinged yellow by turmeric, becomes brown by most alkalies, and their carbonates.

## CHEMICAL TESTS FOR ALKALIES.

Alumina.-Potash, or soda, gives a precipitate, redissolved by excess of alkali.-Turner.

Ammonia, when pure, is known by its pungent odour, and is not precipitated by the salts of lime like the sesquicarbonate (hartshorn), which has the same odour.-Christison.

Hydrochlorate of Ammonia (Sal Ammoniac),-_Pure potash causes an ammoniacal odour, and nitrate of silver precipitates chloride of silver.-Christison.

Baryta, with sulphates and sulphuric acid, gives a white precipitate; and by alkaline carbonates, the carbonate of baryta.- Turner.

Lime changes the vegetable blues to green, and gives, with oxalic acid, a white insuluble precipitate, the oxalate of lime.

Magnesia does not change vegetable blues, nor does oxalate of ammonia give any precipitate, as it does from lime.-Turner.

Phosphate of soda, with ammonia, precipitates the triple phosphate of ammonia and magnesia.-Brande.

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1849.] The Canadian Farmer's Almanac.

Morphia - Nitric, and no other acid, changes it to a fine orange red, which becomes yellow.- O'Shaughnessy.
Potass changes turmeric brown, and syrup of violets green; the carbonate or nitrate of potass in solution gives, with chloride of platinum, a yellow precipitate, soda does not.-Christison.

Quina.-The disulphate of quina is not coloured by strong nitric acid, which reddens sulphate of cinchonia.
Soda is not, like potass, affected by chloride of platinum ; and the perchlorate of soda (not of polass) is extremely soluble and deli-quescent.-Serullus.

Strychnia.-One part, when pure, will prove distinctly bitter in 600,000 parts of water, and will not change colour with nitric acid; but common strychnia will change to an orange red. $-A$ pjohn.

## CHEMICAL TESTS FOR MINERAL WATERS.

These may be divided into five groups, viz:-

1. Carbonated, containing pure carbonic acid.
2. Sulphureous, containing sulphuretted hydrogen.
3. Chalybeate, containing carbonate of iron.
4. Alkaline, containing carbonate of soda ; these are rare.
5. Saline, containing many solts. Siliceous waters are very rare, and are met with in Iceland.
The following brief rules of the qualitative analysis of mineral waters are added, as being useful. The first point to be determined, in the examination of a mineral water, is to which of the above classes does the water in question belong?
6. If the water reddens blue litmus paper before boiling, but not afferwards, and the blue colour of the reddened paper is restored on warming, it is carbonated.
7. If it possesses a nauseous odour, and gives a black precipitate, with acetate of lead, it is sulphureous.
8. If, after the addition of a few drops of hydrochloric acid, it gives a blue precipitate, with yellow or red prussiate of potash, the water is a chalybeate.
9. If it restores the blue colour to litmus paper after boiling, it is alkaline.
10. If it possesses neither of the above properlies, in a marked degree, and leaves a large residue on evaporation, it is a saline water.
The substances which commonly enter into the composition of a mineral water, are :-
Acids.-Sulphuric, carbonic, phosphoric, silicic, hydrochloric, (chlorides).

Bases.-Potash, soda, lime, oxide of iron, magnesià, alumina.
Besides these, other constituents are sometimes found, but they are comparatively of much rarer occurrence ; these are:-

Acids.-Nitric, sulphureous, boracic, and some organic acids, produced by the decomposition of vegetable matter (crenic, apocrenic, and puteanic).

Bases.-Lithia, strontian, oxide of manganese, oxide of zinc, oxide of copper.-Parnell.

## Governor General and Suite:

His Excellency, the Right Honorable James Bruce, Earl of Eigin and Kincardine, Knight of the Thistle, one of Her Majesty's Most Honorable Privy Council, Captain General and Gover-nor-in-Chief, in and over the Provinces of Canada, Nova Scotia, New Brunswick, Newfoundland, and the Island of Prince Edward, and Vice-Admiral of the same, \&e, \&ce.
Hon. Col. Bruce, Secretary, and Principal A. D. C.
Lieut. Col. Edmund Antrobus, Provincial, A. D. C.
Lieut. Col. De Salaberry, Extra A. D. C.
The Governor General receives visitors at the Government House Notre Dame Street, every Monday, Wednesday and Friday, from one till three.

PUBLIC OFFICES IN THE CITY OF MONTREAL. Office of Bankrupt Court, Court House.
Office of Department of Public Works, 45 Notre Dame Strect.
Office of Mayor of the City, (Joseph Bourret) City Hall, Notre Dame Street.
Office of City Clerk, (J. P. Sexton,) do. do. Office of City Treasurer, (E. Demers,) do. do.
Office of Deputy Adjutant General of Militia, C. F., St. Lewis Street. Office of City Surveyor, (James A. B. McGill,) City Hall, Notre Dame Street.
Office of Crown Lands Commissioner, (Hon. J. H. Price,) 5 St. Gabriel Street.
Ofice of Inspector of $\underline{P}_{\text {ot }}$ and Pearl Ashes, (E. M. Lenrohon, John $^{\text {(E) }}$ Dyde and Edward Major,) College, near McGill Street.
Office of the County Registrar, (G. H. Ryland,) Place d'Armes Hill.
Office of the Provincial Registrar, (Hon. R. A. Tucker,) Government House.
Office of Provincial Secretary, (Hon, R. B. Sullivan,) Government House.
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Office of the Sheriff, (Boston \& Coffin,) Court House, Notre Dame Street.
Office of Turnpike Trustees, (James Holmes, Secretary,) Commissioners Street, near Custom House Square.
Office of Inspector of Flour, (William Watson,) corner George and Common Streets.
Office of Inspector of Beef and Pork, (D. W. Eager \& Son,) corner Common and Grey Nun Streets.
Office of Inspector of Butter, (Frs. McDonnell,) Grey Nun Street.

## COURTS OF JUSTICE.

Court of Appeals.-J. G. Barthe, Clerk. Terms-from Ist to 10th March, June and November, both days inclusive. The Court sits alternately in Quebce and Montreal.

Court of Queen's Bench.-Terms - Criminal Courl, from 1st to 15th February and August. Civil-Superior, 7th to 31st January, 1st to 25 th A pril, July and October. Inferior, 16th to 25 th February and May, 1st to 10th September and December. The Superior Courts have jurisdiction above £20, and the Inferior and Circuit Courts have jurisdiction up to $£ 20$.

Commissioners' Courts are held every Monday, at Quebec and Montreal, and in all other places where Commissioners' Courts are established, on the first Monday of every month. Jurisdiction in sums not exceeding $£ 65 \mathrm{~s}$.

Quarter Sessions, Montreal.-Terms-10th to 19th January, 21st to 30th April, 10th to 19th July, and 21st to 30th October.

## BANKS IN THE CITY OF MONTREAL.

Bank of Montreal, Place d'Armes.
City Bank, Place d’Armes.
La Banque du Peuple, Great St. James Street.
Bank of British North America, Great St. James Street.
Bank of Upper Canada, do. do.
Agency Commercial Bank, M. D., do. do.
Provident and Savings' Bank, do. do.
Montreal Savings' Bank, Office, Montreal Bank.
Montreal City and District Savings' Bank, St. François-Xavier St.

## CANADIAN FARMER'S ALMANAC

## ADTERTISING STEET.

LOWER CANADA AGRICULTURAL SOCIETY
Instituted March, 1847.
Incorporated by the Legistature, July, 1847,
Office No. 25, Notre Dame Street, opposite the City Hall, Montreal. Wm. EVANS, Secretary.

> A. F. SABINE,

AGENT FOR THE ST. PIE TANNERY AND GENERAL COMMISSION AGENT, St. François-Xavier Street, Montreal.

## ETNA INSURANCE COMPANY.

The 雨tna Insurance Company of Harvidrd, Connecticut, continues to Insure against Loss or Damage by Fire, on Terms as favorable as other Institutions in this City. The reputation this Company has obtained in a business of twenty-nine years, is sufficient evidence of their liberality in adjusting, and promptness in paying Losses.

> Auldjo's Buildings, St. Paul Street.

> JONES \& WOOD, Agents.

## A GREAT FACT.

Economy is the only sure remedy for hard times., Are you in want of a first rate article in the Clothing line? Call at Slack's Cheap Tailoring Establishment, 28 McGill Street, where you will find every thing of the very best material and most fashionable make, at more thai 25 per cent lower than any other House in Montreal.

## ALEXANDER RONALD,

FASHIONABLEBOOT AND SHOE MAKER, No. 11, St. Frangois-Xavier Street, Montreal. A very Superior Stock of Ladie's, Gentlemen's and Children's Boots and Shoes constantly on hand.
all ORDERS ATtENDED TO WITH ELEGANCE AND DESPATCH.

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# The Canadian Farmer's Almanac Advertising Sheet. 65 

## BORTHWICK LOOMIS \& Co.,

 COMMISSION MERCHANTS, No. 9, St. Nicholas Street, Montreal.
## BRYSON \& FERRIERS,

 HARDWARE MERCHANTS, WHOLESALE AND RETAIL, No. 181 $\frac{1}{2}$, St. Paul Street, Montreal.B. WORKMAN \& Co.,

WHOLESALE AND RETAIL DEALERS in

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The Subscribers' "STEAM CHAIR FACTORY" being in full operation, they can supply any quantity of Cane and Wood Seat Chairs, Boston Roeking Chairs, \&cc. \&cc,, warranted of the best materials and workmanship, and at greatly reduced prices.

## REDHEAD \& ALLEN.

All kinds of Plain Furniture, Bedsteads, \&ec. \&e., constantly on hand, or made to order,

## COWAN \& CROSS,

TEA, WINEANDSPIRITMERCHANTS, Corner McGill and St. Maurice Streets, Montreal.

## DANIEL FISHER,

AUCTIONEER AND COMMISSION MERCHANT, No. 22, St. François-Xavier Street, Montreal. c2

## DONEGANA'S HOTEL,

Corner Notre Dame and Bonsecours Streets, Montreal.

The Proprietor begs to return his thanks to the Public for the very liberal support which he has received while carrying on business in Montreal, and would respectfully inform them that he is now prepared to receive Company in his present

## MAGNIFICENT ESTABLISHMENT,

which in every respect that contributes to comfort and enjoyment, is unsurpassed by any Hotel upon the North American Continent.

## THE SITUATION

is central, delightful, and salubrious, being within a short distance of the Public Offices, Banks, City Hall, \&co. It stands upon the highest ground within the limits of the City proper, and commands a

## SPLENDID VIEW

of the City, River, and the beautiful country, south of the St. Lawrence.

## THE ACCOMMODATIONS

are of the very first order, in point of elegance and convenience, and

## THE TABLE

will be constantly supplied with every delicacy and luxury, which can be obtained in the Markets of Montreal or New York.
Owing to the large number of guests who can be entertained,
THE CHARGES WILL BE EXCEEDINGLY MODERATE, and the Proprietor pledges himself that no exertion nor expense will be spared by him which may tend to contribute to the health, comfort, and enjoyment of those who may honor him with their support.
J. M. DONEGANA.

## EDGAR COOKE,

BLACK AND WHITE SMITH, Has constantiv on pand
A very superior Stock of every Article in his line of business. Orders from the Country punctually attended to, and executed at the lowest terms. St. Henry, near St. Joseph Street, Montreal.

EDWARD WAY \& Co. general agents and commision merchants, Gillespie's Buildings, Wharf, Montreal.

GEORGE B. MUIR, ADVOCATE, No. 45, Little St. James_Street, Montreal.

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## GEORGE HORNE,

## WHOLESALE \& RETAIL GROCERY, WINE AND SPIRIT DEALER,

 No. 90, St. Joseph Street, opposite Dow's Brewery, Montreal.GEORGE PLATT, NOTARY PUBLIC, No. 34, Little St. James Street, Montreal,

## GREENE \& SONS,

## WHOLESALE FUR CAP AND HAT MANUFACTURERS, Montreal,

Have on hand, and are constantly manufacturing at their Establishment, No. 229, St. Paul Street, formerly the City Bank, a general assortment of Fur Caps, Hats, Bonnets, Muffs, Boas, Tippets, Cardinals, Gloves, Gauntlets, Ladies' Furs of every description, \&c., worthy the attention of Merchants and Traders, in general. Cosh and the highest price paid for all kinds of Furs.

Furs cleaned, altered, and repaired in the neatest manner.

## GUILBAULT'S BOTANIC GARDEN, <br> No. 14, Côté Street,

off orato btreet, in rear of montreal bank.
THE JARDIN DES PLANTES AND COMMERCIAL GARDEN, Côte des Neiges, joining the Church,
Where a general collection of every description of Fruit, Forest and Ornamental Trees and Plants can be had.

## HARTFORD FIRE INSURANCE COMPANY. HARTFORD, CONNECTICUT. <br> Incorporated, 1810. <br> montreal agenct.

This long established and well known Institution has transacted a most extensive Insurauce business throughout the British North American Provinces and the United States. It has aimed to secure public confidence, by an honourable and faithful fulfilment of its Contracts; and owners of property are assured that all fair claims for loss under Policies will be liberally adjusted and promptly paid.

Applications for Insurance are to be made to
JONES \& WOOD, Agents.
Auldio's Buildịgs, St. Paul Street.

> SIGN OF THE GOLDEN CANNISTER.
> No. 178 , Notre Dame Street, Montreal.

HENDERSON, BROTHER \& Co., WHOLESALE AND RETAIL
LONDON HAT WAREHOUSE AND FUR MANUFACTORY,
No. 93, Notre Dame Street, Montreal.
Military and Fancy Cloth Caps always on hand, and made to order. Dealers in Palm Leaf and Leghorn Hats.
highest price paid for shipping furs.
IRA G. SMITH,
EXCHANGE BROKER,
No. 39, St. Frangois-Xavier Street, Montreal.
> J. B. ASSELIN \& Co., manufacturers of tin and sheet iron wares, No. 230, St. Paul Street, opposite Greene \&f Sons, Montreal.
J. B. SMITH \& Co. wholesale
LEATHER DEALERS, GROCERS \& COMMISSION MERCHANTS, Foundling Street, corner Callière Street, Montreal.

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## JAMES CLARKE,

## SHIP CHANDLERAND GROCER,

Mast, Pump and Block Maker, and Manufacturer of every article in the above line.
Corner of Common and Port Streets, Montreal.

## JOHN LEEMING \& Co.

AUCTIONEERS AND COMMISSION MERCHANTS, No. 17, St. François-Xavier Street, Montreal.

## JOSEPH KTRKUP,

## BRUSH MANUFACTURER,

 No. 4, St. Sacrament Street, Montreal,Keeps constantly on hand, or makes to order, Brushes of every description. Country Merchants and Deaters, In general, are requésted to call and examine, as he is determined that in quality his Brusbes shall not be surpassed, while, in price, they will be lower than any other in the Province.

J. LOUGHREY,<br>PAINTS, OILS AND GLASS, No. 146, St. Paul Street, Montreal.

## J. \& W. HILTON,

CABINETAND UPHOLSTERY WAREHOUSE, No. 17, Great St. James Street, Montreal, IMPORTERS OF DAMASKS, FRINGES, LACES, \&c. MAHOGANY AND OTHER WOODS FOR SALE.

## MISS MALCOLM'S SEMINARY,

No. 77, Craig Street, Montreal.
Per annum.
DAY PUPILS,
English Branches, ..... £6 00
French, ..... 300
Drawing, ..... 4100
Piano-Forte ..... $10 \quad 0 \quad 0$
Dancing-the fee of the Master.
BOARDERS
Pay $\mathbb{L} 43$ per annum, which sumn entitles them to all the Branches, exceptDrawing and Dancing.

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## R. DAVIE \& Co. aUCTIONEERS AND GENERAL COMMISSION MERCHANTS,

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## ROBERT ADAMS, IMPORTER OF BRITISH MANUFACTURES, AND

WhoLmsale dealer in dry goods and haberdashery, No. 226 $\frac{1}{2}$, St.'Paul Street, Montreal.

## THE PILOT,

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JOURNALOF COMMERCE,
Is published on Tuesday, Thursday, and Saturday Mornings, at the Office, No. 4, Place d'Armes, Montreal. subcription,-mive dollars per annem,

## THE WEEKLY PILOT

for the country,
Is published every Wednesday.-Subscription, Three Dollars per annum. W. H. HIGMAN \& T. J. DONOGHUE, Printers, Publishers and Proprietors. book and job printing neatly executed,

## THOMAS PECK,

 MANUFACTURER OF NAILS, RAIL-ROAD AND OTHER SPIKES, No. 155, St. Paul Street, Montreal.
## THOMSON \& SON,

MERCHANT TAILORS, No. 16, St. François-Xavier Street, Montreal.
Have constantly on hand an assortment of the latest and most fashionable CLOTHS, CASSIMERES, VESTINGS, \&c.
Country Orders carefully and punctually attended to.

## WILSON \& COUILLARD,

HARDWARE MERCHANTS,
Importers of Saddlery and Shelf Goods of every description, Stoves, Grind Stones, Anchors, Chains, Potash Kettles, Wrought, Cut, Patent and Shingle Nails, Bar and Hoop Iron, Axes, Shovels, Paints, \&cc. \&ce.

No. 170, St. Paul Street, Montreal.

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# BOARDING AND DAY SCHOOL, No. 107, Craig Street, Montreal. 

The Course of Study adopted in this Seminary, includes the Englishatad French languages, Ancient and Modern History, Chronology, Astronomy, Geography, the use of the Globes, Botany, Music, Drawing and Dancing.

The strictest attention is paid, by Miss Malvo, to the mental improvement
$t$ the Office, er annum. -E,

R SPIKES, fashionable $t$ and Shingle

## MOSS \& BROTHERS,

LONDON AND NORTH AMERICAN WHOLESALE AND RETAIL
CLOTHING WAREHOUSE AND GENERAL IMPORTERS,
No. 180, St. Paul Street, opposite B. Brewster \& Co., Montreal. Always on hand an extensive"assortment of Superior London Made Clothing, Broad Cloths and Kerseymeres, Gents' and Youths' Clothing made to measure, on the shortest notice.
N. B.-Upper Canada Merchants, and others, would do well to call and examine their Stock, before purchasing elsewhere.

## NEIL McINTOSH,

TEAS, WINES, GROCERIES, \&c., wholesale and by the package, No. 27, St. François-Xavier Street, Montreal.

## OTTAWA HOTEL,

West End of Great St. James' Street, Mont eal.
N.'B.-Carriages in attendance to and from the Boats and Rail-road Station,

## PROTECTION INSURANCE COMPANY

## of <br> HARTFORD, CONNECTICUTT,

Offers to Insure Houses, Stores, Mills, Factories, Barns, 'and their contents, and all other descriptions of Insurable Property,

AGAINST LOSS OR DAMAGES BY FIRE.
The Rates of Premium are the same as those of similar Institutions in this City, and the course pursued in the adjustment of Losses favourable to the Assured.

JONES \& WOOD, Agents.
Auldjo's Buildings, St. Paul Street.

## 72 The Canadian Farmer's Almanac Advertising Sheet.

## WILLIAM EGAR,

## TIN, COPPER, ZINC, AND SHEET IRON WORKER, has conatantly on hand,

Tunge, Shower, Hip, and Foot Baths, Refrigerating Closets, and Ice Cream Treezers, Richly Ornamented Russia Iron Damb Stoves, White Metal, and Brass Window Sashes made to order. Houses fitted up with the most appro ved Hot Air Furnaces; Stills, Worms, Tanners' Heaters, \&ec., with every othe nrticle in his line. Also, Copper Utensils Re-Tinned, equal to new. Country Orders supplied on themost liberal terms.

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## WILTIAM GILBERT STETHEM <br> SADDLER,

Has always on hand a first rate assortment of Saddles, Harness, Trunks, and every other article in the Saddlery line, at

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## WILLIAM LYMAN \& Co. <br> drug warehoube,

Nos. 194 and 196, St. Puut Street, Montreal, WROLESALE DEALERS IN
OILS, DYE STUFFS, WINDOW GLASS, VARNISH, PUTTY, \&C., also,
Pure Ground Allspice, Pepper, Ginger, and Cinnamon, Cloves, Nutmegs and Mace, Superior Indigo, Rice Starch, Button Blae, Alum and Copperas, Candied Orange, Citron and Lemon Peel, Essences of Lemon, Cinnamon, Cloves, Tanilla and Ratafia, Polishing Paste, Indelible Ink, Fine Sponge, Hair, Tooth and Nail Brushes, Friction Hair Gloves and Belts, Nursing Bottles, Powder Puff Boxes and Puffs, \&ce. Ervalenta, a nutritive preparation from France, for habitual costivencss, in packets. Prepared Groats and Barley. Garden, Grass, Flower, and Field Seeds, \&c. \&cc. \&ce.

## THFFITAM RODDEN,

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PROPRIETOR OF THE MONTREAL FOUNDRY \& CITY WORKS, Williain Street, St Ann's Suburbs, Manufaturer of every sort of Stoves, Axes, Weighing Machines and Scales, Railings for Gardens, Terraces and Tombs, Fancy and Plain Castings, Machine and MSH-Cestinge of any Pattern, eveented to order Ruildere, Mach: nists, Millwrights, and Dealers in Castings, will be furnished on the most advantageous terms.

YOUNG \& BENNING,
AUCTIOYEERS AND COMMISSION MERCHANPS No. 15, St. Francois-Xavier Street, Montreal.

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[^0]:    AUSTIN CUVILLIER \& Co.
    GENERAL MERCHANTS, AUCTIONEERS AND IMPORTERS,
    St. Sacrament and St. Nicholas Streets, Montreal.

