

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.

- Additional comments /
Commentaires supplémentaires:

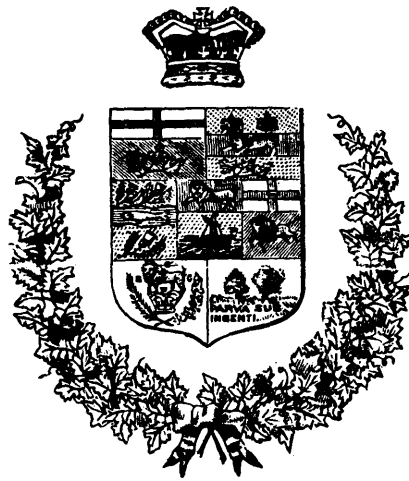
L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression

- Includes supplementary materials /
Comprend du matériel supplémentaire

- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.

THE
CANADIAN PATENT OFFICE
RECORD.



VOLUME XVII.



OTTAWA:
PUBLISHED BY AUTHORITY.

1899.



VOLUME XVII, 1889—INDEX.

INDEX OF INVENTIONS.

Abdominal spiral supporter. Euphemta A. McLennan.....	32,299	Archways. Portable centre for constructing. Smith Toye.....	32,274
Accountant: see Mechanical.		Arm : see Contact, Repeating, Standing.	
Acid : see Phosphoric.		Arm or hand rest. W. M. Kinnard.....	30,864
Addition register for pencils, etc. H. C. Rose.....	31,287	Armature for dynamos. E. Thomson.....	31,485
Adjuster : see Cuff.		Armature for dynamos. Thomson Houston International Electric Co.....	31,485
Advertising : see Cabinet, Fare, Sparkling.		Arrow. F. White.....	31,053
Advertising rack. J. H. Randall.....	31,546	Artesian wells. Device for boring. M. Fontaine et al.	30,586
Aerator : see Milk.		Artificial leg. C. A. Trees.....	31,633
Aerial apparatus for navigating the air and for towing. David Thayer.....	32,866	Artificial stone or marble. Manufacture of. B. L. Mosely et al.....	30,579
Air : see Hot.		Ash sifter. Edward E. Smith.....	33,049
Air and gas apparatus for carburettling and enriching. C. Herzog.....	30,882	Atmospheric thermo-electric generator. William S. de Lisle Roberts et al.....	33,087
Air brake. Lansberg Brake Co.....	32,345	Atomization of liquids and application thereof to fabrics etc. R. Kron.....	31,104
Air brake signal. Allen B. Collins.....	32,427	Audible signal. J. Speers et al.....	31,112
Air compressor. Henry C. Sergeant.....	32,232	Auriferous : see Ores.	
Air injector for boiler furnaces. E. B. Cornell.....	31,224	Auroargentiferous : see Ores.	
Air motor. W. Bowes.....	31,729	Awning. H. B. Knoblanck.....	30,385
Air or other gas, machine for compressing. Edward F. Clarke.....	32,675	Axe, W. C. Kelly.....	32,177
Air supply for propelling cars. L. C. Pressley.....	31,640	Axe-belve. Hiram Hall.....	32,310
Air valve. George M. Davis.....	32,225	Axes. Die for making. James P. Kelly.....	32,188
Ariel cable railway. J. B. Perry.....	30,794	Axes. Die for making. William C. Kelly.....	32,689
Alarm : see Burglar, Electric, Fire, High.		Axle : see Car, Dust, Vehicle, Wheel.	
Alarm for grain elevators and analogous devices. J. B. Murphy.....	30,576	Axle and hub attaching device. S. Marfield.....	32,067
Alarm system. C. A. and J. F. Cox.....	32,100	Axle bearing. T. Hayden.....	31,032
Alcohol. Rectification of. A. T. Christophe.....	31,540	Axle box for railway rolling stock. D. Manee.....	30,750
Ale and beer. Mambré Beer Extract Co.....	32,448	Axle boxes or bearings of carriages.....	30,627
Alloys : see Aluminium, Manganese.		Axle cutter. Frank E. Beardsley et al.....	32,672
Alloys of chrome, iron and manganese, Process of making Hienrich Eckardt et al.....	32,217	Axle grease. V. Bédard et al.....	30,548
Aluminium alloys, manufacture of. C. M. Hall.....	31,515	Axle thimble. E. Lockman.....	32,139
Aluminium : see Electrolysis.		Axles. Sand bag for carriage and waggon. A. F. Miles.	31,431
Aluminium. Manufacture of. C. M. Hall.....	31,516	Baby walker. W. Lane et al.....	31,617
Aluminium, Method of and apparatus for manufacturing. Curt Netto.....	32,877	Bag : see Envelope, Paper, School, Mail.	
Aluminium. Process for obtaining. Martin Wanner.....	33,103	Bag fastener. W. H. Merritt et al.....	32,105
Ammunition and its manufacture. W. D. Borland et al.....	30,609	Bag holder. F. G. Fischer.....	31,257
Anatomical apparatus. E. Smith.....	30,936	Bag holder. C. W. Allen.....	31,218
Animal catcher. Clayton Wisdom.....	32,836	Bag holder. George W. Freeman.....	32,756
Animal drinking fountain. Francis E. Merriman.....	32,221	Bag holder. W. R. Burrage.....	31,217
Animal trap. Oneda Community.....	32,854	Bag holder and fastener. Aloysius G. Blincoe.....	32,702
Animals : see Shoe.		Bag holder attached to fan mills. H. T. Lepage.....	30,698
Annunciator : see Mechanical. Railway.		Bag lock. T. W. Harrison.....	30,656
Anti-rattler and nut lock for thill couplings. S. J. Wood.....	31,003	Bag or sack. A. W. Morris.....	31,719
Anvil shears for cutting metal. W. H. Adams, et al.	32,076	Bags. Appliance for filling. O. Asselin.....	30,853
Anvils. Attachment to blacksmith's. B. E. Robinson.....	30,591	Bags, bales, etc. Ties for securing. W. Gibson.....	31,980
Applier : see Urethral.		Baking cabinet. John E. Merriam.....	32,377
Arc lamp. F. R. Boardman.....	31,096	Baking oven. Charles F. Hubbard.....	32,571
Arc lamps. Apparatus for checking or arresting feed of. H. Watt.....	31,316	Baking pan. A. B. Campbell.....	32,141
Arched suspender for overhead electric conductors. Charles J. Van Depoele.....	33,065	Balanced gearing for wind mills. C. H. et W. Tuckwood.....	30,593
		Balanced valve for steam engines. C. M. Farrar.....	30,744
		Baling press. Charles E. and Henry L. Whitman.....	33,090
		Baling press. Irving S. Moulthrop.....	32,306
		Baling press. W. McLean.....	31,302
		Baling presses. Power mechanism for. George Ertel.....	33,213
		Ballast. Feeding apparatus for burning clay for. W. Davy.....	30,998
		Ballot box. Charles M. Taylor.....	32,208
		Ballot slip. O. Durocher et al.....	30,764

- Band: see Shirt.
 Band cutter: see Sheaf.
 Band cutter. R. Thompson..... 32,160
 Band cutter and feeder. O. Anderson..... 30,855
 Band sawing machine. C. Bryant..... 31,179
 Bands: see Clasp.
 Bank account book. W. Thomson et al..... 31,393
 Bank book. W. H. Benson..... 31,089
 Bar: see Draw, Grate.
 Bark from logs. Machine for removing. Frank M. Purlinton..... 32,388
 Barley flakes and the process of producing the same. F. R. Farwell et al..... 30,537
 Barn door hanger. Augustus R. Woodyatt..... 32,447
 Barrel. F. Andrew..... 31,120
 Barrel and package. William Armstrong..... 33,101
 Barrel churn. The Wortman and Ward Manuf'g Co. 32,073
 Barrel head sawing machine. Joseph A. Mumford... 32,223
 Barrel hoop machine. E. Olund et al..... 31,341
 Barrel making machine. G. J. G. and M. O. Rehfuß. 31,799
 Barrel stand. Thomas McKay..... 32,455
 Barrel swing. Francis Mason et al..... 33,035
 Base ball bat. C. N. Morris..... 31,541
 Base ball bulletin board. E. A. Grozier et al..... 31,343
 Base for fence posts. C. S. Long..... 31,967
 Basket: see Fruit.
 Bat: see Base, Cricket, Game.
 Bath: see solar.
 Bath or solution for separating metals from their ores. J. C. Wiswell..... 31,522
 Bath tub seat. D. K. Frederick..... 31,151
 Baths and wash bowls. Overflow for. E. Bellarance.. 31,511
 Battery: see Electric, Electro, Galvanic, Primary, Secondary, Storage.
 Battery for storage of electricity. Charles Norsworthy et al..... 32,459
 Bearing: see Axle. Journal.
 Beater: see Cake. Egg.
 Bed: see Folding. Invalid. Sofa. Spring.
 Bed and cabinet. W. Seldon..... 30,935
 Bed bottom. Elias A. Cleaveland..... 32,752
 Bed bottom. S. J. Dickson..... 30,668
 Bed clothes holder. R. C. Wicks..... 30,844
 Bed spring. F. G. Wolfhard..... 30,789
 Bedstead and table. George Bellamy..... 32,298
 Beer and fermentable and effervescent liquids. Treatment of. W. Kuhn..... 31,175
 Beer worts and beer. Process and apparatus for aerating and purifying. A. Bergh..... 30,928
 Bell: see Door.
 Belt: see Electric. Hip. Suspender.
 Belt fastener. A. Coté et al..... 30,553
 Belt fastener. J. B. Parrie..... 30,934
 Belt fastener. W. G. Avery..... 31,673
 Belt fastener. Willard N. Packer..... 32,737
 Belt gearing. John A. Lough..... 32,486
 Belt punch. H. L. T. Overbey..... 31,669
 Belting: see Wire.
 Belting. James E. Emerson et al..... 32,542
 Belting. T. Midgley..... 31,717
 Belting. Method of Manufacturing. J. E. Emerson et al..... 31,576
 Bench clamp. Philip J. Larrabee..... 32,587
 Berths and seats for ships and railway cars. James George W. Alridge..... 32,261
 Bevelling: see Glass.
 Beverage. J. Harris et al..... 31,159
 Beverages: see Carbonated.
 Beverages. Treating sparkling and effervescent. F. A. Reihlen..... 30,912
 Bibles. Marginal index for. Byron Laing..... 32,379
 Bicycle clutch. J. E. Evans..... 31,824
 Billiard table. William P. Flint..... 32,558
 Binder: see Bundle. Temporary.
 Binding: see Book. Grain. Packing.
 Binding post and cut-out. Howard C. Root et al..... 32,966
 Bit brace and nut wrench. David A. Stewart et al... 32,800
 Bit for dove-tailing holes drilled in rock. W. Hall.... 31,402
 Black leaf check book. James L. Morrison..... 32,196
 Blacksmith's tuyere. J. Cumming et al..... 30,845
 Blade: see Stiffening.
 Blank: see Fork.
 Blank heading die. The American Siren Co..... 32,014
 Blank supporting device for screw threading machines. American Screw Company..... 30,578
 Blanket: see Horse.
 Blast or exhaust apparatus. Smith Exhaust Pipe Co..... 33,182
 Block: see Heat.
 Blocks and slabs from clay mixtures. Manufacture of flat. W. Henderoth..... 31,667
 Bluing package. T. F. Conklin..... 31,499
 Board: see Base. Ironing. Key.
 Boards from logs. Machine for cutting. Thomas S. Crane..... 32,557
 Boat: see Life. Tow.
 Boat launching carriage. H. J. Woods..... 31,839
 Boats: see Joint.
 Boats. Construction of. W. Heslop..... 32,148
 Bob sleigh. William H. Becks et al..... 32,346
 Boiler: see Hot. Lamp. Locomotive. Steam. Wash. Water.
 Boiler. E. S. Manny..... 31,854
 Boiler. George F. Spencer..... 32,348
 Boiler. H. W. Moore..... 31,219
 Boiler. John Lapp..... 32,493
 Boiler feeder. Automatic. C. Gossett..... 30,632
 Boiler or barrel heater. T. Toedten..... 31,347
 Boiler, steam and hot water. W. W. Kelsey..... 31,626
 Bolt: see Nail. Rotary.
 Bolt. W. W. Woodford..... 30,772
 Bolt locking device. C. J. Penrose..... 31,981
 Bolt threading. Machine for. James A. Becher..... 32,992
 Bolting reel. O. M. Morse..... 31,148
 Bomb: see Signal.
 Book: see Bank. Copy. Black. Shipping.
 Book binding. J. J. Sullivan..... 31,752
 Book binding and book. W. M. Kinnard..... 30,834
 Book cover. R. Anderson..... 30,800
 Book leveler. W. M. Kinnard..... 30,831
 Book rack. S. J. Talbot..... 31,213
 Boom. T. Rafferty..... 31,909
 Boot: see Buggy. Horse. Laced. Rubber.
 Boot. B. F. Whitney..... 30,907
 Boot and shoe. J. Godin..... 31,660
 Boot and shoe. J. L. Peltier..... 31,703
 Boot and shoe. J. M. Hanson..... 30,925
 Boot and shoe. Joseph Fortin..... 32,738
 Boot and shoe. W. Howard..... 30,014
 Boot and shoe heels. Construction of. George E. Salter..... 32,523
 Boot and shoes. Laced rubber. M. Howitt..... 30,616
 Boot and shoe laces, etc. Hanging and exhibiting. J. Paton..... 30,867
 Boot cleaning machine. Reinhold Handel..... 32,398
 Boot composite. W. McKie..... 30,827
 Boot or shoe. J. U. French..... 31,857
 Boot or shoe uppers. Machine for fitting. Ambrose Eastman..... 32,668
 Boot scraper and wiper. Charles Boeckh..... 33,131
 Boot upper. Isaac D. Thurston..... 32,726
 Boots and shoes. Art of lasting. J. Patten... 32,055
 Boots or shoes. Followers or form for. George H. Clark..... 32,843
 Boring: see Artesian. Earth.
 Boring machine. Harlin Longwell..... 32,484
 Boring machine. H. L. Haskell..... 32,064
 Bottle: see Filtering. Glass. Stopper. Stopping.
 Bottle cleaner. W. D. Butz..... 31,975
 Bottle stopper. J. A. Trant..... 32,143
 Bottle stopper. John H. Christman et al..... 32,697
 Bottle stopper. W. H. Redington..... 31,332
 Bottle stopper. W. P. Crary..... 30,955
 Bottles: see Cans.
 Bottles. Machine for the manufacture of. D. Riglands..... 32,029
 Bottom: see Bed. Spring.
 Bottom for coal hods, etc. Thomas McDonald..... 32,773
 Bottom for cooking utensils. Elizabeth C. Powell..... 32,792
 Box: see Axle. Ballot. Car. Card. Dust. Fare. Seed. Journal. Mail. Metal. Suspension. Telephone. Tobacco.
 Box and holding case. E. Reynolds..... 32,140
 Box for delivering matches, etc. F. N. Cannon..... 31,291
 Box handle. J. A. Trant..... 30,775
 Brace: see Gate. Rail.
 Bracket: see Scaffold.
 Bracket for lamps. Fred O. Tarbox..... 33,133
 Bracket for supporting eave troughs. Lewis J. Sawyer..... 32,554
 Brake: see Air. Car. Sled. Vacuum. Wagon.
 Brake. A. H. Wilson et al..... 31,901
 Brake. H. C. Fletmyer..... 31,255
 Brake for locomotives, etc. Frank Lansberg..... 32,222
 Brake shoe. George B. Ross..... 32,838
 Brake shoe. Joseph Pollock et al..... 32,904

Breakwater, groins, etc. Mode of constructing. J. Lewthwaite.....	31,022	Cable grip. T. W. Lemleux.....	31,894
Breast yoke. G. and W. N. Van Camp.....	32,074	Cake or bread beater. S. F. Stowe.....	30,667
Brick and artificial stone. Composition for. O. Leblanc et al.....	31,001	Calculating: see Coin.....	
Brick kiln. W. B. Wright.....	31,835	Camping vehicle. Alonzo J. McMaster.....	32,304
Brick machine. H. Krutzsch.....	30,551	Calc: see Horse shoe.....	30,702
Brick machine. R. N. Ross.....	32,044	Can: see Milk. Shipping.....	
Brick, tile and earthenware. Machinery for the manufacture of. R. P. and A. S. Locke.....	31,346	Can. A. D. Shuman.....	30,753
Bricks: see Cover.....		Can assembling machine. E. J. Dolm.....	30,777
Bricks. Machine for repressing. Oliver Baird et al.....	32,715	Can cap soldering machine. E. and O. W. Norton.....	32,134
Bridge. W. Harman.....	31,585	Can opener. J. F. French.....	31,676
Bridges: see Cable.....		Canals. Construction of. Arthur Pickard.....	32,349
Bridle. Gowan M'fg Co.....	32,451	Cans and bottles. Automatically closing. G. A. Poole.....	30,596
Bridle. H. H. McLean.....	31,378	Cancelling: see Letter.....	
Bridles: see Round-reins.....		Cans: see Handle.....	
Broom clasp. Mary C. Elchorn.....	32,915	Cans. Apparatus for securing ends on. T. Davidson.....	32,178
Broom corn. Machine for assorting. C. E. Lipe.....	31,482	Cant dog. Walter McFarlane.....	32,785
Broom corn. Machine for assorting. Hand Stitch Broom Sewing Machine Co.....	31,482	Cant hook: see Ferrule.....	
Broom sewing machine. G. F. McCombs.....	31,548	Cap for oil cups, etc. William J. Jones.....	32,608
Broom sewing machine. The Hand Stitch Broom Sewing Machine Co.....	32,012	Cape collar. Noel E. Powers et al.....	32,328
Brush: see Circular. Currycomb. Rubber.....		Car: see Dumping. Hand. Railway. Vestibule.....	
Brush. A. M. Gorbell.....	31,794	Car and air brake pipe couplings. Richard J. Edwards.....	32,305
Brush. J. A. Read.....	31,020	Car and locomotive engine replacing frog. B. E. Tilden.....	31,417
Brush. L. Strickel.....	31,248	Car axle. A. W. Wright.....	31,369
Brush bodies. Mechanism for boring. McClintock Young.....	33,214	Car axle box. E. Best.....	31,628
Brush holding cabinet. S. Hall.....	31,414	Car axle box. W. E. Heffner.....	31,085
Bucket: see Elevator.....		Car axle lubricator. Charles A. Howard.....	32,951
Bucket, ball and lid fastener. John M. Stukes et al.....	32,640	Car axle lubricator. Edward Best.....	33,015
Bucket elevator for flouring mills. W. J. Purdy et al.....	32,034	Car axle lubricator. T. Saunders et al.....	31,532
Bucket for chain pumps. Adon D. Crosby.....	32,783	Car axles. Bearing for. Edward Leslie.....	32,859
Buckle: see Harness. Trace.....		Car brake. C. Mayer.....	31,304
Buckle. Anton Tehnik.....	33,220	Car brake. Earl A. Wescott et al.....	32,262
Buckle. L. Steinberger.....	31,129	Car brake. James F. Durkin.....	32,725
Buckle. Syracuse Speciality Man'fg Co.....	33,079	Car brake and starter. G. B. Sicard.....	32,000
Buckle. Willis A. Meyer.....	33,166	Car brake. Marden Car Brake Co.....	30,869
Buckle and clasp. James L. O'Conner.....	32,606	Car coupler. C. W. Courtney.....	32,085
Buffer. Sidney W. Winslow.....	32,438	Car coupler. F. J. Hughes.....	30,709
Buffer covering. Sidney W. Winslow.....	32,439	Car coupler. Frank A. Fox.....	32,736
Buggy boot. Philo M. Barnes.....	32,718	Car coupler. H. Sommerfeld.....	31,203
Buggy top. Shepard W. Cately.....	32,436	Car coupler. J. Boney et al.....	31,317
Bundle carrier for binders. W. F. Johnston.....	31,687	Car coupler. J. Rhule et al.....	32,163
Buoy: see Chair.....		Car coupler. J. Skinner et al.....	32,107
Buoyancy. Art of producing. S. T. Culp.....	31,145	Car coupler. James A. Hinson.....	32,487
Bureau. D. C. Clapp et al.....	31,570	Car coupler. James A. Hinson.....	33,010
Bureau. D. C. Clapp.....	31,696	Car coupler. J. Wright.....	31,176
Bureau, etc. C. W. Catherman et al.....	32,080	Car coupler. P. J. Palmquist.....	32,135
Burglar: see Fire.....		Car coupler. S. Byrne.....	31,411
Burglar alarm. G. Schreiber.....	30,992	Car coupler. Samuel Burgess et al.....	32,318
Burglar alarm. S. S. Kimball.....	30,681	Car coupler. W. L. Dwyre.....	31,233
Burglar alarm. William J. Ackerman et al.....	32,851	Car coupler. William M. Bunce et al.....	33,038
Burial casket. Mary E. Ripson et al.....	32,267	Car coupler for heating purposes. Automatic Car Coupler Heating Co.....	32,572
Burner: see Cut-off. Gas. Hydro. Kerosine. Lamp. Oil. Safety. Spray.....		Car coupling. A. Diller et al.....	31,239
Burner. James Gibbons.....	33,016	Car coupling. A. H. Bellingham et al.....	31,111
Burner. R. B. Carsley.....	31,765	Car coupling. C. Pouillot.....	31,413
Burner for liquid fuel. Gary G. Calkins.....	33,180	Car coupling. David Bellon.....	32,759
Burning oil and tar by hydraulic pressure. Apparatus for. J. White.....	31,084	Car coupling. D. Ross.....	31,275
Bustle. C. Campbell.....	31,712	Car coupling. F. T. Rogers.....	31,952
Butter: see Case.....		Car coupling. G. W. Smille.....	30,709
Butter. Apparatus for and manufacture of. Frederick R. Norton.....	32,585	Car coupling. Henry H. Everett.....	32,632
Butter extractor. Adolph Wahlin.....	33,217	Car coupling. Henry N. Sheffield et al.....	32,745
Butter package. Gilbert W. Bradley.....	32,515	Car coupling. John P. Turney et al.....	32,369
Butter package. Simeon Crittenden.....	32,313	Car coupling. J. M. Clark.....	31,080
Button: see Suspender.....		Car coupling. J. McG. Mason.....	31,076
Button. Eugene M. Chapman et al.....	33,159	Car coupling. J. W. Roberts.....	31,949
Button hole attachment. H. J. Williams.....	31,366	Car coupling. M. D. Cox.....	32,147
Button hole attachment for sewing machines. H. J. Davison.....	32,072	Car coupling. Patrick McEntee.....	33,115
Button hole attachment for sewing machines. S. Halliwell.....	30,626	Car coupling. R. F. Osborn.....	30,929
Button hole cutter. E. Barry.....	31,221	Car coupling. R. F. Thomson.....	30,792
Button holes. Method of stitching. Elmer Fletcher.....	32,284	Car coupling. Reuben S. Hall.....	32,372
Button setting instrument. F. H. Richards.....	30,860	Car coupling. Robert H. Dowling et al.....	33,185
Button setting machine. A. M. English.....	31,519	Car coupling. S. S. Lehman et al.....	31,953
Cabinet: see Baking. Bed.....		Car coupling. S. Fairman.....	31,227
Cabinet file. E. Phillips.....	31,204	Car coupling. Vincent Nusly.....	32,758
Cabinet for advertising. J. B. Stone.....	30,919	Car coupling. W. P. Turner.....	32,039
Cabinet for sewing machines. C. Raymond.....	30,737	Car coupling. W. F. Andrews.....	31,415
Cabinet show case. E. Pifferling.....	31,558	Car coupling. William Harper.....	33,237
Cable: see Submarine.....		Car coupling link. J. Ptolemy.....	31,582
Cable for suspension bridges. G. Lindenthal.....	30,963	Car door fastener. W. E. Heffner.....	30,705
		Car door opener. H. Sommerfeld.....	31,404
		Car for carrying sugar cane. J. T. Earle.....	31,103
		Car for the conveyance of ships. William Smith.....	33,118
		Car heater. Josiah G. Phillips.....	32,793
		Car heater. Thomas M. Morton.....	32,287
		Car heating apparatus. J. H. Sewall.....	32,092
		Car mover. C. L. Barnhart.....	31,004

Car mover. Matthew F. Connett et al.....	32,473	Chart: see Dress.	
Car seat. Athol B. Macklin	33,197	Check: see Door. Price. Punching.	
Car spring. William Bellingham.....	32,627	Check punch. F. W. Smith.....	30,941
Car truck. Benjamin Franklin Manier.....	32,476	Check punch. J. C. Lowdon.....	31,198
Car truck. T. E. Pettengill et al.....	31,663	Chemical engine. Randall T. Van Valkenburg	33,138
Car truck. J. E. W. Currier.....	30,594	Chill. W. Fawcett.....	30,703
Car truck. William H. H. Sisum.....	32,518	Chimney. P. C. Elser.....	30,843
Carbonated beverages. G. C. Henry	32,098	Chimney cap. H. M. Hansen.....	30,903
Carbon contact or commutator brush. Charles J. Van Depeole.....	32,901	Chimney cowl. J. T. Lipsett.....	30,854
Carbureted vapour or gas. Devices for regulating the quality of. E. J. Frost.....	31,326	Chloride of lead. Method of producing. Electric Storage Battery Co.....	32,769
Carburettng: see Air.		Chock: see Railway.	
Card: see Playing.		Churn: see Barrel.	
Card for carding cotton, wool, etc. C. Moseley.....	31,615	Churn. Asher Holmes.....	32,454
Card or ticket box. J. Stovel et al.....	31,015	Churn. J. Ingells.....	30,875
Carding machine. Frederick H. Carpenter.....	33,034	Churn. J. W. Smith.....	32,949
Cards of carding engines. J. Leslie.....	31,630	Churn. S. Ward.....	31,601
Cars: see Pipe.		Churn. W. A. Martin.....	32,185
Cars over temporary obstructions. Device for con- veying. Charles H. Little	32,446	Churn. William Howley Wells	32,696
Cars. Unloading attachment for. Jonathan S. Harshman.....	33,098	Churn and churn power. William J. Griffin	33,123
Carpet: see Paper.		Churn dog power. D. Ormiston	31,943
Carpet cleaner. W. P. White.....	30,879	Cigar. Thomas J. Winship	33,252
Carpets. Compound for cleaning. Robert N. Hyde..	32,963	Cigar bunch wrapping machine. Schmalz Cigar Co..	33,042
Carpets. Machine for stretching. J. Story.....	31,208	Cigar cutter. J. B. Moos.....	32,033
Carpets. Machine for stretching. T. Sturdy.....	31,594	Cigar holder: see Pipe.	
Carriage: see Axle. Boat.		Cigar rolling machine. O. Hammerstein	30,918
Carriage curtain fastening. William M. Buchanan....	32,404	Cigars. Filler for. R. A. Bright.....	30,961
Carriage tongue support. William W. Mayne.....	32,624	Circuit: see Electric. Rheostat. Telegraph.	
Carriage top. Thomas Merrell.....	32,671	Circular brush. Norman Knowles et al.....	33,102
Carriage wrench. Frederick A. Wegner.....	32,581	Circular weaving machine. A. A. Brooks et al.....	31,422
Carrier: see Cash. Wood.		Cistern: see Closet.	
Cart: see Road. Village.		Cisterns with oil. Apparatus for charging. S. T. Dutton	31,040
Cart seat. John McLain Lee.....	32,607	Clasp: see Corset. Broom. Buckle. Shoe.	
Cartridge loader. Alexander Euston.....	32,449	Clasp. Frederick R. Spooner.....	32,255
Cartridge shells. Machine for cutting and crimping. G. D. Hunter.....	32,187	Clasp. L. Steinberger	31,131
Case: see Box. Upright.		Clasp. M. Rubin	31,496
Case for bottles, etc. W. H. Hunt et al.....	31,972	Clasp for bands for securing paper, envelopes, etc. Edward J. Hall et al.....	32,228
Case for packing butter, etc. Joseph F. Rusing.....	33,209	Clasp plate. Syracuse Speciality Manufg Co.....	32,855
Case for sheet paper. M. M. Vardon.....	30,798	Clam extracts and process of making the same. A. H. Bailey.....	30,570
Cash: see Store.		Clamp: see Bench.	
Cash carrier. David Lippy.....	32,360	Clamp. W. D. Hawley	30,618
Cash carrier. Frederick J. H. Hazard.....	32,976	Cleaner: see Bottle. Flue. Grain. Tube.	
Cash carrier. R. W. Soper.....	32,120	Cleaning: see Cotton. Water.	
Cash register. Henry F. Amsden.....	33,137	Cleaning and recovering sawdust or similar hydrate substances from filtrates. Casamajor Filter Co... ..	30,630
Cash register. J. Sharpe.....	31,976	Cleaning apparatus for steam boilers. John S. Roake	32,590
Cash register and indicator. John H. Patterson.....	32,621	Cleansing fabrics, metals, etc. Composition for. G. Williams	32,065
Cash till. G. R. Stokes et al.....	30,713	Cleansing granular filter beds. Process for. John W. Hyatt	33,047
Casing of certain printing type and device for use therewith. A. Stobzenwald.....	32,038	Cleat. John W. Foran	32,695
Casket: see Burlal.		Clevis: see Plough.	
Caskets, etc. Mouldings for. W. A. Frazer.....	31,166	Clevis. Converse Averitt	33,199
Casks. Barrels, box barrels or packages. Manufac- ture of. S. Wright.....	31,663	Clevis. Emery M. McVicker.....	32,937
Caster. E. Hambuyer.....	31,367	Clip for connecting tie bars with switch rails. A. A. Strom	31,807
Caster. J. S. Roblin	31,437	Clip for grasping plates, saucers, etc. Henry H. R. Chapman.....	32,714
Caster. John E. Treat.....	33,055	Clip for railway switch tie rods. A. A. Strom.....	31,803
Castings: see Mould.		Clips on horse shoes. Machinery for manufacturing. Anders Andersen.....	32,539
Castng lead seals. Apparatus for. T. Conners.....	30,688	Clipping: see Sheep.	
Catamenial sack. E. A. Wiley.....	31,043	Clock: see Electric.	
Catch: see Door. Load.		Clock. A. L. Parcelle.....	31,713
Catcher: see Animal.		Clock escapement. W. H. Douglas	30,634
Cattle guard. J. T. Hall.....	30,697	Clocks. Mode of suspending the pendulums of. A. Dzondi	32,164
Cavity of a tooth. Device for introducing a heated product into the. Dexter M. Small.....	32,358	Closet: see Dry. Water.	
Cellulose: see Wood.		Closet cistern. David L. Dwinell et al.....	33,099
Cement. U. Cummings.....	32,031	Closing: see Can. Tubes.	
Centre: see Watch.		Cloth in rolls. Device for measuring. T. Gullfoyle... ..	31,030
Chain: see Drive.		Cloth. Machine for cutting. John Penman.....	32,824
Chain fastener. H. E. Kelley.....	31,611	Clothes: see Felt.	
Chain link. H. E. Kelley et al.....	30,541	Clothes dryer. J. L. Lincoln	31,272
Chain link. Irving Brown.....	32,840	Clothes dryer. George E. Hasson.....	32,810
Chain link machines. Feed mechanism for. James D. Storie.....	32,269	Clothes horse. J. Emery.....	30,871
Chair: see Collapsible. Folding. Hammock. Opera. Switch. Trace.		Clothes stick. W. H. Scott et al.....	31,276
Chair. J. S. Anthes.....	31,469	Clothes wringer. J. Kinleyside.....	31,260
Chair. M. E. Schutt.....	31,674	Club feet. Instrument for straightening. C. Cluthe..	31,093
Chair and life buoy. C. J. Shirreff.....	31,780	Clutch: see Bicycle.	
Chairs. Manufacture of. D. Hibner et al.....	30,530	Coach: see Railway.	
Chairs. Reclining and operating. R. B. Roberts et al	30,723	Coach. J. L. Dyer.....	31,614
Channelling and gadding machine. W. L. Saunders..	32,008	Coal: see Moulding.	
Channelling machine. H. C. Sergeant.....	32,137	Coal conveyor. William N. Page et al.....	33,225
Charcoal. O. Bowen et al.....	31,651	Coal oil lamp. George Roberts.....	32,362

Coal oil stove. G. Roberts.....	31,915	Copying press. J. P. Johnson.....	30,810
Coal oil stove. J. J. Tresidder.....	32,162	Cord and rope making machine. Thomas B. Dooley	32,437
Coal weighing and cleaning machinery. Carl Lubrig et al.....	33,104	Cork drawing machine. Cornelius Chambers.....	33,167
Coast defence: see Breakwater.		Cork extractor. L. I. Jacobs.....	30,873
Coating: see Ivory.		Cork screw. William N. Barrett.....	32,297
Coating compound. J. F. Martin.....	31,374	Corking bottles and wiring the corks. Machine for Sol Wile.....	32,825
Coating iron or steel with copper, etc. G. Prout et al.	30,769	Corks and stoppers in bottles. Means for securing. Auguste E. H. Lazé.....	32,622
Cock: see Water.		Corn: see Broom.	
Cock and coupling for barrels. H. Davis Northrup.....	32,347	Corner irons and tightening devices for wire mattresses. C. H. Tripbagen.....	31,709
Coffee and tea-pots. Attachment for. Ephraim U. Thompson.....	33,109	Corner protector for trunks. S. S. Arnold et al.....	31,118
Coffee cleaner and separator. Chauncey J. Pickett et al	32,827	Cornice for the interior of dwelling houses and other public and private edifices. H. H. Black.....	30,652
Coffee. Compound for coating. F. W. Moore.....	31,483	Corset. A. D. Nason.....	32,022
Coffee. Compound for coating. J. T. Barnes.....	31,483	Corset. Ava H. Traver.....	32,538
Coffee grinder. S. S. Arnold et al.....	31,117	Corset. C. A. Williamson.....	31,498
Coffee mill. J. M. Waddel.....	31,707	Corset. M. K. Bortree et al.....	31,736
Coffee or tea-pot. S. S. Wright.....	31,229	Corset. W. H. Cooper.....	31,462
Coffee Surrogate. Albert W. Rehnstrom.....	32,411	Corset clasp. M. W. Henius.....	30,719
Coffin lid. Winslow Kerr.....	32,848	Corsets. Manufacture of. J. F. G. Gunning.....	30,573
Coil: see Induction.		Cotton lint from cotton seed. Removal of. R. S. Baxter et al.....	30,859
Coiling: see Pipes.		Cotton. Machine for carding. Patrick J. Connelly.....	32,610
Coin. Apparatus for receiving and offering a receipt for. Iaidore E. Clifford.....	33,245	Cotton waste. Extracting oil from and cleaning. William Michell.....	32,280
Coin controlled opera glass case. Edward J. Colby.....	33,239	Cough syrup. Francis M. Jaques.....	32,412
Coin controlled testing machine. Edward J. Colby.....	32,932	Counter: see Heel.	
Coin feed photographic apparatus. Isaac Joel.....	33,144	Counter skiving machine. Edgar F. Belding.....	32,894
Coin operated calculating machine. F. W. Brooks.....	31,618	Coupler: see Anti-rattler. Car. Octave.	
Coin operated race course. C. O. White et al.....	32,108	Coupling: see Car. Cock. Friction. Horse. Pipe. Radiator. Rail. Railway. Thill. Waggon. Wire.	
Coin operated induction coil. P. G. Williams et al.....	31,523	Couplings for gas and electric light fixtures. R. Herman.....	30,911
Coin receptacle and register. E. Headley et al.....	31,677	Cover: see Book.	
Collapsible chair. H. L. Whitehead.....	31,383	Cover for bricks. E. New.....	31,212
Collar: see Cape. Horse.		Cover for circular vessels. J. Boullane.....	31,465
Collar and cuff. Henry C. Milligan.....	32,939	Cowl: see Chimney.	
Collar and cuff. J. H. and E. Lovley.....	30,959	Crank pin. Self lubricating. G. R. Parker.....	31,238
Collars for horses, etc. Substitute for. Alfred Mendel	32,734	Crate: see Folding.	
Collector: see Fare.		Creeper: see Ice.	
Color printing. Process for producing. Maurice Wirths.....	32,289	Cream from milk. Centrifugal machine for separating. John Laidlaw.....	32,969
Combination tool. Arden D. Kimball.....	33,011	Creamer. Charles E. Bright.....	32,742
Combination tool. Alexander and John F. Clarke.....	32,317	Creamer. Henry A. and Charles Booker.....	32,626
Combustion in furnaces, etc. Means for insuring perfect. John Livingston.....	33,210	Cricketer bat. William Heighington et al.....	32,746
Commode. J. Kinney et al.....	31,370	Crimping: see Cartridge. Cutting.	
Commutator: see Electrical.		Cross cut saw. W. K. and W. C. Groat.....	31,298
Commutator bar for dynamo electric machines. Charles E. Billings.....	32,879	Cross heads: see Steam.	
Compensator for railway signals, etc. Albert E. Mitchell et al.....	33,216	Crossing: see Rail. Railway.	
Composite fabric. W. H. H. Childs.....	31,942	Crossing and switch for overhead conductors. Charles J. Van Depoele.....	32,999
Composition: see Plastering.		Cruppers for harnesses. Lewis S. Ellis.....	32,625
Compound: see Medicinal.		Crystallizing frame. A. E. Beller.....	31,359
Compressor: see Air.		Cuff: see Collar. Stamping.	
Concentrating table. John Alves.....	32,501	Cuff adjuster. Frederick M. Symonds.....	32,916
Concentrator: see Ore.		Cuff holder. Joseph N. Clouse.....	32,693
Condenser: see Ejector.		Cuff holder. R. J. Newman.....	30,563
Conductor: see Electric. Overhead. Spark. Suspension.		Culinary utensils. Christopher F. Whitney.....	32,583
Conductor of Electricity. W. A. Conner et al.....	32,146	Cultivator: see plow.	
Conduit: see Pipe.		Cultivator. E. Case.....	31,061
Confectionery, and apparatus for making. Gilbert W. Ganong.....	33,108	Cultivator scraper and roller. W. Huggins.....	30,741
Confections. Machine for moulding. Joshua C. Ruby	32,276	Cultivator plow, etc. A. B. McBride.....	31,620
Connection: see Steam. Vestibule.		Cultivator tooth. Joseph Drader et al.....	32,401
Connection with carbon. Method of making. Thomson-Houston International Electric Company.....	32,467	Culvert for the passage of water. William D. Harris.	32,981
Connector for the elements of electric batteries. Railway Electric Car Lighting and Signal Co.....	32,461	Cup: see Oil.	
Consumer: see Smoke.		Curb and gutter. A. G. Parkhurst.....	31,596
Contact: see Duplex. Overhead.		Cure for rheumatism. D. Scott.....	31,077
Contact arm for electric railway motor cars. Charles J. Van Depoele.....	33,196	Current dynamo. Thomson-Houston International Electric Co.....	30,628
Contact for overhead conductors. Charles J. Van Depoele.....	33,066	Currycomb and brush. John Topping.....	32,602
Control apparatus for counters. T. C. Fligen et al.....	30,708	Curtain fixtures. Fred H. Bassett.....	32,544
Controller: see Valve.		Curtain ring. J. Day.....	30,856
Conveyor. D. M. Mason.....	31,821	Curtain stretcher. W. Smith.....	30,874
Conveyor: see Coal. Elevator.		Cushion: see Sucking.	
Cooking apparatus. A. S. Tomkins.....	31,006	Cut-off for gas burners. J. Smith.....	32,130
Cooking stove or range. W. E. Prall.....	30,982	Cut-offs for steam engines. T. Kingsford.....	30,716
Cooking utensil. J. H. Frederick.....	31,236	Cut-out: see Binding.	
Cooking vessel. Whitfield Ward.....	33,128	Cutter: see Band. Button. Grain. Paper. Root. Straw. Tobacco.	
Cooler: see Milk.		Cutter for making rosettes. V. Lahale.....	31,392
Copper: see Boating.		Cutter bar. C. Hank.....	32,156
Copper. Manufacture of. P. C. Gilchrist.....	31,503	Cutter head. C. Sullivan.....	31,936
Copy Book. E. Sukora.....	31,109	Cutter head, etc. W. R. Allen.....	31,994
Copy holder. Henry H. Potter.....	33,230	Cutter head for cutting and trimming gores of barrel blanks. John W. Philip.....	32,281
		Cutting: see Cartridge. Pointing.	

Cutting tobacco. Machine for. Alexander Gordon et al.....	32,363	Dress chart. Julia Penley.....	33,106
Damper: see Stove.		Dress cutter's rule. T. J. Stockman.....	31,761
Damper regulator. Charles G. Jewett.....	32,882	Dress cutter's scale. R. Hurdle et al.....	30,801
Dandruff from the scalp, etc. Matter to be used for cleaning and removing. A. F. Pratte.....	30,738	Dress stay. C. D. Mackay.....	31,778
Dash: see Vehicle.		Dress stay. William H. Williamson.....	32,209
Dental drill. A. H. Winn.....	31,377	Drill: see Dental. Electric. Grain. Ratchet. Rock. Seed.	
Dental plate. John S. Stedman.....	33,071	Drill. T. Goserud.....	31,542
Derrick: see Portable. Wind.		Drill. Tubular guide. J. T. Connelly.....	30,909
Desiccation of materials. Apparatus for the. T. H. Houseman et al.....	31,697	Drilling: see Portable.	
Desks: see Foot. School.		Drilling tool. Harry S. Gall.....	32,619
Detacher: see Horse.		Drilling tools for wells. H. H. McLane.....	31,912
Detaching: see Horses.		Drive chain. F. H. C. Mey.....	30,837
Detector: see Time. Watchman's.		Drive chain. G. G. T., J. E. and J. F. Boswell.....	32,010
Dial: see Mariner's. Medicine.		Drive gates. Method of opening and closing. Jonathan M. Gustin.....	32,502
Diaper. G. W. Stewart et al.....	31,247	Drive screw. American Screw Co.....	32,652
Die: see Axes. Blank.		Driving: see Rein.	
Die for impressing designs on metal tubes. John Burkhardt et al.....	32,214	Driving rein. Matthew S. Dickinson.....	32,795
Die for making eye-bars. J. F. Kingsley.....	31,450	Drum: see Heating. Hot. Stencil. Stove.	
Die for swaging drive screws. The American Screw Co.....	32,613	Drum and radiator. Robert O. Dobbin.....	32,633
Dies for manufacturing lids of journal boxes. N. H. Davis.....	31,200	Dry battery. W. L. F. Hellesen.....	31,154
Digester: see Fiber. Paper.		Dry closet. Isaac D. Smead.....	33,250
Digger: see Potato.		Dry closet. L. B. Robb.....	31,569
Dinner pail. Charles H. Bailey.....	32,874	Dry flour paste. John H. Day.....	32,316
Dinner pail. Michal J. O'Leary et al.....	32,820	Dryer: see Clothes.	
Dipping: see Pills.		Drying apparatus. Joseph F. Gent.....	33,221
Disinfecting apparatus. R. S. West.....	31,138	Drying porous hollow ware. Method of. W. Lenderoth.....	31,665
Disintegrating fibres and manufacturing paper pulp. Art of and apparatus for. Henry Blackman.....	32,210	Dumping car. J. Duff.....	30,568
Disintegrating fibrous substances. S. S. Boyce.....	30,617	Dumping car. J. W. Alfred.....	31,837
Disk harrow. E. C. Boyer.....	31,214	Dynamo: see Armature. Current.	
Disk harrow. G. T. Booth.....	31,177	Dynamo. Elmer S. Sperry.....	33,022
Disk harrow. Jay S. Corbin.....	32,665	Dynamo electric machine. A. G. Waterhouse.....	30,937
Disk harrow. L. A. Richards.....	31,945	Dynamo electric machine. J. F. Kester et al.....	31,265
Display rack. J. M. Laudick.....	30,554	Dynamo electric machine and electric motor for driving tramway vehicles, etc., W. D. Sanjwell.....	30,776
Distributor: see Fertilizer. Manure. Nail.		Dynamo electric machine or motor. Thomson-Houston International Electric Co.....	30,802
Distribution: see Electric. Electrical.		Dynamo electric machine. J. F. Kester.....	31,573
Ditching: see Grading.		Dynamo regulator. Elmer A. Sperry.....	33,143
Ditching plow. Russel Harvey Nogar.....	32,531	Duplex telegraphy. Silmsens Brothers & Co.....	30,732
Document: see Letter.		Duplex upward pressure contact. Charles J. Van Depoele.....	33,067
Document and letter file. Edmund W. Woodruff.....	32,837	Dust catcher. C. M. Hardenberg.....	32,086
Dog: see Cant. Saw.		Dust guard for car axle boxes. P. Sweeney.....	31,005
Dog power. A. Hamlin.....	30,829	Dust guard for car axle boxes. Union Bearing & Lubricator Co.....	30,680
Dooley: see Folding.		Dust pan. L. Angevin.....	32,173
Door: see Car. Freight. Grain. Lock. Railway. Screen.		Dusting: see Powder.	
Door, J. Ettles.....	31,074	Dyeing: see Wool.	
Door bell. C. L. Livingston.....	31,082	Dyeing cotton, etc. Machine for. Leonard Weldon.....	33,215
Door bell. P. and F. Corbin.....	32,497	Dyeing or scouring machine. C. L. Klander.....	31,024
Door bell. William B. Atkinson et al.....	32,320	Dyeing textile material. F. Lee et al.....	30,819
Door check. B. A. Mitchell.....	31,405	Dyspepsia. Cure for. Willard P. King.....	32,720
Door catch. C. Rettle.....	31,192	Earth. Apparatus for raising and moving. H. A. Carson.....	31,451
Door check. H. A. House.....	31,384	Earth boring apparatus. Emanuel Pezibilla.....	33,023
Door check. J. J. Krom.....	31,395	Earthenware: see Brick.	
Door cheek and holder. Joseph M. Brohard.....	32,604	Earthenware building material. Process for manufacturing porous. W. Lenderoth.....	31,968
Door key. O. Stoddard et al.....	32,020	Edge turner for sheet metal roofing. Walter K. Pathrick.....	32,679
Door lock. Christopher Moody.....	33,124	Egg beater. D. F. Winter.....	30,736
Door lock and hinge. Louis Binsfeldt et al.....	32,890	Egg beater. W. E. Perry.....	32,111
Door spring. Alfred Dudden.....	33,179	Egg boiler. John C. Craig.....	32,388
Doors of railway passenger carriages. Device for closing and securing. Ernest Oskar Leinbrock.....	33,030	Ejector condenser. L. Schutte.....	30,733
Doors open. Contrivance for fastening. Ellen P. Passmore.....	32,273	Elbow: see Pipe.	
Doors. Support for sliding. R. Clarke.....	30,880	Elbow rest for telephones. Louis Hammerslough et al.....	33,062
Double furrow plough. Malcolm Wilson et al.....	33,191	Electric: see Dynamo. Telephone.	
Doubletree. J. A. Markle.....	30,833	Electric arc lamp. Cortez Fessenden.....	33,233
Dough-raising tray. Bazile Z. Dompiere.....	32,125	Electric battery. J. Serson.....	31,066
Draft: see Punching.		Electric batteries and switch boards. Device for connecting the plates of. United Electric Improvement Co.....	32,849
Draft regulating device. John Rockefeller.....	33,120	Electric belt. C. W. Hoke.....	31,974
Draft regulator for hot water boilers. William P. Powers.....	32,543	Electric belt. G. W. & P. C. Totman.....	30,759
Drag sawing machine. G. A. Hughes.....	31,681	Electric belt. Pratt Electro Therapeutic Supply Co.....	30,544
Drain valve. Consolidated Car Heating Co.....	32,832	Electric cartridge and primer. Selden A. Dey.....	32,899
Drains and sewers. Method of dealing with. H. P. Newton.....	31,636	Electric circuit. J. A. Barrett.....	31,842
Drawer: see Furniture. Knitted.		Electric circuit switch. Francis A. Coté.....	33,111
Draw bar. John Turner.....	32,631	Electric circuit. Connecting device for. John C. Reilly.....	32,545
Draw bridge gate. A. Le. G. Pierce et al.....	31,769	Electric clock. A. L. Parcellé.....	31,714
Draw head for railway cars. J. J. Lappin.....	31,733	Electric clock. George Hess.....	32,485
Drawer guide for bureaus. Dwight C. Clapp et al.....	32,805	Electric conductor. A. A. Brooks.....	31,726
Drawers. Supporter for. Isaac W. Honsser.....	33,238	Electric conductors. Device for protecting. Edward G. Acheson et al.....	32,460
Drawing apparatus. W. S. Worden.....	31,825		
Drawing roll. Joseph M. Dunham et al.....	32,960		

Electric conductors. Switch for suspended. Charles J. Van Depoele.....	33,001	Electrolysis. Process of reducing aluminium from its fluid salts by. C. M. Hall.....	31,512	31,513
Electric conductors. System of suspending. Charles J. Van Depoele.....	33,068	Elevated Railway. Lorenzo J. Cody.....		32,233
Electric currents. Rhythmic generation of. Charles L. Davies.....	32,659	Elevator: see Alarm. Bucket.		
Electric cut-out. James L. Kimball et al.....	32,833	Elevator. D. C. Battey.....		31,518
Electric cut-out. United Electric Improvement Co....	32,375	Elevator. Hydraulic Elevator Co.....		30,805
Electric distribution system. E. W. Rice.....	31,063	Elevator. J. G. Pohlé.....	31,634	31,639
Electric drill. J. E. Storey.....	32,183	Elevator. Otis Brothers & Co.....	30,842	32,858
Electric drinking vessel. F. W. Flint.....	32,186	Elevator. R. C. Smith.....		30,601
Electric insulator, etc. Composition adopted to. Frank Marquard.....	33,248	Elevator and conveyor. Charles J. Seymour.....		32,253
Electric locomotive. Charles J. Van Depoele.....	33,004	Elevator and separator for mills. J. B. Murphy et al.		30,605
Electric measuring instrument. Thomson-Houston International Electric Co.....	32,268	Elevator bucket. W. G. Avery.....		31,031
Electric meter. J. A. Pentz et al.....	30,531	Elevator. Compressed air water. J. K. Leedy et al.		30,870
Electric meter. Thomson-Houston International Electric Company.....	30,543	Elevator Lock. George R. Holder.....		33,204
Electric motor. Charles J. Van Depoele.....	33,003	Elevator skid. W. D. Morris.....		31,432
Electric motor. E. H. Davis et al.....	31,349	Eliminator. F. A. Hine.....		31,210
Electric motor. L. G. Woolley.....	32,027	Embalming apparatus. E. H. Horsey.....		31,329
Electric motor. Thomson-Houston International Electric Co.....	32,469	Embroidery attachment. S. Halliwell.....		30,766
Electric motor, etc. O. Lugo.....	31,782	Embroidery machine. Joseph Irish et al.....		32,828
Electric railway. Charles J. Van Depoele.....	33,234	Embroidery machine. Edward Buss et al.....		32,818
Electric railway. S. H. Short.....	31,997	Energy: see Electrical.		
Electric railway signal. W. H. Waddell.....	31,455	Engine: see Chemical. Cut-off. Electrical. Gas. Horizontal. Hydraulic. Motor. Pulping. Rotarp. Steam. Traction. Valve. Vapor. Wind.		
Electric railways. Conduit for. S. Trott.....	31,774	Engine. Dake Engine Manufacturing Co.....		30,648
Electric railways. Double suspended conductor-system for. Charles J. Van Depoele.....	33,002	Engine. Chemical. R. T. Van Valkenburg.....		30,988
Electric railways. Suspended switches and travelling contact devices for. Charles J. Van Depoele.....	33,063	Engines. Cut-off and reversing gear for. C. Fox.....		31,675
Electric semaphore. American Semaphore Co.....	33,041	Envelope: see Letter.		
Electric signalling and alarm apparatus. W. L. Denis et al.....	31,531	Envelope. H. P. Eysenbach.....		31,710
Electric signalling apparatus. Transmitting instruments for. W. J. Dudley.....	31,521	Envelope and stamp moistener. A. J. Elias.....		31,358
Electric telegraph. Alexander Muirhead.....	33,029	Envelope and tag fastener. F. C. Mercer.....		31,560
Electric temperature regulator. R. Westervelt.....	30,895	Envelope machine. L. P. Bouvier.....		30,660
Electric valve operating device. Frank M. Sparrow..	33,200	Envelope or bag machine. G. R. Clarke.....		31,552
Electric Welding. E. Thomson.....	30,862	Envelope tablet. H. Phillips et al.....		31,064
Electric Wires. Manufacture of metal coated tubing for. Henry B. Cobb.....	32,700	Envelopes and stamps. Machine for moistening. N. Matte et al.....		31,002
Electric wires underground. Machine for laying. A. M. Brown et al.....	31,060	Envelopes, etc. Device for cutting the edges of sealed. F. Armstrong.....		32,016
Electrical currents: see Meter.		Equalizer for car vestibules. H. H. Sessions.....		31,644
Electrical distribution. System of, M. M. M. Slatery.	32,190	Escapement: see Clock.		
Electrical dry elements. Manufacture of. James L. Morrison.....	32,370	Evaporating liquids. Device for. John U. Lloyd.....		33,076
Electrical energy. Accumulation of and apparatus therefor. Friedrich Marx.....	32,732	Evaporating pan. G. H. Grimm.....		30,778
Electrical governor. T. E. Prichard.....	31,178	Evaporating pan. J. M. Duncan.....		31,724
Electrical measuring instrument. Thomson-Houston International Electric Co.....	32,268	Evaporator: see Sap, Sugar, Vacuum.		
Electrical spark producer. Henry K. Shanck.....	32,546	Evaporator. George E. Wheeler.....		32,959
Electrical switch. Walter and Alan C. Thompson.....	32,403	Evenser for vehicles. A. G. Brown et al.....		31,281
Electrical switch. W. Thompson.....	31,434	Exhaust: see Blast.		
Electrically controlled apparatus for extinguishing fire and giving the alarm. T. A. Douse.....	30,866	Expander: see Hoof, Tube.		
Electrically lighting railway trains. Apparatus for. J. A. Timms.....	31,547	Expansive mandrel. P. H. Griffin.....		31,785
Electricity: see Conductor.		Expansion pulley. E. F. Antenrieth.....		32,095
Electricity with gas. Method of combining. Eugene de Beauharnais et al.....	32,998	Explosive. Frederick A. Abel et al.....		32,219
Electro deposition of metals and apparatus therefor. Alexander S. Elmore.....	32,522	Explosives: see High.		
Electro dynamic motor. Charles J. Van Depoele.....	33,005	Explosives. A. Nobil.....		30,707
Electro magnetic dispatch apparatus. John T. Williams.....	32,839	Extensible car step. J. F. and J. F. Wood.....		31,930
Electro magnetic separator. Moffatt Electric Construction Co.....	33,189	Extension table. Warren Williams et al.....		32,923
Electro magnetic transmitter. J. T. Williams.....	31,439	Exterminator: see Fly.		
Electro mechanical movement. Thomson-Houston International Electric Co.....	30,803	Extinguisher: see Fire. Syringe.		
Electro regulator. Alfred Gartner.....	33,085	Extinguisher for lamps. G. E. Dehany.....		30,949
Electro thermostatic anti-freezing apparatus. E. A. Newman.....	30,934	Extinguishing: see Electrically, Igniting.		
Electrode for secondary batteries. C. H. Thompson.....	30,535	Extractor: see Butter.		
Electrode for secondary electric batteries. C. H. Thompson.....	30,533	Extracts: see Clam.		
Electrolysis: see Substances.		Eye-glass: see Spectacle.		
Electrolyzing bleaching solutions. Apparatus for. E. Hermite et al.....	31,656	Eye-glass polisher. E. E. Thorpe.....		32,063
Electrolyzing crude salts of aluminium. Process of. C. M. Hall.....	31,514	Eye piece for optical instrument. Joseph Kornblum et al.....		32,860
Electrolyzing fused salts of aluminium. Process of. C. M. Hall.....	31,517	Fabric: see Atomization. Composite. Waterproof. Woven.		
		Fabric. J. J. Ashworth.....		31,693
		Facing for walls. A. M. Hansen.....		31,457
		Fanning mill. H. Bolton.....		31,583
		Fare checking, indicating and advertising apparatus for omnibuses. J. Hope.....		30,996
		Fare collector. Arthur W. Berne et al.....		32,852
		Fare collecting box. T. B. Lee.....		31,018
		Farm waggon. John Herby et al.....	32,338	33,149
		Fastener: see Bag, Belts, Car, Chain, Hame, Horse, Neck, Railway, Sash, Sweat, Window.		
		Fastening: see Carriage, Mocassin, Suspender, Whiffletree.		
		Fattening: see Poultry.		
		Fatty acids: see Glycerine.		
		Faucet. A. P. Howes.....		30,662
		Faucet. E. U. Scoville.....		31,579
		Faucet for filtering. W. H. Sargent.....		30,923
		Faucet for regulating the discharge of liquids from oats, etc. A. Stafford.....		30,601
		Feed box. J. W. Jacobs.....		31,283

Feed heating and water circulating apparatus. R. Fraser.....	31,680	Flat Kelly collated springs, method of making. George Kolly.....	33,246
Feed mechanism for chain link machines. James D. Storie.....	32,269	Flexible driving shaft. Frederick Y. Wolseley.....	32,212
Feed of saw mills. Mechanism for governing the. Horatio B. Strong.....	32,781	Flies. Device for killing. J. B. Kibler et al.....	31,479
Feed regulator for spinners. G. Ryan.....	31,065	Flood fence. J. R. Wousoott et al.....	30,629
Feed water heater. Edward F. Luthy et al.....	32,586	Floor jack. Joseph Dix.....	32,884
Feed water heater and purifier. J. T. Lee.....	31,586	Flower holder. Thomas B. Norgate et al.....	33,148
Feed water heater and purifier. C. E. Ferreira.....	31,989	Flue cleaner. Samuel F. Sacket.....	33,039
Feed water heater and spark arrester. Charles Potticary.....	32,315	Fluid feeder. W. B. Wright.....	31,923
Feed water heater, cleaner and mineral separator. John D. Sullivan et al.....	32,709	Fluid fuel smelting furnace. W. B. Wright.....	31,836
Feed water purifier. W. J. Smith et al.....	30,915	Fluid meter. J. R. Norfolk.....	31,598
Feed water regulator. Frederick Cook et al.....	32,584	Fluid pressure engines. Apparatus for obtaining motive force for. J. Bourne.....	31,766
Feed water regulators for boilers. Winfield O. Gunckel. Feeder: see Band, Fluid, Nail, Oil.	33,130	Fluid separating machine. W. Bergh.....	31,534
Feeder. Automatic boiler. C. Gosselin.....	30,632	Fluid supply. Device for controlling. Edmund R. Ware.....	32,869
Felt and Felt cloth. J. W. Eastwood.....	31,533	Fluids: see Water.	
Fence: see Flood, Hand, Picket.		Fluids, powders, etc. Apparatus for stirring up. R. Handel.....	32,061
Fence. H. E. Macrea.....	32,119	Flush: see Water.	
Fence post. S. J. Saxon.....	30,599	Flushing tank. J. O. Parker.....	31,019
Fence wire stretcher. John Hunter.....	32,724	Flute. Eberhardt Wunnenberg.....	32,600
Fence wire stretcher. J. F. Warner.....	30,815	Fly catcher and exterminator. T. Pottle.....	32,023
Fence wire stretcher. S. Martin.....	31,092	Folding bed stretcher and dooley. A. A. Vernon.....	31,812
Fences. Machine for constructing. R. E. Morton.	30,699	Folding crate. William Bruce.....	32,748
Ferrules for cant hooks. Method of making. E. Mansfield.....	30,693	Folding reclining chair. F. H. Plummer.....	32,121
Fertilizer distributor. H. Watkins et al.....	32,013	Folding step. H. T. Cork.....	31,141
Fiber digester. J. H. Brown.....	31,549	Follower: see Boots.	
Fibrous material. Art or process of preparing. J. Mactear.....	31,735	Food articles. Preservation of. Henry Salzer.....	32,385
Fifth wheel. John W. Anderson.....	32,339	Foot ball. W. Howard.....	31,135
Fifth wheel. W. T. Chertham.....	30,783	Foot fastening for seats, desks, etc. A. C. Searr.....	31,102
Fifth wheel and friction plate. A. Smith.....	31,879	Foot guard. T. A. Griffin.....	31,420
Fifth wheel for vehicles. P. Doerson.....	31,998	Foot guard for frogs, switches, etc. C. H. Wakefield.....	32,091
File: see Cabinet, Document, Letter, Office.		Foot rest for steam radiators. Jacob A. Sohn.....	33,113
File: T. Falser.....	31,105	Force pump. James W. Anderson.....	32,234
Files, rasps, rimers, etc. Manufacture of. F. E. Leclercq.....	31,831	Forsoight for fire arms. John Cochran et al.....	32,677
Filing saws. Daniel G. Aber.....	33,020	Fork: see Horse, Scourer, Winker.	
Filler: see Cigars.		Fork blank. W. Chaplin.....	32,077
Film for use in photo-engraving. Carl A. Müller et al.....	33,043	Fountain: see Animal, Finger.	
Filter: see Oil.		Fountain. Illuminated. C. Balllaigé.....	31,127
Filter. Junius A. Bowden.....	32,511	Frame: see Crystallizing, Grain, Quilting, Saddle.	
Filter. Robert C. Sayer.....	32,466	Frame for railway cars. Max A. Zurcher.....	32,534
Filtering bottle. P. Lewis et al.....	30,806	Freezer: see Ice, Refrigerating.	
Finger shield and fountain attachment. J. Patmor.	31,475	Freight car door. J. Montgomery.....	31,595
Finish for plastered walls. T. Jones.....	31,494	Freight car roof. George A. Roberts.....	32,784
Fire alarm telegraph system. E. H. Davis et al.....	30,989	Freight handling apparatus. J. Henderson.....	31,970
Fire and burglar alarm. J. S. Bunker.....	30,712	Friction coupling. S. Lentner & Co.....	30,679
Fire alarm. Charles P. N. Weatherly.....	32,887	Frictional gearing. George F. Evans.....	32,789
Fire engines or pumps. Relief valves for. A. Mayer	31,428	Frog: see Car, Railroad, Railway.	
Fire escape. Andrew R. Moore.....	32,391	Fruit basket. William A. Clark.....	32,402
Fire escape. Arthur E. Jones.....	32,478	Fruit jar. G. C. Sawyer.....	31,222
Fire escape. C. W. Allen.....	30,905	Fruit picker. John B. Marshall.....	32,509
Fire escape. Eugene Delia.....	32,364	Fuel: see Peat, Prevention.	
Fire escape. F. A. Westbrook.....	31,438	Fuel. G. Frank.....	30,986
Fire escape. Hazen Wood.....	32,989	Fuel and illuminating. Method of producing and apparatus therefor. Arthur Kitson.....	32,811
Fire escape. H. Le R. Boyle.....	31,554	Fuel. Apparatus for manufacturing peat. A. A. Dickson.....	30,884
Fire escape. L. J. Mesner.....	31,081	Fuel from coal slack, etc. Manufacture of. J. Bowling.....	31,408
Fire escape. Samuel H. Sprague et al.....	32,290	Fur animals. Machine for pulling hairs from skins of. E. Schroeder.....	31,692
Fire escape. I. J. Klase et al.....	31,550	Furnace: see Fluid. Hot. Hydro. Refuse. Regulating. Steam.	
Fire escape. W. Bruce.....	32,052	Furnace. R. Clark.....	31,464
Fire extinguisher. J. L. Carr et al.....	31,335	Furnace and stove. G. Schreyer.....	31,083
Fire extinguisher. J. M. Miller.....	30,964	Furnaces and converting solid into gaseous fuel, etc. Art of firing. W. J. Taylor.....	31,119
Fire grate. J. H. Allyn et al.....	31,684	Furnaces and smiths' hearths and means for operating them. James Evans et al.....	32,814
Fire ladder. A. J. Sutherland.....	31,321	Furnaces. Refractory, crucible, pot, brick and lump for. A. Moszezensky.....	31,645
Fire lighter. William Eacrett.....	32,216	Furniture. J. P. B. Selman.....	30,550
Fire lighters. Method of preparing. Lucie J. Ribout.....	33,171	Furniture drawer. D. C. Clapp et al.....	31,682
Fire log. G. W. White.....	31,184	Furniture drawer. G. Bower.....	30,724
Fire place. J. Bielenberg.....	31,290	Furniture drawer. Joseph H. Knaus.....	32,226
Fire proof gas machine. P. Yarrington et al.....	31,059	Furniture. Appliances for the removal of. E. Barron.....	30,954
Fire proofing of buildings. G. Hayes.....	30,611	Fuse and taper lighter. J. Wad-El-Ward et al.....	30,966
Fish, flesh and fowl. Process and means for preserving. Stephen Marmoud.....	33,107	Fyle for papers. A. Lepage.....	31,779
Fish joint and fish joint chair for rails. F. C. Winby.	32,090	Fyle for papers. J. A. Fournier.....	31,782
Fish plate: see Rail.		Gadding: see Channel.	
Fish weir. J. O'Brien.....	30,892	Gage: see Gauge. Measuring. Saw.	
Fishing reel. C. K. Bradford.....	31,336	Galvanic battery. A. Schanschleff.....	30,881
Flag halyard; see Swivel.		Galvanic battery. D. Humphreys.....	30,532
Flake: see Barley.		Galvanic battery. James Leary Geetrins.....	33,028
Flame of an injector burner. Process for relighting the. Charles L. Goodridge.....	32,716	Game. F. B. Denham.....	31,914
Flat iron. J. Morrow et al.....	31,935		

Game. George F. Newland.....	32,880	Grain binding harvester. M. L. Nichols.....	30,917
Game and game board. John J. Ridge.....	33,089	Grain binding harvester and mode of binding. J. G. Martin.....	30,991
Game apparatus. Ferdinand C. Roberts.....	32,240	Grain binding harvester frame. John S. Davis.....	33,132
Game bat. James O'Neil.....	32,864	Grain cutter. A. Heine.....	30,877
Garden hoe. B. D. D. Rorison et al.....	31,430	Grain door for cars. Edward A. Hill.....	33,018
Garment: see Life. Paper. Shield.		Grain drill. C. Fockler.....	32,182
Garment. B. J. Greely.....	31,142	Grain drill. Charles E. Patric.....	32,326 33,121
Garment. J. J. Byers.....	31,421	Grain drill. C. J. Fendel.....	32,161
Garment stay. M. C. Bowling.....	31,509	Grain harvesting and binding machine. The William N. Whitely Co.....	32,983
Garment stays. Method and machine for making.....	30,970	Grain measure and tally. J. N. Holland.....	32,128
Gas: see Air. Cart ured. Electricity. Fire-proof.		Grain measuring machine. C. W. Hadley.....	30,849
Gas and petroleum motor engines. G. Daimler.....	32,040	Grain or ground material, etc. Machine for sifting or sorting. H. Graepel.....	31,885
Gas. Apparatus for making. Herbert Cottrell.....	33,057	Grain scourer. G. White.....	32,024
Gas. Apparatus for manufacturing. Marcellus A. Morse.....	32,812	Grain scourer. Giles S. Cranson.....	32,275
Gas. Apparatus for manufacturing. W. G. Wood et al.....	31,362	Grain scourer. John M. Case.....	32,445
Gas. Apparatus for washing and scrubbing. Kirkham, Hutell and Chandler.....	30,921	Grain scourer and cleaner. A. Moore.....	31,718
Gas. Art of manufacturing. E. deBeauharnais.....	31,429	Grain scouring machine. J. C. Fisher.....	31,583
Gas. Art of manufacturing. W. G. Wood et al.....	31,363	Grain separator. George C. Beeman.....	32,283
Gas battery. Ludwig Mond et al.....	32,870	Grain separator. John A. Krake et al.....	32,585
Gas burner. Alfred P. Jacob.....	32,271	Grain separator. J. R. Beynon et al.....	32,109
Gas burner. J. Smith et al.....	32,051	Grain steamer. Leroy Atkins.....	32,551
Gas burner. Leonard Henkle.....	32,816	Grain thrashing and separating machine. G. White.....	30,858
Gas burner. Lucigen Light Co.....	32,829	Grain weigher. Elis A. Hoover et al.....	32,495
Gas burner and heater. D. S. Robillard et al.....	31,525	Grain weighing and measuring. Machine for. Horace M. Fulwider.....	32,955
Gas engine. N. Rogers et al.....	31,689	Granite. Manufacture of artificial. Paul de Kristoffovitch.....	33,207
Gas fire place. G. E. Wright.....	31,937	Grape harvester. J. Phillips.....	30,642
Gas. Generating wood. J. F. Foraya.....	32,181	Graphophone: see Tablet.	
Gas generator. DeWitte Stearns.....	32,950	Graphophone. C. S. Tainter.....	32,106
Gas generator and burner. Charles Blythe et al.....	32,371	Grass harvesting machine. The William N. Whitely Co.....	32,982
Gas meter. J. Hearne.....	31,786	Grate: see Fire.	
Gas or oil stove. Benjamin G. Devoe.....	32,250	Grate. J. Wakeham et al.....	31,098
Gas. Process of and apparatus for the manufacture of. A. M. Sutherland.....	30,665	Grate. J. H. Wait.....	31,017
Gas. Purification of. W. T. Walker.....	31,140	Grate. P. Goudron.....	31,355
Gas regulator. J. Bardsley.....	31,323	Grate. W. King.....	31,279
Gas stove. James Gibbons.....	33,036	Grate bar. James Elliott.....	32,477
Gas tip. W. M. Jackson.....	31,205	Grate blower handle. Joseph A. Coté.....	32,517
Gases. Apparatus for testing mine. T. Shaw.....	31,699	Grease: see Axle.	
Gases. Apparatus for the absorption of. F. Carlisle.....	30,773	Grinder: see Coffee.	
Gasometer. W. B. Hammond.....	31,274	Grip: see Cable. Rope.	
Gastralgia, enteritis, flatulency, cramps, etc. Remedy for. Zephrim Brabant.....	32,549	Gripper for platen printing presses. R. Mingay.....	30,761
Gate: see Draw. Drive. Self.		Groins: see Breakwater.	
Gate. A. J. Mercer.....	31,489	Grooving or routing machine. J. A. Harvey.....	31,471
Gate. Andrew Miller.....	32,750	Guard: see Cattle. Foot. Globe. Railway. Siding.	
Gate. D. E. Meek et al.....	30,980	Guard for railway bridges. Oswald F. Jordan.....	33,168
Gate. D. McDonell.....	32,176	Guarding cattle while pasturing. Contrivance for. William H. Perrin.....	33,024
Gate. E. H. Bauer.....	31,917	Guide: see Drawing. Pen. Posting.	
Gate. John P. Irwin.....	33,198	Gummer: see Punch.	
Gate. William Goddard.....	32,434	Gun: see Toy.	
Gate, brace and lock. W. Goddard.....	31,792	Gun. H. A. Pitcher et al.....	31,337
Gate hinge. William H. Ratcliffe.....	32,798	Gutta percha: see Ivory.	
Gates. Mechanism for opening. J. N. Strong.....	31,143	Gutter: see Curb.	
Gauge: see Registering.		Hair dye, etc. Edward A. Vogt.....	32,941
Gear: see Belt. Frictional. Running. Valve.		Hair grow on the human skin. Matter for making. Clemens Groos.....	32,910
Gear for vehicles. Running. T. C. Mandt.....	30,951	Hame fastener. Alfred Fellows et al.....	33,203
Gear wheel. M. T. Graf.....	31,597	Hame fastener. Frederick R. Bostwick.....	32,902
Gearing: see Balanced.		Hame fastener. James S. Baker.....	32,754
Gearing for hoisting, etc. R. Lavery.....	31,731	Hame lock or fastener. A. G. McLeod.....	31,907
Generator: see Atmospheric. Gas. Steam.		Hame tug. G. W. Mollere.....	31,388
Germs of animal or vegetable life. Means of preventing the formation or development of injurious. Thomas Palmer et al.....	32,457	Hame tug. Robert F. Russell.....	32,687
Glass bevelling machine. A. Langlais et al.....	30,651	Hammer: see Matter. Pneumatic.	
Glass bottle. W. Ambler et al.....	30,546	Hammock or camp chair. George C. Bentz et al.....	32,712
Glass bottles and moulds for the same. Manufacture of. S. Washington.....	31,330	Hammock. T. Fuller.....	31,969
Glass bottles, etc. Manufacture of. Samuel Washington.....	33,243	Hammock and support. William Challenger.....	32,264
Glass polisher. C. G. Flick.....	31,823	Hand car. Albert F. Kuhl.....	32,997
Glazing: see Metallic.		Hand fence machine. Gilchrist Manufacturing Co.....	30,678
Globes. Inside guard for electric light. R. M. Gardiner et al.....	30,916	Hand loom. Joseph Soherer.....	33,247
Gloves. Manufacture of woven. G. G. Pimphrey.....	30,701	Hand seeder. S. B. Rittenhouse.....	31,982
Glycerine and distillation of fatty acids. Apparatus for the separation of. P. Marix.....	31,461	Hand soldering iron. E. J. Dolan.....	31,189
Gold, silver and other metals, from ores. Extracting. A. Parkes.....	30,692	Hand stamp. H. H. Norrington.....	30,948
Gophers, moles, etc. Means for exterminating. James D. Millen et al.....	33,105	Hand truck. D. M. Macpherson.....	30,796
Governor: see Electrical. Valve.		Hand truck. William H. Berger.....	32,287
Governor for electric motors and dynamos. Charles Norsworthy et al.....	33,094	Handle: see Box. Grate. Musical. Plough.	
Grading and ditching machine. Frederick C. Austin.....	33,190	Handle for canes, umbrellas, etc. W. Taylor.....	31,108
Grain: see Press.		Handle for metallic vessels. William C. Leavitt.....	32,942
		Handle for valves, etc. John B. and William Heighington.....	32,804
		Hanger: see Barn. Pipe.	
		Harness. J. Gray.....	30,887
		Harness buckle. G. P. Cole.....	31,228
		Harness pad. J. Pendergast.....	31,075

- Harness pad hook. G. A. Triggerson..... 31,394
 Harness saddle. Emil Vogtsberger..... 32,846
 Harrow: see Disk. Spring.
 Harrow. Charles La Dow..... 32,727
 Harrow. Columbus L. Powell..... 32,601
 Harrow. Gustavus A. Paddock..... 32,215
 Harrow. J. E. Stump..... 31,271
 Harrow. J. Whipps..... 31,256
 Harrow. T. Bellaire..... 31,880
 Harrow. T. Rogers..... 31,364
 Harvester: see Grain. Grape. Grass.
 Harvester. J. C. McLachlan..... 31,642
 Harvester binder. Frederick D. Mercer et al..... 32,537
 Hatchet for shingling. B. C. Pettingell..... 31,575
 Hatchelling machine. A. W. Montgomery..... 31,827
 Hay loader. W. M. White..... 31,180
 Hay press. Docté Lamothe et al..... 32,821
 Hay sling. Wentworth G. Ricker..... 32,842
 Header: see Rivet.
 Head gear. Device for holding. Drusellia M. Fuller..... 32,504
 Head light. L. H. McKee..... 31,095
 Head rest. E. F. Ryan..... 31,263
 Head rest. J. Hugill et al..... 31,197
 Head rest. John B. Anderson et al..... 32,953
 Hearths: see Furnaces.
 Heat expanding block, etc. Joseph Wach..... 32,638
 Heat indicator. J. Stidham..... 37,826
 Heat radiator. Thomas J. Best..... 32,772
 Heat to the body. Device for applying. D. M. Small
 Heater: see Boiler. Car. Feed. Gas. Hot. Hydro.
 Lamp. Liquid. Sad. Steam. Smoothing.
 Water.
 Heater. E. Gurney..... 32,093
 Heater. Francis, Milton J. and Henry B. Farquhar..... 33,139
 Heating: see Car. Illuminating. Railway.
 Heating apparatus. Edmund R. Ware..... 32,705
 Heating apparatus. Edward E. Gold..... 32,301
 Heating apparatus. G. A. Barnard..... 30,561
 Heating apparatus. Apparatus for control of combustion in. J. C. F. Atsatt..... 31,270
 Heating attachment for lamps. J. W. Zinn..... 31,911
 Heating drum. Borelli D. Ingalls et al..... 32,708
 Heating drum. Thomas Phillips..... 32,876
 Heating stove. Henry G. Hagey..... 33,150
 Heating tan liquor. Process and apparatus for. Oliver F. Carley..... 32,974
 Heel counter. George Beacock et al..... 33,045
 Heel counter and toe-tip. G. Beacock et al..... 31,947
 Heel motor for boots and shoes. William A. Elliott..... 32,663
 Heels: see Boot.
 Helve: see Axe.
 Hemmer: see Presser.
 Hemp and other fibrous materials. Machine for spinning. J. Fitz W. Stairs..... 32,150
 Hides and skins. Process of treating. John Hoelek et al..... 33,145
 Hides for tanning. Method of preparing. Albert Hull..... 32,356
 Hides, skins or scraps in liquids. Method of treating. C. W. Cooper..... 31,545
 High and low water alarm for steam boilers. A. W. Giffillan..... 32,598
 High explosives. Method of producing. Hudson Maxim..... 32,500
 Hinge: see Door. Gate. Lock.
 Hinge. Alexander H. Milne..... 32,895
 Hinge and pin tongue for brooches, etc. W. De Lany..... 30,965
 Hinge for folding seats. John M. Saunder..... 32,286
 Hinge for window blinds. Byam Manufacturing Co..... 33,147
 Hinged and halved umbrella stand. J. Goodwin..... 30,557
 Hip belt. W. H. Bevinger..... 31,661
 Hoe: see Garden.
 Hoe. Elnathan J. Gates..... 32,406
 Hog pen. Martin C. Randleman et al..... 32,791
 Hoisting: see Horse-power.
 Hoisting machine. F. W. Lemleux..... 31,564
 Hoisting machine. W. Hart..... 30,683
 Holdback. D. A. Camp..... 30,666
 Holder: see Bag. Bed. Copy. Cuff. Door. Flower. Paper. Pills. Printers'. Roller. Rule. Scarf. Tool. Trace. Tug. Twine. Whip. Wire.
 Holdback for vehicles. G. T. Wilson..... 31,484
 Holder for incandescent electric lamps. James W. Collier..... 32,382
 Hollow glass ware. Process of making. John B. Curtis et al..... 33,037
 Hoof expander. Frank K. Dowler..... 32,303
 Hoof trimmer. Giles Bowler..... 32,270
 Hook: see Harness. Pipe. Snap. Sweat-pad. Shoe. Whiffletree.
 Hook for Whiffletrees. T. G. Mandt..... 30,885
 Hook nails or spikes. Machinery for the manufacture of. Wilhelm Boecker..... 32,706
 Hooked suspender for electric railway conductors. Charles J. Van Depoele..... 33,069
 Hoop: see Barrel.
 Hoops. Machine for cutting. O. Schimansky..... 31,543
 Hoops. Machine for pointing. O. Schimansky..... 31,544
 Hoops. Machine for pointing and lapping. A. F. Ward..... 31,574
 Hopple. O. B. Fales et al..... 31,244
 Horizontal sawing machinery. F. R. Lane..... 31,986
 Horizontal steam engine. J. Guy..... 32,096
 Horn: see Ivory.
 Horse: see Rocking.
 Horse blanket fastener. N. Colburn et al..... 30,714
 Horse boot. P. J., F. L., and C. C. Schild..... 30,671
 Horse collar. George W. Chapman et al..... 32,198
 Horse detacher. James McMorries..... 32,674
 Horse hay fork. Joseph S. Durning..... 33,059
 Horse hay rake. Cyrille Martel..... 32,294
 Horse power. C. McDonald..... 30,749
 Horse power. J. C. Pruet..... 31,815
 Horse power. Hoisting machine. F. L. Downend et al..... 31,705
 Horse release. A. R. Braun et al..... 31,082
 Horse shoe: see Shoe.
 Horse shoe. A. Anderson..... 31,985
 Horse shoe. Charles J. Le Roy et al..... 33,082
 Horse shoe. Gustav Jacobs..... 32,757
 Horse shoe. William Somerville..... 32,656
 Horse shoe for roughing horses. Henry W. Hooper..... 32,707
 Horse shoe nail. J. A. Coleman..... 30,971
 Horse shoe nail. J. Vernon..... 31,448
 Horse shoe nail. The American Screw Co..... 32,949
 Horse shoes. Apparatus for holding. J. M. Morgan et al..... 30,702
 Horse shoes. Manufacturing of. R. E. E. and C. W. James..... 30,695
 Horses. Device for detaching. Charles L. Rice..... 33,114
 Horses from interfering. Device to prevent. M. Hangley..... 30,990
 Hose: see Wire.
 Hose and couplings. Metal band for uniting. C. E. Hudson..... 30,988
 Hose and pipes. Device for stopping leakage in. J. Lawrence..... 30,947
 Hose coupling. S. E. Pearce et al..... 31,744
 Hose or tubing. J. E. Emerson et al..... 31,715
 Hot air heating stove. W. J. Copp..... 31,854
 Hot air drum. J. Hodgkinson..... 31,904
 Hot air furnace. J. F. Durham et al..... 31,927
 Hot air furnace. James Smart Manufacturing Co..... 32,971
 Hot air radiator and furnace. William J. Copp..... 32,373
 Hot water and hot air heating furnace. Combined. W. St. Croix..... 30,670
 Hot water apparatus. J. F. McElroy..... 30,865
 Hot water boiler. E. Gurney..... 30,781 30,782
 Hot water boiler. James Keith..... 32,556
 Hot water furnace. J. G. Smith..... 31,929
 Hot water furnace. Malcolm Nicholson..... 32,751
 Hot water furnace. W. Beaupré..... 31,240
 Hot water heater. Archibald Brake..... 32,263
 Hot water heater. E. Gurney..... 31,891
 Hot water heating apparatus. Boynton Furnace Company..... 32,337 32,566
 Hotel night call indicator. Howard Mehado..... 32,761
 House sewerage system. G. McNell..... 31,333
 Household utensil. R. Lindsay..... 31,563
 Hub: see Vehicle. Wheel.
 Hub attaching device. P. A. F. Porter..... 30,624
 Hub for wheels. U. Gibeault..... 31,625
 Hydrant. J. Kaiser..... 31,734
 Hydraulic shapling press. A. E. Hobson et al..... 31,652
 Hydraulic engine. G. Gnest..... 31,604
 Hydro-carbon burner. C. Cole..... 31,110
 Hydro-carbon burner. F. B. Meyers..... 32,104
 Hydro-carbon burner. The Mascotte Burner and Oil Co..... 32,327
 Hydro-carbon furnace. John S. Andrews..... 32,815
 Hydro-carbon furnace. W. Lawrie..... 31,086
 Hydro-carbon heater. Henry C. Davis et al..... 32,826
 Hydro-carbon or crude petroleum burner. Wilson S. More..... 32,911
 Hydro-carbon vaporizer and burner. L. Mathews et al..... 31,215

Ice: see Pure.
 Ice cream freezer. C. G. and W. J. Shepard 32,018
 Ice creeper. A. Hislop et al. 30,850
 Ice creeper. Frederick W. Coe 32,592
 Ice creeper and skate. R. C. Abbott..... 30,940
 Ices, ice cream, etc. Machine for making. L. D. Rallsback 31,723
 Igniting and extinguishing apparatus. H. A. Chapin. 31,497
 Illuminating and heating. Apparatus for. R. Wall-work et al. 31,156
 Illuminating tile. J. Jacobs 30,848
 Incandescent lamp and socket. E. Thomson et al. 31,051
 Index: see Bibles. Ledger.
 Indexing. R. M. Rigby 31,277
 India rubber: see Ivory.
 Indicator: see Cash. Heat. Hotel. Station. Street.
 Indicator and recorder for revolving shafts. S. M. Terry 31,984
 Indicator for hotels. R. R. Gareau..... 30,647
 Induction coil: see Coin.
 Induction coil, etc. E. Thomson..... 31,771
 Inhaler. H. T. Welch et al..... 32,069
 Inhaler. William W. Smith 32,719
 Injector: see Air. Steam.
 Injector. J. H. Killey 30,932
 Inking ribbon spool. H. Ray 31,727
 Ink stand. E. Davis 31,296
 Ink stand. John Larkin 32,662
 Insufflator: see Tongue.
 Insulating material. Frank Marquard..... 33,249
 Insulator. G. Fowler 30,939
 Insulator for electric batteries. United Electric Improvement Co. 32,528
 Invalid bed. J. M. Scribner 30,814
 Invalid bedstead. A. Baird et al..... 32,118
 Iron: see Coating. Soldering.
 Iron ladder. Edward H. English... 33,136
 Iron pipe coupling. J. B. Potts 31,125
 Ironing board. H. Rideout 30,958
 Ironing machine. George J. Fritz 32,285
 Ivory, etc. Compound for use as. F. Greening et al. 30,807
 Jack: see Floor. Lifting. Waggon.
 Jack screw. C. H. Hopkins 31,012
 Jar: see Fruit. Stop. Stopping.
 Jelly. Solidified. W. Robertson 30,819
 Joint: see Rail. Railway.
 Joint. E. & C. Gurney Co 32,673
 Joint for boats. H. M. Sprague..... 30,976
 Joint for furniture, boxes, etc. Henry L. Beach..... 32,421
 Joint. Universal metal. J. C. Haggett..... 30,899
 Jointer, side dresser and sharpener for saws. E. Andrews et al..... 31,978
 Journal and axle boxes. Composition for lining. Christian H. Koch..... 33,181
 Journal bearing. Richard Beddall 32,749
 Journal bearing. William E. Elliott et al. 32,764
 Journal box. Patrick Brownley et al 33,044
 Journal box. Thomas E. Hays et al 32,474
 Journal box. Thomas McGrath et al 32,744
 Journal box and bearing. George W. Fulmer et al... 32,479
 Journal box. Anti-friction. W. S. Sharpneck 31,688
 Jump seat vehicle. C. H. Stratton 31,948
 Kerosine lamp burner. T. Fitzgerald 30,748
 Kettle lid. D. Shaw 31,987
 Key: see Door.
 Key board. Augustus Newell..... 32,630
 Kiln: see Brick. Lime.
 Knapsack, and shoulder strap bag 33,253
 Knee: see Sleigh.
 Knife. see Mover. Oyster. Pocket. Rotary. Scourer.
 Knitted drawers. Wilcomb Manufacturing Co..... 30,580
 Knitted underwear. Wilcomb Manufacturing Co..... 30,574
 Knitting: see Stockings.
 Knitting machine. C. H. Young 30,999
 Knitting machine. Edward Murby 32,977
 Knitting machine. P. P. Olsson 32,158
 Knitting machine. William Esty et al 32,195
 Knitting machine. Looping attachment for. Edward Murby 32,978
 Knitting mechanism for harvester binders. Peter Hamilton 32,771
 Ladder: see Fire. Iron. Metallic.
 Ladder. C. M. Bowker..... 30,789
 Ladder. E. A. Sherman 31,830
 Ladder. J. R. Smith et al 31,477
 Ladder spike. E. S. Bacon 30,977
 Ladies skirts. Method of protecting the bottoms of. W. B. Rankin 32,057

Lamp: see Arc. Coal. Extinguisher. Incandescent. Heating. Oil.
 Lamp. Alexander J. Eli 32,865
 Lamp. C. D. Aria 31,381
 Lamp. G. Rose et al 32,019
 Lamp burner. S. Ellis et al 32,553
 Lamp holder for music stands. B. Tooke et al..... 30,622
 Lamp, lantern, etc. F. Baker 30,945
 Lamp shade. C. A. Cooley 30,997
 Lamp or gas boiler and heater. M. A. B. Shipman. 31,236
 Lamps. Method of and apparatus for supplying oil to. J. B. Fenby 31,649
 Land. Machine for rolling. William McCredie..... 32,844
 Land roller. Edwin C. Derby 32,990
 Land roller. J. Riebold 32,089
 Lands. Machine for watering. David A. Keizer et al 32,611
 Lantern: see Lamp. Signalling. Tubular.
 Lantern. E. Schultz 31,172
 Lantern. H. L. Javell 30,821
 Lantern. R. Hermance 31,463
 Last. G. H. Clark 32,122
 Lasting and sole laying machine. Ambrose Eastman 32,699
 Lasting and upholstering tool. J. R. Jaques..... 32,058
 Lasting machine. William S. King 32,685
 Latch: see Lock.
 Latch and lock. Charles Sanford et al 32,527
 Latch and lock. J. Maynard 30,608
 Latch and lock. Michel Moncion 33,244
 Lathing: see Metallic.
 Launching: see Boat.
 Lawn mower. W. L. Woodruff 32,125
 Lawn mowers. Attachment to. F. A. DeLand. 31,896
 Lawn mowers. Attachment to. H. Peterson..... 31,672
 Lead: see White.
 Lead pigment and process of preparing the same. A. G. Fell 30,613
 Lead pipe coupling. J. B. Potts 31,125
 Leather. Process of tanning. J. W. Hitt 32,138
 Ledger index. Knux Buland..... 32,961
 Leg. Artificial. William L. Snyder..... 32,555
 Lemon juice extractor. J. L. Easley 32,043
 Lemon squeezer. J. Ferguson 30,888
 Lens. T. Coad 31,324
 Letter and document file. J. Young 30,567
 Letter and document file. W. Robertson 30,746
 Letter box. F. T. Taylor 32,045
 Letter box connection. J. G. Cutler 30,689
 Letter file. Z. A. Lash 31,527
 Letter postmarking and cancelling. International Postal Supply Co 32,247
 Letter sheet and envelope. W. Stacey 30,754
 Letters: see Press.
 Letters, etc. Apparatus for sealing. G. Gros et al... 31,306
 Letters for signs, etc. Charles T. Snedekor..... 33,212
 Letters. Machine for separating, etc. International Postal Supply Co 32,248
 Levelling. Apparatus for. A. E. D. Floran 30,972
 Lever for operating the jaws of vices or tongs. E. Beauchamp 33,562
 Lid: see Boxes. Coffin. Kettle. Trunk. Watch.
 Life boat. Robert Chambers et al 32,817
 Life saving garment. G. A. Hiller 31,284
 Lifter: see Transom.
 Lifting: see Raising.
 Lifting implement. W. Bellsle..... 31,814
 Lifting jack. A. A. Strom..... 31,818
 Lifting jack. C. T. Eddy 31,566
 Lifting jack. J. M. Smith..... 30,850
 Lighter: see Fire. Fuse.
 Lighting: see Electrically.
 Lightning rod. C. B. Nelson et al 31,737
 Lights: see Signal.
 Lime. G. E. Carelton..... 31,590
 Lime kiln. Frederick Kranz 32,279
 Lime tray for purifying gas. G. H. Turnbull 30,615
 Liniment. J. C. Gamble 31,183
 Lining journal boxes. Apparatus for. George. W. Topham 32,308
 Lining of walls and roofing, etc. Composition for. E. B. C. Vannier..... 31,754
 Link: see Car. Chain. Feed.
 Liquids: see Atomization. Beer. Solid. Warming.
 Liquid and powdered substances and filling receptacles therewith. Apparatus for. Benjamin D. Miliken 32,341
 Liquid heater. Louis Breithaupt & Co 32,831

- Liquid measure. F. Lauzier 31,882
 Liquid meter. G. Leideman 30,560
 Liquid purification. Apparatus for. W. Oliphant 31,619
 Liquids. Method and apparatus for transferring. H. M. Close 32,023
 Load lifting sling catch. J. W. Provan 31,036
 Loader; see Cartridge. Hay.
 Lobster pound. J. R. Burns 31,353
 Lobster trap. G. Hurst 31,328
 Lobsters. Machine for catching. J. M. Forrest 31,327
 Lock; see Door. Gate. Latch. Mortise. Nut. Oar. Permutation. Rail. Sash. Seal. Sling. Whipl.
 Lock. Niel G. Dorensen 32,292
 Lock and latch. W. Kneen 31,892
 Lock case attachment. Oscar Stoddard et al 32,568
 Lock case attachment. O. Stoddard et al 31,963
 Lock. Folding door. C. Bouchard 31,054
 Lock for shut-off valves. G. B. Haines 31,890
 Lock hinge. M. A. Cutter 31,895
 Lock nut. G. A. Goodwin et al 31,297
 Lock or fastening for doors. Edward Wright 32,426
 Lock stitch. W. Carey 31,584
 Locking and unlocking railway points and signals, etc. Samuel T. Dutton 32,570
 Locomotive; see Brake. Electric. Lubricator. Multiple. Spark-arrester.
 Locomotive boiler. J. Sharkey 31,303
 Log; see Fire.
 Log lifting and turning machine. Flavel Simonson 32,945
 Logs; see Skidding.
 Loom; see Hand.
 Loom. Alwidi Urbahn 33,137
 Loom. J. L. Brook 31,360
 Loom for weaving narrow ware fabrics. Joseph. W. Green et al 32,903
 Looms. Lug strap holder for. T. Kindray et al 31,695
 Loop; see Radiator. Shingle.
 Looping; see Knitting.
 Looping and tufting attachment for sewing machines. Alice M. Perkins 32,550
 Loose pulley lubricator. Jay. B. Rhodes 33,092
 Lounge. W. L. Dossett 31,456
 Lubricating apparatus. H. O'Connell et al 31,055
 Lubricator; see Car. Loose.
 Lubricator. Benjamin O. Burgess et al 32,208
 Lubricator for locomotive engines. W. H. Craig 31,751
 Lumber lifting machine. Jean B. Nadean 32,802
 Lumber piler. C. D. Clarke 30,968
 Lumber on carts or waggons. Apparatus for loading. Jean B. Nadean 32,561
 Lumber trimming and assorting machine. Albert L. Lindermann 32,288
 Lustre bronze of different colours. Process for producing. L. Johnston et al 30,981
 Machinery and structures. Apparatus for recording the vibrations of. John Milne 32,354
 Mail bag. A. B. Quinan 31,021
 Mail bag rack and distributing table. S. Strange 31,841
 Mail box. Christ Reinhart 33,135
 Main spring for watches, etc. E. Kanthans 30,763
 Mallet. N. B. Runnals 31,764
 Mandrel; see Expansible. Roller.
 Manganese alloys. Process of obtaining. O. M. Thowless 31,406
 Man-holes; see Ventilation.
 Manure distributor. S. H. Garst 31,920
 Marble; see Artificial.
 Marine propulsion. W. M. Jackson 31,023
 Mariners' clock or watch dial. Silas Hatch Harding 32,420
 Marker; see Time.
 Marking folded piece goods with trade marks, and printing and colouring such marks, etc. G. B. Dewhurst 31,011
 Mast supporter. Joel Couch 33,056
 Master bar; see Evener.
 Match magazine and lighter. James S. Foley et al 33,222
 Mathematical puzzle. G. E. Briggs 32,041
 Matting; see Rubber.
 Matting hammer. Joseph Paquette 32,690
 Meal, flour, etc. Apparatus for sifting and sorting. Carl Hagenmacher 32,868
 Measure; see Grain. Liquid.
 Measuring apparatus for liquids. C. G. Molin 31,725
 Meat for transportation. Process for treating. J. W. Street 30,774
 Measuring; see Electric. Grain. Rotary.
 Measuring gage. Patrick H. Griffin 32,957
 Meat, etc. Machine for cutting. H. Albrecht 31,433
 Meat, eggs, butter, and fruit. Matter for preserving. J. S. Carveth 31,345
 Meats; see Smoking.
 Meats. Process of preserving. John D. Reed 32,291
 Mechanical accountant. American Arithmometer Company 30,577
 Mechanical annunciator. C. Wilmot et al 32,179
 Mechanical movement. Judson Pneumatic Street Railway Co. 32,169
 Mechanical movement. Henry Pincus et al 32,266
 Mechanical movement. S. Halliwell 30,770
 Medallions, etc. Composition for manufacturing. Charles F. Broadbent 32,973
 Medicinal; see Pulmonary.
 Medicinal compound. A. Roberts 31,824
 Medicinal compound. J. C. Gamble 31,134
 Medicinal compound. J. F. Lindgren et al 31,683
 Medicinal compound. M. McLeod 31,495
 Medicinal compound. Moses Courtemanche 32,390
 Medicinal compound. Wallace Dawson 32,342
 Medicine. J. E. and E. Bizzozere 30,859
 Medicine dial. M. B. Wesson 30,950
 Merry-go-round; see Roundabout.
 Merry-go-round. G. Sauerland et al 31,168
 Metal; see Sheet.
 Metal can, box, etc. G. A. Waeber 31,466
 Metal dies. Method and apparatus for swaging forms of. W. L. Price 32,151
 Metal railway tie. Benjamin W. Ellicott 32,488
 Metal sheet for making wash boilers. R. Chappell 32,127
 Metal washers. Machine for making. S. J. Shimer 30,565
 Metal wheel. H. R. Bothwell 31,472
 Metals; see Electro.
 Metals from refractory ores, etc. Process for extracting. E. de Rotterdam 31,158
 Metals. Machine for planing and shaping. H. Bertram 31,185
 Metallic flexible joint couplings. Thomas W. Moran 32,921
 Metallic glazing. John T. Pennycook 32,582
 Metallic ladder. J. R. Smith et al 31,477
 Metallic lathing. B. Greening Wire Co. 32,823
 Metallic lathing. C. Kinney 32,005
 Metallic lathing. J. Kinney 30,779
 Metallic lead into a salt suitable for white paint. Process of converting. John Blair et al 32,417
 Metallic railway. James Francis 32,962
 Metallic sulphate in solution. Manufacture of. Lucius O'Brien 32,532
 Metallic tubing to convert it into ornamental spheroidal and analogous forms. Process of treating. John Burkhardt et al 32,335
 Metallic wheel. George H. Everson 32,278
 Meter; see Electric. Fluid. Gas. Liquid.
 Meter for measuring electrical currents. W. H. Douglas 30,893
 Milk aerator. P. W. Strong 31,266
 Milk aerator and cooler. P. J. Millar 30,727
 Milk can. M. Schwarz 31,704
 Milk cooler and strainer. A. Bowdish et al 31,113
 Milk purifier. D. M. Macpherson 30,930
 Milk purifier. R. H. Casswell 31,069
 Mill; see Coffee. Fanning. Roller. Quartz.
 Mill stone. C. J. Potter 31,559
 Mineral compounds. Machine for mixing. Milton Broughton 32,432
 Mineral separator. J. A. Coombes 31,195
 Miners' pick. F. Schuman 31,047
 Mining. Machine for subaqueous. J. A. Mathews et al 31,445
 Mitering machine. William Murphy 33,025
 Moccasin boot fastening. O. Durocher 31,711
 Moistener; see Envelope.
 Mold for casting plates for storage batteries. Electric Storage Battery Co. 32,770
 Molds for casting cellular electrodes. C. H. Thompson 30,538
 Molding; see Confections.
 Molding machine. Charles L. Goehring 33,240
 Molding plane. Edward D. Johnson 32,930
 Moles; see Breakwater.
 Mop wringer. A. W. Burnham et al 31,423
 Mortise lock. O. R. Cooke 31,490
 Motive power. Apparatus for obtaining. Frederick W. Cleveland et al 33,141
 Motor; see Air. Dynamo. Electric. Electro. Heel. Railway. Water.
 Motor. F. J. Lawn 30,931
 Motor. W. Pearce et al 31,686

Motor engine. E. Quack.....	31,655	Oil. Matter for making. J. B. Freed.....	31,160
Motor engine operated by hydro-carbon vapor. W. D. and S. Priestman.....	31,599	Oil. Process of refining. Jesse A. Dubbs.....	32,264
Motor for cars. W. E. Porall.....	30,872	Oil spray lamp. G. Rose et al.....	31,753
Motor for sewing machines. Brosins International Sewing Machine Company.....	32,165	Oil tank. Elmer N. Bachelder et al.....	32,211
Motor for vessels. C. Desmarais.....	31,282	Oil wells. Method of increasing the yield of. O. Terp.....	31,106
Motors. Cylinder for hydraulic. W. Ross.....	30,960	Oil's. Process of refining. E. C. C. Mengel.....	31,188
Movement: see Electro. Mechanical.		Oliver. W. J. Stevens.....	30,793
Mover: see Car.		Omnibuses: see Fare.	
Mould: see Glass.		Opener: see Car.	
Mould for castings. F. D. Taylor.....	31,254	Opera chair. Louis E. Granger.....	32,519
Mouldings: see Caskets.		Optical device. E. A. Trapp.....	31,446
Moulding coal dust or small coal into solid blocks and apparatus to be used for this purpose. W. H. Lindsay.....	30,676	Ore concentrator. F. B. Morse.....	32,103
Mouth piece for pipes, etc. H. C. Rose.....	31,288	Ore concentrator. Thomas R. Garnier.....	32,710
Mower: see Lawn. Reaper.		Ore separator and amalgamator. L. Newcomb.....	30,736
Mower knives. Machine for grinding. The Mower Knife Grinding Co.....	32,970	Ores: see Gold. Metals.	
Mowing and reaping machine. J. T. and T. Jackson..	30,597	Ores auriferous. Auroargentiferous waste. J. Weirich.....	30,529
Mowing machine. Emerson Tulcott and Co.....	32,110	Ores, etc. Treating. E. H. Russell.....	31,767
Mowing machine. Warren Hill et al.....	33,040	Ores, etc. Treating the products of. E. H. Russell...	31,801
Muffling attachment for violins. W. Thompson.....	32,050	Ores. Process of reducing iron. G. M. Westman.....	31,776
Multiple motor electric locomotive. Charles J. Van Depoele.....	33,006	Organ: see Reed.	
Multiplication sums. Apparatus for calculating. P. C. Ilgen.....	31,572	Organ. H. Janes.....	31,742
Musical instrument. E. R. Norcross et al.....	31,476	Organ pedal. E. G. Thomas.....	31,679
Musical skipping rope handle. J. N. Pringle.....	31,379	Organ reed. C. N. Rand et al.....	30,868
Nail: see Horse.		Ornamental structures for monuments. Gabriel Konigsberg.....	33,075
Nail. Thomas B. Norgate et al.....	33,208	Ornamental hanging step ladder. A. Dormitzer.....	30,797
Nail, bolt, etc. American Screw Company.....	32,616	Ornamenting: see Watch.	
Nail driver. J. Patten.....	31,627	Oven: see Baking.	
Nail driver and set. W. C. Butch et al.....	32,042	Overflow deck nozzle. E. W. Spear et al.....	30,768
Nail extractor and box opener. Richard W. Rippeter	32,684	Overhead conductor. Charles J. Van Depoele.....	33,064
Nail feeding and distributing machine. Freeborn F. Raymond.....	32,205	Overhead contact and switch. Charles J. Van Depoele.....	33,000
Nail machine. M. H. Foster.....	31,840	Oyster knife. C. B. De Lamaone.....	30,571
Nails for shoeing horses, etc. Machine for making. Joseph M. Laughlin.....	33,163	Package: see Barrel. Butter. Shoe.	
Nails or nail blanks. Mechanism for feeding. J. A. Coleman.....	30,942	Packing and binding wood. T. V. Wheeler.....	30,619
Nailing: see Shoe.		Packing holder. C. Jenkins.....	31,721
Nailing machine for boots and shoes. Stillman W. Robinson.....	33,202	Pad: see Harness. Sweat.	
Name or sign plate. H. Wark.....	31,333	Paddle wheel. R. J. Jones.....	32,102
Neck yoke. J. Shatto.....	30,790	Padlock. Philip G. Woodward.....	32,861
Neck yoke fastener. Thomas Andress.....	32,943	Pail: see Dinner. Slop.	
Necks of glass bottles, etc. Machine for finishing the. Charles N. Brady.....	32,875	Paint: see Metallic.	
Necks of bottles. Machine for finishing. H. Temple et al.....	31,793	Paint. Samples of. F. H. Rose.....	31,616
Needle: see Pine. Wire.		Paintings on canvas, wood, etc. Process for obtaining by the aid of light. B. G. Bonnard.....	31,295
Needle case and wire carrier. J. La F. King.....	30,944	Pan: see Baking. Dust. Evaporating.	
New milk. Method of supplying to separating machines. S. Jönsson.....	31,732	Panel. H. A. Benedict.....	31,931
Nipper: see Police. Tool.		Panel door. A. McKay et al.....	30,841
Nozzle: see Overflow.		Paper: see Toilet.	
Nut. Elastic Nut Co.....	30,847	Paper bag. J. P. Onderdonk.....	32,075
Nut lock: see Anti-rattler. Rail.		Paper bag. James Arkell.....	32,352
Nut lock. David Steiner.....	33,007	Paper bag holder. Frank C. Helm et al.....	32,924
Nut lock. G. O. Hannah.....	31,162	Paper bags. Machine for making. A. Bolduc et al...	30,715
Nut lock. James Harris et al.....	32,857	Paper bags. Method of making striped. Kilgour Bros.....	32,336
Nut lock. J. D. Cleck.....	31,418	Paper cutter. American Roll Paper Co.....	32,441
Nut lock. L. A. Dion.....	31,606	Paper for carpet lining, etc. A. Gibb.....	32,946
Nut lock. Walter T. Ross.....	32,311 32,314	Paper garment. Richard C. Mudge Paper Co.....	31,038
Nut making machine. George Dunham.....	32,415	Paper pulp digester. H. W. Stebbins.....	33,077
Nuts, bolts, and set screws. Means for Locking. Thomas B. Grant.....	32,332	Paper machine. V. G. Hazard.....	32,114
Nuts. Manufacturing of. J. H. Burdich.....	30,690	Paper, machine for the manufacture of. James W. Hunt et al.....	31,743
Nuts or bolts. Means for locking. F. Purbrick et al.	31,500	Paper, Machine for ornamenting. C. G. Mortimer...	32,245
Oar lock. F. C. Lyon et al.....	30,657	Paper. Process for strengthening. W. H. H. Childs.	31,971
Ocean signal. Walter Thompson et al.....	32,256	Paper tubes. Machine for making. C. S. Tainter...	31,722
Octave coupler for pianofortes. Thompson and Shackell.....	30,846	Parallel ruler. Neil S. Phelps et al.....	33,012
Office tickler. F. E. Smith.....	30,756	Parallel ruler. William B. Blackhall.....	33,072
Oil: see Burning.		Parcel: see Store.	
Oil burner. L. Schutte.....	30,633	Paste: see Dry.	
Oil burning apparatus. George D. Streeter.....	33,027	Pavement. T. A. Ovens.....	30,967
Oil cup for lubricating. Edwin D. Bangs.....	33,017	Paving block cutting machine. Lorenzo T. Southworth.....	33,058
Oil extraction. Lever Brothers.....	33,183	Peas. Machine for cutting. J. Ney.....	31,237
Oil feed for lamps. C. Sieghold et al.....	31,056	Peat: see Fuel.	
Oil feeder. Robert B. Price.....	32,922	Peat fibre. Method and apparatus for utilizing. George H. Berand.....	32,867
Oil filter. David R. Ellis.....	33,031	Peat fuel. Apparatus for the manufacture of. Archibald A. Dickson.....	32,682
Oil heating stove. Augustus F. Zimmerling et al.....	32,246	Peat fuel. Machine for manufacturing. David Aikman.....	32,666
Oil lamp. John H. Ross et al.....	32,872	Peat fuel. Process for manufacturing. D. Aikman...	31,202
Oil lamps. Reversible movements for. Abel G. Heath.	32,813	Peat fuel. Process of manufacturing. A. A. Dickson.	31,201
		Pedal: see Organ. Sewing.	
		Pegging machine. Thomas Gare.....	32,396
		Pen: see Hog.	
		Pen. John J. Loud.....	32,643
		Pen for drawing stuffs. Reinhold Handel.....	32,350

Pen guide. J. Bergmann.....	32,175	Plough. W. A. Fairbanks.....	30,791
Pen holders. Ferdinand Knade.....	32,623	Plough clevis. J. Challen.....	31,226
Pencil sharpener. Benjamin N. Black.....	32,994	Plough for furrows. William Kaiser.....	32,394
Pencil sharpener. J. B. Bartlett.....	31,784	Ploughs, scarifiers and cultivators. Reversible share for. William Heithersay.....	32,399
Pencil sharpener. Thomas H. Stafford.....	32,492	Plow: see Cultivator. Ditching. Double. Side. Snow. Sulky.	
Pendulum: see Clocks.		Plow. A. Maitre.....	30,962
Percolator. J. W. Evans.....	31,164	Plow. G. B. St John.....	30,908
Permutation lock. E. J. Lander et al.....	30,825	Plow. James Kingdon.....	32,296
Pessaries. Charles B. Butler.....	33,095	Plow and cultivator. Edward Bartlett.....	32,277
Petroleum: see refining.		Plow and pulverizer. Sylvester T. and Columbus Johnston.....	32,307
Phosphoric acid. Methods of converting insoluble phosphoric acid in mineral and petrified phosphates into available. C. Graser et al.....	31,114	Plow colter. L. Walker.....	31,878
Phosphorus. Process for obtaining. James B. Reisman.....	32,355	Plow handle. S. J. Allen.....	31,587
Photographic dry plates. Machine for casting. M. Kattentidt.....	31,292	Plow point sharpener. F. Mungert et al.....	30,922
Photographic negatives and sensitive plates. Herbert Deverill et al.....	32,340	Plumbers' Traps. Return vent protector for. W. B. and P. Ryan.....	31,480
Photographic plate to be developed in water. L. Backelant.....	30,641	Pneumatic hammer. Frederick C. Brooksbank et al.....	32,589
Photographic process for printing in colors. J. C. Hosch.....	30,658	Pocket check book. Jacob Knauber.....	33,242
Photographic vignetter. Aaron W. Clark.....	32,979	Pocket fastener. B. Woodsford.....	31,565
Photographic washing apparatus. J. W. Dalrymple.....	32,152	Pocket knife. A. Wilzlin et al.....	31,194
Photographs, pictures, etc. mounted. R. H. L. Talcott et al.....	31,097	Point for switch rails. T. G. Palmer.....	31,992
Piano. Henry W. Smith.....	32,506	Pointing and cutting-off dies. American Screw Co.....	30,649
Piano action. Charles M. Richards.....	33,232	Poisons. Receptacle for. T. Mayhew.....	31,637
Pianoforte, etc. E. B. Nunn.....	30,758	Pole: see Safety. Vehicle.	
Pick: see Miners'.		Pole and thill for vehicles. George L. Clapp et al.....	32,344
Picker: see Fruit.		Poles, posts, rollers, etc. Manufacture of. David Wilson.....	32,729
Picket fences. Machine for making. Ezra E. Witter.....	32,733	Police nipper. G. Rome et al.....	30,602
Pictures: see Photographs.		Polisher: see Glass.	
Pictures. Art of Reflecting. C. E. O. Hager.....	31,033	Polishing cereals. Method of and machine for. W. Ager.....	32,153
Pigment: see Lead.		Polishing wood. Machine for. The Berlin Machine Works.....	32,168
Pillar: see Lumber.		Porous earthenware building material. W. Lenderoth.....	31,941
Pillow and cover. W. T. Doremus.....	32,144	Portable drilling machine. J. P. Halsey.....	30,740
Pills, etc. Device for holding and dipping. John B. Russell.....	32,863	Portable derrick. P. Rabbitt.....	30,725
Pills. Matter for the manufacture of. Heinrich A. Zoellner.....	33,229	Portfolio. A. Edwards.....	31,759
Pin: see Crank. Safety.		Portfolio. G. A. Auth.....	31,973
Pin tongue: see Hinge.		Post: see Base. Fence. Poles.	
Pinch bar. Spencer H. St. John.....	33,251	Posting and copying guide. Harry H. Love.....	32,836
Pine needles. Process of making fibre therefrom. W. Latimer.....	31,146	Postmarking: see Letter.	
Pipe: see Smoking. Stove. Tobacco.		Pot: see Coffee. Tea.	
Pipe casing or conduit. Arcalous and Ernest L. Wyckoff.....	32,300	Potato digger. A. Rigby.....	31,602
Pipe coupling for railroad cars. Edward E. Gold.....	32,429	Potato digger. Alexander Wilkin.....	32,259
Pipe coupling. Frederick G. Botsford.....	32,972	Potato digger. Alvin N. Woodward.....	32,491
Pipe couplings. McEvoy Car Heating Co.....	32,244	Potato digger. Cyrus Roberts.....	32,779
Pipe elbow. Charles B. Cooper.....	32,514	Potato digger and picker. Herbert Horner.....	32,462
Pipe for smoking tobacco, etc. Cigar holders, etc. S. Backles.....	30,600	Potato planter. A. W. Black.....	31,252
Pipe hanger. G. C. Blackmore.....	31,442	Potato planter. Hugo R. Freyer.....	32,573
Pipe hook. H. Lilley.....	30,956	Potato scoop. Joseph Vowels.....	32,964
Pipe or tube couplings. W. Martin.....	31,946	Pottery-machine for making hollow ware. R. Campbell et al.....	30,780
Pipe wrench. Beverly Reagan.....	32,432	Poultry fattening machine. William C. Williams.....	32,777
Pipe wrench. D. R. Porter.....	31,072	Powder dusting machine. E. A. Dodgson.....	30,562
Pipe wrench. J. Boland et al.....	31,132	Power: see Churn. Dog. Horse. Vapor. Trans-mitting.	
Pipe wrench. John W. Adams.....	32,878	Power. Machine for multiplying. J. W. Scott.....	31,610
Pipe wrench. Richard J. Robbins et al.....	33,192	Preserving: see Meat. Waterproofing.	
Pipes: see House. Reed. Sanitary. Wrench.		Preserving bodies. Process of. J. G. Meyers.....	30,828
Pipes. Machine for bending. H. E. Fowler.....	31,045	Press: see Baling. Copying. Griffer. Hay. Hydraulic. Printing. Racket.	
Pipes. Machine for bending and colling. H. E. Fowler.....	31,046	Press copying device. Hugo Thum.....	32,692
Plane: see Molding.		Press drill for planting grain. John W. Rhodes.....	32,213
Plane. W. Meister.....	31,372	Press for copying letters. W. J. Barnes.....	30,957
Planing: see Metals. Wood.		Presser foot hemmer. Alice La. G. Mayo.....	32,242
Plant protector. Ira E. Sherman et al.....	32,637	Prevention and consumption of smoke and consumption of fuel. Apparatus for the. L. and S. Jacobs et al.....	32,133
Planter: see Potato.		Price and inventory check. C. S. DeWitt.....	31,589
Plaster. G. M. Forde.....	31,757	Primary battery for electricity and solutions for charging the same. C. Norsworthy et al.....	32,017
Plastering composition. J. H. Fitzgerald.....	30,637	Primer: see Electric.	
Plastic compound. F. A. Meyer.....	30,686	Printers' copy holder. Edward Harmer.....	32,747
Plastic mixtures of clay, sawdust, etc. Apparatus for regulating the flow of. W. Lenderoth.....	31,666	Printers' type. J. G. Pavyer.....	32,129
Plate: see Clasp. Dental. Photographic. Fifth. Name. Storage.		Printing: see Photographic.	
Plate for drying steam. E. S. T. Kennedy.....	32,078	Printing apparatus. C. H. Deane.....	31,121
Plates. Process of producing relief. J. G. Armstrong.....	31,008	Printing. Polychromatic. G. White.....	30,943
Platform: see Step. Thrashing.		Printing press. William Dicks et al.....	32,743
Playing card. R. F. Foster et al.....	31,487	Printing presses. Folding machinery for. Opinion Manufacturing Co.....	32,906
Plough: see Plow. Snow.		Producer: see Electrical. Spray.	
Plough. D. Smith.....	31,268	Projectile or shell. F. H. Snyder.....	31,979
Plough. J. J. Collins.....	31,070	Proofing: see Fire.	

Protector: see Corner. Plant. Plumbers'.	
Pulley: see Expansion. Split.	
Pulley. A. E. Brackett.....	31,728
Pulley. Chester W. Clark et al.....	33,134
Pulley. E. Bovenslep.....	31,190
Pulley for hoisting apparatus, etc. S. G. Emerson.....	30,784
Pulmonary complaints. Medicinal preparations for. J. C. Gamble.....	31,161
Pulp: see Disintegrating.	
Pulp. Apparatus for pressing. F. B. Howard.....	31,629
Pulping engine. J. H. Annandale.....	32,021
Pulverizer: see Plow.	
Pulverizer. Joseph Behm et al.....	32,995
Pump, see Force. Rotary. Steam. Valve.	
Pump. August Reiling et al.....	32,498
Pump. W. H. McIntyre.....	30,607
Punch: see Belt. Check.	
Punch, shears and saw gummer. J. Schofield.....	31,352
Punching checks, drafts, etc. Machine for. W. D. Elger et al.....	30,767
Punching device. A. W. Payne et al.....	31,368
Punching machine. J. A. N. Rasmussen.....	31,250
Pure ice. Device for the manufacture of. Gustave Des Trois Maisons.....	33,084
Purification of water and apparatus therefor. William Anderson.....	33,074
Purifier: see Feed. Middlings. Milk.	
Purifying: see Water.	
Purse. L. Bisson.....	32,048
Puzzle: see Mathematical.	
Quartz mill. J. M. Bryan.....	31,376
Quick sand. Apparatus for raising. H. Stoltze.....	31,690
Quilting frame. H. D. Davis.....	31,186
Quilting machine. Eli W. Broadbent.....	32,907
Rabbit and carpet tacker. Elizabeth A. Rogers.....	32,224
Race course: see Coin.	
Race course. National Automatic Device Company..	32,576
Rack: see Advertising. Book. Coupon. Display. Mail.	
Rack for agricultural tools. F. A. Herrick.....	31,235
Racket holder and press. G. P. C. Holmes.....	30,824
Radiator: see Heat. Horizontal. Hot. Steam.	
Radiator. Anson Wolcott.....	33,129
Radiator. N. H. Barnes.....	31,320
Radiator. P. J. Kelly.....	30,589
Radiator. P. J. Kennedy.....	31,964
Radiator. Power & Co.....	32,366
Radiator. Robert W. King.....	32,629
Radiator coupling. William C. and Charles Sellers..	32,463
Radiator loops. Machine for assembling. H. H. Taylor.....	30,610
Rail brace. A. A. Strom.....	31,808
Rail brace. T. A. Griffin.....	31,147
Rail chair and coupling. R. Cardwell et al.....	31,124
Rail chair, fish-plate and nut-lock. G. Bowler.....	31,828
Rail joint. D. R. Atkinson et al.....	32,112
Rail joint. James M. Johnson.....	32,787
Rail joint. John W. Cloud.....	32,513
Rail joint unions. S. Tappen et al.....	30,625
Rails. Device for securing wire to railroad. F. Stitzel et al.....	31,241
Rails. Machine for reducing. S. McCloud et al.....	31,116
Railroad car. Wesley Klinker.....	32,541
Railroad crossing. J. T. Mabbey.....	31,449
Railroad frog. J. F. Hart et al.....	30,590
Railroad signal apparatus. Gustavus N. Reiff.....	33,173
Railroad snow plow. C. A. McCarthy et al.....	32,047
Railroad switch. Walter Nelson Knight et al.....	32,530
Railroad switch signal, etc. H. F. Parsons.....	30,747
Railroad tie. Alden C. Nickluz et al.....	32,322
Railroad tie. William W. Whitaker.....	32,322
Raisin seeder. J. E. Gammon et al.....	30,539
Raising or lifting heavy weights. Apparatus for. F. Landan et al.....	30,592
Railway, see Aerial. Elevated. Street. Metallic.	
Railway. J. Thomson.....	31,934
Railway brake shoe. R. F. Whalen et al.....	31,612
Railway car. G. M. Pullman.....	31,887
Railway car. G. P. Warren.....	30,852
Railway carriage doors. Means for closing and locking or unlocking. R. N. Montgomery.....	31,294
Railway carriages, etc. Apparatus for heating. J. Langfield.....	31,207
Railway cars. Flexible pipe coupling for. P. Lord et al.....	31,441
Railway cattle guard. J. T. Hall.....	31,251
Railway coach. Harris Palatial Car Company.....	32,540
Railway coach. R. S. C. Fuller.....	31,745
Railway chock. T. B. Rogers.....	31,820
Railway coupon ticket racks. G. Ross.....	30,722
Railway crossing. J. and M. Cumming.....	30,913
Railway frog. A. A. Strom.....	31,809
Railway frog guard. A. G. Campbell.....	32,081
Railway frog. J. A. Durvin.....	31,309
Railway rail joint. J. McKenzie.....	31,193
Railway motor. J. R. Valentine et al.....	31,424
Railway rail joint fastener. N. Rowen et al.....	31,486
Railway semaphores. Mechanism for operating. Robert Thompson et al.....	32,453
Railway semaphores. Operating mechanism for. Robert Thompson et al.....	32,760
Railway signal. C. D. Tisdale.....	31,950
Railway signal. T. P. Curry.....	32,004
Railway signal. W. Thompson.....	31,886
Railway signal. Lorenzo D. Williams.....	32,808
Railway signal. Pneumatic. J. K. Leedy et al.....	31,280
Railway signaling apparatus. Frank N. Kelsey et al.	32,767
Railway spike and method of making same. T. A. Davies.....	31,662
Railway station annunciator. Joseph A. Begin.....	33,177
Railway switch. E. Gordon.....	31,137
Railway switch. Gustavus N. Reiff et al.....	32,323
Railway switch. R. H. Isbell.....	31,139
Railway switch. S. Cameron.....	31,605
Railway switch. W. J. Kelly.....	31,918
Railway switch, frog and signal, etc. H. F. Parsons..	30,751
Railway ticket. P. E. McDonald et al.....	31,371
Railway ticket. W. A. Megrath.....	31,085
Railway time signal. C. Barry.....	30,926
Railway track cleaner or snow plough. L. J. Bergendahl.....	30,704
Railway trains. System and apparatus for heating. R. J. Wilson.....	32,088
Rake: see Horse.	
Rake attachment. J. Robertson.....	31,459
Range: see Cooking.	
Range and position fender. B. A. Fiske.....	30,742
Rasp and rasp punching machine. P. S. Stokes.....	31,307
Rasps: see Files.	
Ratchet drill. P. R. Erickson.....	32,184
Ratchet mechanism for seeding machine wheels. E. W. Summers.....	31,314
Razor sharpening machine. A. Dey.....	31,701
Razors. Device for sharpening. P. J. Caesar et al.....	31,478
Reaming machine. H. H. Taylor.....	31,088
Reapers or mowers. Attachment to. J. Richmond..	30,817
Reaping: see Mowing.	
Rear sight for fire-arms. D. V. Bean.....	31,385
Receiver: see Telegraph.	
Receiving coin and delivering a receipt therefor. Apparatus for. J. S. Clifford.....	31,758
Receipt: see Receiving.	
Recorder: see Indicator. Time.	
Rectifying chemical and apparatus therefor. Bogdan Hoff.....	32,265
Reducing: see Ores. Zinc.	
Reed: see Organ. Yarn.	
Reed and flue pipes for organs. John Stafford.....	32,505
Reed organ. M. S. Wright.....	31,648
Reel: see Fishing.	
Reel for fishing rods. John M. Kepler.....	32,931
Reel support for harvesters. John S. Davis.....	32,482
Refining: see Oil.	
Refining petroleum by distillation. Art or process of. E. C. C. Mengel.....	32,174
Refining sugar. Apparatus for. Alwin Baumgarth.	32,361
Reflecting. see Pictures.	
Refractory composition. Thomas B. Kerr.....	32,929
Refrigerating and freezing apparatus. L. Perkins.....	30,711
Refrigerating machine. Ehregott T. Winkler.....	32,933
Refrigerator. C. W. Trotter.....	31,068
Refrigerator. J. Swetitsch.....	31,772
Refuse furnace. H. W. Whiting.....	32,157
Register: see Addition, Cash, Workman's.	
Registering: see Water.	
Registering gauge for railway car brakes. R. Potts.	32,154
Regulating device for distributing pipes of hot air furnaces. T. G. Danless.....	30,787
Regulator: see Damper, Draft, Dynamo, Electric, Electro, Feed, Gas, Spinning, Tension.	
Regulator for dynamo electric machines. J. F. Kester et al.....	31,242
Regulator for electric currents. Joseph A. Vansant et al.....	33,093
Rein: see Driving.	
Rein for riding and driving. William H. Sergeant et al.	32,799

Rein support. W. T. Sims.....	32,115	Routing: see Grooving.	
Relay: see Telegraph, Telegraphic.		Rubber. Apparatus for washing and separating.	
Release: see Horse.		Nathaniel C. Mitchell.....	32,410
Renting opera glasses in theatres. Apparatus for.		Rubber boot. M. T. Wynkoop.....	31,403
J. W. Patterson.....	31,940	Rubber matting. J. D. Humphreys.....	30,933
Repeating fire-arm. J. P. Lee.....	31,938	Rubber. Mill for grinding and sheeting. Nathaniel C. Mitchell.....	32,409
Reservoir: see Water-closet.		Rubber shoe. W. T., T. H. & J. A. Smith.....	30,901
Rest: see Arm, Head, Spoon.		Rubber soles, etc. Machine for cutting. W. F. Wellman.....	31,050
Retainer: see Sand.		Rubber tooth brush. Herman E. Van Horne.....	33,169
Rheostat. J. L. Gish.....	31,577	Rubbing: see Types.	
Rheostats resistance for electric circuits. E. W. Rice.	30,677	Rule: see Dress.	
Rheumatism: see Cure.		Rule holder. Mike Murphy.....	32,650
Rheumatism, bruises, etc. Liniment for. Euphemia A. McLennan.....	33,009	Ruler: see Parallel.	
Rifle sight. W. H. Grindley.....	31,169	Ruler. J. K. F. Knade.....	32,099
Rifler: see File.		Runner. E. K. Van Gorden.....	31,800
Ring: see Curtain.		Runner frame for sleighs, etc. F. W. Hofele.....	31,468
Ring. C. H. Knight.....	31,556	Running gear for vehicles. Frank Dupee.....	32,207
Rivet set and header. W. Lawe.....	31,407	Rye. see Rolled.	
Rivetting machine. John F. Allen.....	32,588	Sack: see Bag. Catamenial.	
Road cart. C. G. Thyng.....	31,843	Saddle: see Harness.	
Road cart. Charles C. Hays.....	32,731	Saddle frame. F. Gross.....	32,079
Road cart. George W. Brabb et al.....	32,525	Saddle tree and panel. A. W. M. Keen.....	30,820
Road cart. Loring M. Smith.....	33,236	Sadd iron heater. Thomas W. McFarland.....	33,162
Road cart. Nelson H. Hill.....	32,591	Safe: see Screw.	
Road cart. Robert D. Scott.....	33,231	Safes or strong rooms. Locking mechanism for. F. E. Wilson.....	31,150
Road cart. Timothy Doland.....	32,996	Safety oil burner. H. Schreiner et al.....	31,609
Road cart or two wheeled vehicle. W. B. Altech.....	30,558	Safety pin. Edward McConwell et al.....	32,830
Road scraper. Hugh O'Hara.....	32,936	Safety pole and shaft. J. P. Kline.....	31,995
Road scraper. J. H. Wiles.....	31,028	Safety switch. Louis Dunn.....	32,295
Road scraper. Mary P. Lomont.....	32,801	Salt. Apparatus for the manufacture of. J. L. Alberger et al.....	31,856
Rock drill. H. C. Sergeant.....	30,883	Salts: see Aluminium.	
Rock drills and analogous machines. A. J. Sypher.....	32,192	Sand: see Quick.	
Rocking horse. George W. Wade.....	32,526	Sand and like bars and banks. Apparatus for removing. J. M. B. Baker.....	32,036
Rod: see Lightning, Wire.		Sand band and wheel retainer. Franklin E. Peebles.....	32,489
Rod mill. Henry Roberts.....	32,912	Sand papering machine. W. E. Spoor.....	31,706
Roll: see Cloth, Drawing.		Sanitary and drain pipes. Compound for the manufacture of. Bertel E. Olsen et al.....	32,416
Roll for converting old rails into angle iron. A. Vaughan.....	31,654	Sap evaporator. Clark Wall et al.....	32,481
Roll shutter list. August Bockel et al.....	32,701	Sash cord fastener. E. W. Abbe.....	31,130
Roll wrapping paper-holder cutter and printer. Frank C. Helm et al.....	32,902	Sash fastener. Kingsforth Graburn.....	32,987
Rolled rye. Edward B. Mower.....	32,775	Sash fastener. Lewis A. Brown.....	32,703
Roller for levelling snow and roads. J. B. Babcock.....	32,126	Sash lock and holder. R. J. Buchanan.....	31,460
Roller mandrel. S. P. M. Tasker.....	31,783	Sash weight. A. M. Culloch.....	31,775
Roller mill. J. A. McAnulty.....	30,631	Saw: see Cross. Filing. Veneer.	
Roller mill. J. B. Murphy et al.....	30,606	Saw. W. Bundy et al.....	31,583
Roller Mills, Feed grate for. H. M. Whitney.....	31,506	Saw. William Atkinson.....	33,155
Roller shade holder. Wyant Manufacturing Co.....	32,926	Saw. W. T. Wilson.....	31,925
Rollers: see Land, Posts.		Sawdust: see Cleaning.	
Rolling: see Wire.		Saw gummer. James F. Brower.....	32,324
Rolling screw threads. American Screw Co.....	30,729	Saw gummer and sharpener. M. J. Welch.....	31,561
Rolls of roller grain mills. Machine for feeding grain to the. Henry R. Shaw.....	32,841	Saw gummer, shears and punch. Luke Riley.....	32,883
Roof: see Freight.		Saw gummer, shears and punch. Luke Riley.....	31,136
Roof slates. Fastening for. O. W. Norcross.....	31,555	Saw mill. H. P. Heacock.....	31,232
Roofing: see Lining.		Saw mill dog. J. Flesher.....	30,816
Roofing compound. F. T. Tinning.....	31,049	Saw set. D. Stewart.....	32,124
Roofing tool. Walter Kerby Patrick.....	32,780	Saw set. E. Taylor.....	32,603
Root cutter. Frederick H. Fairweather.....	32,803	Saw set. Joseph E. Whiting.....	31,249
Root cutter. Walter W. Loughly.....	33,116	Saw set. S. J. Laughlin.....	30,878
Rope grip. Arthur K. Evans.....	32,660	Saw set. W. N. Harsen et al.....	30,878
Rope twisting machine. Dovercourt Twine Mills Co.....	33,188	Saw set. W. R. Gillett et al.....	30,952
Ropes or strands. Machinery for forming and keeling. M. H. Day.....	31,990	Saw swage. W. T. Morrill.....	31,708
Rosette for Harnesses. E. F. Pflinger.....	31,386	Saw swaging machine. J. B. Rhodes.....	32,062
Rosettes: see Cutter.		Saw table gage. F. M. Teegarden.....	32,428
Rosettes, etc., in wood. Machine for manufacturing. J. McElroy.....	31,225	Saw-tooth. Inserted. Frederick W. Cook.....	31,350
Rotary bolt. J. M. Case.....	31,313	Saws. Machine for setting. J. Hewitt.....	
Rotary cutting knife. J. M. Butters.....	30,603	Sawing: see Band. Barrel. Drag. Horizontal.	
Rotary engine. E. Raymond.....	30,556	Sawing machine. John De Graff.....	33,219
Rotary engine. George H. Weston.....	32,958	Scaffold bracket. Everett A. Brace.....	32,475
Rotary engine. J. B. Harris.....	32,159	Scaffold bracket. J. A. Long.....	30,674
Rotary engine. J. F. Hines.....	32,007	Scale: see Dress.	
Rotary engine. J. M. Farmer.....	31,791	Scale. J. H. Milburn et al.....	30,765
Rotary engine. Marcellus A. Buford.....	32,516	Scale divider and section liner. A. C. Both.....	31,300
Rotary measuring instrument. R. J. Buchanan.....	31,155	Scale for weighing cars and recording the weights. Automatic. E. H. Amet.....	30,639
Rotary plow. Joseph Drader.....	32,661	Scales: see Automatic. Steam. Weighing.	
Rotary pump. O. Seifert.....	31,898	Scallop turner. John Foster and Co.....	32,669
Rotary snow ploughs. Attachments to. Canadian Pacific Railway Company.....	30,621	Scarf holder. Henry W. Atwood et al.....	33,078
Roundabout: see Merry-go-round.		Scarf protector. J. H. Moyer.....	31,622
Roundabout. F. W. Allohin.....	30,900	Scavenging incinerator. R. Oulmette et al.....	31,390
Roundabout. T. C. Lidster.....	31,760	School bag. J. E. Edwards.....	31,440
Round reins, bridles, winker braces, etc. Process of manufacturing. A. Lobdell.....	31,400	School desk, etc. Elijah Hanley.....	32,433
		Scoop: see Potato.	
		Scoop for gas retorts. A. Runge.....	32,030
		Scoop shovel. J. B. McMurchy.....	31,009

- Scourer : see Grain.
 Scourer. Knife, fork and spoon. W. Robertson..... 31,007
 Scouring : see Dyeing.
 Scraper : see Road.
 Scraps : see Hides.
 Screen : see Umbrella. Window. Wire.
 Screen and storm door. John K. Wiesendanger et al 32,778
 Screen for car windows, etc. James Reid Steele et al 32,330
 Screw : see Drive. Jack. Wood.
 Screw door safe. Phineas F. King..... 33,157
 Screw propeller. A. D. Hall et al..... 31,173
 Screw swaging machine. American Screw Co..... 32,654
 Screw tapping machine. H. H. Taylor..... 31,123
 Screw threading machine. H. H. Taylor..... 30,536
 Screw threading sheet metal pipes. Machine for. Ferdinand F. Voigt..... 33,160
 Screws. Machine for rolling. American Screw Co... 32,645
 Screws. Mode of forming screw threads on. American Screw Company..... 32,614
 Scythe. H. H. Warren..... 31,647
 Scythe. J. B. Revoller..... 31,833
 Sea wall : see Breakwater.
 Seal : see Casting.
 Seal lock. E. Meise..... 31,447
 Seal lock. W. A. Fustbrook..... 31,444
 Sealing : see Letters.
 Seam for sheet metal. E. J. Dolan..... 30,549
 Seat : see Bath. Berth. Car. Cart. Hinge. Spring. Vehicle.
 Seat for pew ends. Extension. G. F. Bambridge.... 37,412
 Seats, doors, lids, etc. Mechanism for controlling the motion and use of. B. Hallett..... 31,983
 Secondary : see Transformers.
 Secondary battery. Electric Storage Battery Co..... 33,153
 Secondary battery. Hiram H. Carpenter..... 32,914
 Secondary battery. O. C. Flick..... 31,310
 Secondary battery. Victor H. Ernst..... 32,380
 Secondary battery. Frame for supporting the plates of a. United Electric Improvement Co..... 32,646
 Seed cake or cattle food from cotton seed. Manufacture of. Robert S. Baxter et al..... 32,392
 Seed drill. J. H. Downing..... 31,243
 Seed sower and clod crusher. John W. Self..... 32,636
 Seeder : see Hand. Raisin.
 Seeding attachment for disk harrows. J. J. Rogers et al..... 31,905
 Seeding machine. Willard A. Van Brunt..... 32,847
 Self locking gate. William H. Ardiell..... 32,249
 Self registering and checking apparatus for trams, etc. T. Gregory..... 32,145
 Semaphore. J. M. Kirby et al..... 31,529
 Semaphore signal. Gustavus N. Reiff..... 33,172
 Semaphore signal. The American Semaphore Co..... 32,132
 Semaphore switch signalling apparatus. A. Barnes.. 31,796
 Semaphores : see Railway.
 Separating checks, etc., from their stubs. Implementation for. A. H. Cridge..... 31,763
 Separator : see Elevator. Electro. Grain. Coffee. Cream. Mineral.
 Separator. John M. Finch et al..... 32,919
 Separator for steam pipes. Sinclair Stuart..... 32,351
 Service : see Store.
 Setting : see Tree. Window.
 Setting of plaster, etc. Compound to restrain the. George R. King..... 32,450
 Sewage, etc. Treatment of. H. Wollheim..... 31,508
 Sewage, etc. Treatment of. W. Webster..... 31,730
 Sewerage : see House.
 Sewer gas trap. H. C. Montgomery..... 31,209
 Sewers : see Drains. Ventilating.
 Sewing : see Broom. Button. Looping. Tension. Trimming.
 Sewing machine. Chappell, Allen and Co..... 33,096
 Sewing machine. Charles Goodyear..... 33,081
 Sewing machine. J. Boppel..... 30,786
 Sewing machine. M. Lachman..... 31,052
 Sewing machine. Singer Manufg Co..... 30,585
 Sewing machine attachments. Alice La. G. Mayo... 32,243
 Sewing machine pedal. A. A. Laviolette..... 31,481
 Sewing machine pedal. O. Feher..... 31,481
 Sewing machine shuttle. C. Raymond..... 31,458
 Sewing machines. Attachment for. Chappell, Allen and Co..... 32,670
 Sewing machines. Platting attachment for. Eli W. Broadbent..... 32,928
 Shade : see Lamp.
 Shades, maps, etc. Device for securing. Phlander A. Harris..... 32,889
 Shaft : see Indicator. Flexible. Safety. Steam. Step.
 Shaft attachment for vehicles. Robert Sproul..... 32,536
 Shaping : see Metals.
 Share : see Ploughs.
 Sharpener : see Jointer. Pencil. Saw.
 Sharpening stone cutting tools. Device for. E. England..... 30,635
 Sheaf carrier and band cutter. D. McEwen..... 31,039
 Shearing : see Sheep.
 Shears : see Anvil. Punch.
 Shears. F. J. Cooper..... 31,344
 Shears. H. Pattison..... 30,771
 Sheath for book covers. Charles Henry Caryl..... 32,664
 Sheep, horses, etc. Apparatus for shearing and clipping. F. G. Wolseley..... 32,116
 Sheet metal sign. Alois Winkler..... 32,881
 Sheet metal. Manufacture of. E. and O. W. Norton 32,194
 Sheet metal working machine. E. Hawes..... 32,155
 Shell : see Projectile.
 Shell. James J. Moore..... 32,834
 Shield for garments. A. Taylor..... 30,969
 Shingle binding loop. George H. Waring..... 32,980
 Shipping book. Hugo Loewenbach..... 32,413
 Shipping can. J. F. Harland..... 31,199
 Ships. Mode of propulsion of. C. Desmarais et al... 32,136
 Shirt. H. W. Messer..... 30,552
 Shirt wrist band. W. E. Howell et al..... 31,220
 Shoe : see Boot. Boat. Brake. Laced. Railway. Snow.
 Shoe clasp. Thomson J. Letal..... 30,547
 Shoe for horses and other animals. Charles J. Jutson et al..... 32,231
 Shoe lacing hooks. William H. Smidt..... 32,641
 Shoe nailing machine. Oerlin R. Chaplin et al..... 32,768
 Shoe pack. John Moffatt..... 32,282
 Shoe sole. Guillaume Bolvin..... 33,052
 Shoe vamp. Cyrille Rouette..... 32,886
 Shoe vamp. Jean L. Peltier..... 33,021
 Shoes. Machine for sewing. Charles Culley..... 32,721
 Shots or spheres of fragments of iron, steel and metal. Process and apparatus for producing. L. Keyling 31,580
 Shovel : see Scoop. Snow.
 Show-case : see Cabinet.
 Show case. William C. Rood..... 32,938
 Shuttle : see Sewing. Tension.
 Sickle bar for harvesters. William H. Palmer..... 33,050
 Side dresser : see Jointer.
 Side hill plow. John D. Burkhart..... 33,026
 Side spring for vehicles. J. F. Thomas..... 30,891
 Siding gudge. S. G. Hosack..... 31,171
 Steve. Morris Lary..... 33,097
 Sieve scalper. J. H. Craig..... 32,131
 Sifter : see Ash.
 Sifting : see Grain.
 Sight : see Rear. Rifle.
 Sight for firearms. Eben J. Cutler..... 33,091
 Sight for firearms and ordnance. Robert Gaskin..... 32,723
 Sign : see Name. Sheet.
 Signal : see Air. Audible. Electric. Railroad. Railway. Ocean. Semaphore. Train.
 Signal apparatus for railways. J. Hill et al..... 31,410
 Signal bomb. R. H. Earle..... 31,322
 Signal for railway and other purposes. C. H. Koyl... 30,614
 Signal for railways. J. Penice..... 30,799
 Signal for steamboats. C. C. Roe..... 31,694
 Signal lantern. George C. Westervett..... 32,993
 Signal lights for vessels. J. W. Coulston..... 30,728
 Signalling : see Electric. Railway. Semaphore. Telephony.
 Signalling lantern. John William Hayward..... 32,414
 Silver : see Gold.
 Singl-tree. J. R. Freeland..... 31,401
 Siphon. J. C. Orr..... 31,187
 Siphon. Michael Siersdorfer..... 32,490
 Skate : see Ice creeper.
 Skate. Hermann Heinze..... 33,053
 Skate. J. Forbes..... 30,706
 Skate. John H. Young..... 32,728
 Skew back. W. Lenderoth..... 31,664
 Skid : see Elevator.
 Skidding saw logs. Appliances for. W. W. Williams 31,906
 Skins : see Hides.
 Slabs : see Blocks.
 Slat fastener. Miley B. Wesson..... 32,238
 Slate : see Roof.
 Sled brake. A. Anderson..... 30,691
 Sled. Adolphe Tode..... 32,200

Sled. J. H. Edward	31,838	Spring bed. J. Belanger	31,010
Sled. Lynam B. Pickett et al.....	32,239	Spring seat. H. S. Hale.....	30,889
Sled. Samuel L. Allen.....	32,845	Spring seats and foot rests for vehicles. L. Warren..	30,669
Sled brake. J. R. Holt	31,493	Spring for vehicles. A. E. Cook.....	30,638
Sled propeller. Frederick Robbin	32,569	Spring rocker gear and centre bearing spring for rock- ers, etc. H. G. and W. W. Portmann	31,653
Sleds. Means of propelling. George Gog	32,393	Spring stay. G. N. Clark	30,623
Sleeper. H. Hipkins	31,581	Spring teeter gear for children's carriages. H. G. and W. W. Portmann	31,900
Sleigh: see Bob. Runner. Sled.		Spring tooth harrow. R. A. Rose	31,174
Sleigh. John D. Thomas.....	33,060	Spring vehicles. H. A. Moyer.....	31,375
Sleigh. Seth C. Felt.....	32,782	Spring vehicle. H. W. Pell	31,889
Sleigh and sled. Albert H. Sawyer.....	33,206	Sprinkler. A. Waeber.....	31,567
Sleigh knee. A. Bostick	31,153	Sprinkler. Joseph Clapp et al.....	32,325
Sleigh knee. Sherwood Hall et al.....	32,574	Sprinkling lawns. Machine for. Phillip Grant.....	32,896
Sleigh runner attachment for wheeled vehicles. D. G. Wyth	31,899	Squeezer: see Lemon.	
Slide valve. P. L. Lafrance.....	31,048	Stamp; see H and. Envelopes. Time.	
Slide valve. William A. Robinson.....	32,510	Stamp cancelling and post marking machine. Inter- national Postal Supply Co.....	32,367
Sling: see Hay. Load.		Stamping device for cuff blanks. F. B. Ide.....	30,654
Sling lock. S. G. Emerson.....	32,180	Stand: see Barrel. Hinged. Holder. Lamp. Switch. Watch.	
Slop jar. F. Haberman.....	30,835	Standing contact arm. Charles J. Van Depoele.....	33,195
Slop pall. Henry Carter et al.....	32,908	Stapling instrument. Benjamin W. Buxton.....	32,667
Slop pall. Roderick H. Lewis et al.....	32,822	Starter: see Car. Tram.	
Smoke: see Prevention.		Station: see Telephone.	
Smoke consumer. George T. Tinkham et al.....	32,575	Station indicator. J. F. O'Brien.....	30,836
Smoke consuming fire device for boilers. Bernhard Muller.....	32,309	Station indicator. J. R. Angel	31,380
Smoke stack for locomotives. Perry J. Brown.....	32,418	Statistics. Apparatus for compiling. H. Hollerith...	30,902
Smoking meats. Apparatus for. Isaac C. Copeland..	32,985	Stave. J. W. Chapman	31,191
Smoking pipe. J. Brindle.....	31,839	Stay: see Dress. Garment. Spring.	
Smoothing and sad iron heater. A. Schmitt.....	31,922	Steam: see Plate.	
Snap: see Whiffletree.		Steam and hot water radiator. E. Baine et al.....	30,700
Snap hook. Philetus A. Waldron.....	33,119	Steam. Apparatus for generating. Société des Gén- érateurs a Vaporisation Instantanée.....	32,766
Snap link. V. A. Coleman.....	31,671	Steam boiler. E. S. Winnett.....	31,071
Snow guard. T. O'Gara et al.....	32,015	Steam boiler. Frank C. Sturges.....	32,578
Snow plate for horse shoes. Arthur D. Hamlin.....	32,520	Steam boiler. George Kingsley.....	32,480
Snow plough: see Railway.		Steam boiler. H. Hackney	30,640
Snow plough. J. W. Haughwout.....	31,670	Steam boiler. T. E. Button.....	32,046
Snow plough. Eldridge J. Godard	33,227	Steam boiler. The Dominion Safety Boiler Co.....	32,218
Snow plow. J. Vincent.....	31,888	Steam boiler. W. T. Bate	31,419
Snow plow. O. Jull.....	31,679	Steam boiler, etc. Joseph A. Eno.....	32,503
Snow plow. Owen A. Clark	33,235	Steam boiler and furnace. J. H. Annandale.....	31,348
Snow plow. O. Williams.....	31,883	Steam boiler and furnace. William S. Post et al.....	32,952
Snow plow. William H. Deadman.....	32,609	Steam boiler furnace. J. Good.....	31,351
Snow shoe strap. A. T. Winter	31,107	Steam boiler furnace. William R. Roney	32,897
Snow shovel. J. R. McLaren	32,082	Steam boiler setting. M. E. Hersley et al.....	30,731
Socket: see Incandescent. Spoke.		Steam boiler and furnace. J. W. and J. Oldroyd.....	31,308
Sofa bed. O. and H. Langlois	30,720	Steam boilers. Composition for removing and pre- venting scales in. R. D. Blair.....	30,838
Solar bath. S. D. Evans et al.....	32,170	Steam boilers. Process for the removal and preven- tion of scales in. Richard H. Cooper.....	32,965
Soldering: see Cap.		Steam engine. George Dalton.....	32,527
Soldering iron. James A. Ferns.....	32,888	Steam engine. F. D. Child.....	30,904
Soldering machine. E. J. Dolan.....	31,253	Steam engine. F. H. Laforge et al.....	31,258
Sole and heel plate. L. N. Beauchemin.....	31,621	Steam engine. Flora Williams	32,458
Soles: see Rubber. Shoe.		Steam engine. James McAllister	32,302
Solid or liquid substances over land. Pneumatic machine for distributing. G. F. Strawson.....	31,259	Steam engine. Joseph A. Mumford.....	32,258
Sound recording tablet. Charles S. Talbot.....	32,892	Steam engine. J. T. Case	30,587
Sounds. Method of recording and reproducing. Gianni Bettini.....	32,873	Steam engine. Joseph W. Dennis et al.....	32,444
Spark arrester. R. H. Coleman.....	30,673	Steam engine. Nathan H. Edgerton.....	32,925
Spark arrester for coal burning locomotives and other engines. R. H. Coleman	30,675	Steam engine. R. McNaughton.....	31,702
Spark arrester, smoke consumer and fuel saving de- vice. R. W. Smith.....	32,009	Steam engine. Samuel E. Jarvis.....	32,871
Spark conductor. Kent H. Carper.....	32,753	Steam engine. William Gelb.....	32,257
Sparkling effect for advertising, etc. Means for pro- ducing. E. and F. Smith.....	31,453	Steam engine crank shafts. Instrument for testing. J. Paterson.....	31,996
Spectacle or eye-glass. August Morek	32,735	Steam engine governor. John W. Brown et al.....	32,967
Spike: see Hook. Ladder. Railway.		Steam engine valve. A. Folton	30,662
Spike. W. Goldie	31,181	Steam engine. Crosshead for. T. Kingsford.....	31,000
Spike pointing machine. William Goldie.....	33,151	Steam generator. George Henry Taylor	32,579
Spikes. Method of pointing. William Goldie.....	33,152	Steam generator. Heine Safety Boiler Co.....	31,964
Spinners: see Feed. Hemp.		Steam generator. J. A. Eno	31,264
Spinning and twisting machine. Johann Boelsterl..	33,164	Steam generator. Samuel W. Ludlow.....	32,635
Spinning and twisting. Apparatus for driving spindles in machinery for. C. W. Jones.....	31,427	Steam generator. William H. Rushforth	32,722
Spirits and regenerating the purifying agent. Process for purifying crude. M. C. A. Ruffin.....	31,698	Steam generators. Connection for. Walter Burnham	32,774
Splinter bar: see Doubletree.		Steam generators. Connection of. William Irving...	32,788
Split pulley. J. M. Pollard et al.....	31,993	Steam heater. H. Sperl.....	31,073
Split pulley. Peter McNaughton	33,142	Steam injector. The Hayden and Derby Manufactur- ing Co.....	32,425
Spoke socket. Melvin L. Smith.....	32,456	Steam injector. F. J. Sweeney	30,906
Spoons. Method of manufacturing. Emerson P. Brownell	32,386	Steam pump. D. B. Burnham	30,730
Spoon: see Scourer. Inking.		Steam pump. E. C. Johnson	31,939
Spoon rest. H. H. Abbe	31,163	Steam radiator. T. C. Joy	30,886
Spray oil burner. W. C. Flisk et al.....	31,315	Steam trap. J. Corell	31,578
Spray producer. A. De Vilbiss	31,027	Steam trap. William L. Blake.....	32,319
Spring: see Bed. Car. Door. Flat. Vehicle.		Steamer: see Grain. Milk.	
		Steaming: see Washing.	

- Steel: see Coating.
- Steel. R. J. Tilford et al..... 30,973 30,974 30,978
- Steel. Compound for improving. C. Schafer..... 30,745
- Steel. Manufacture of. M. Graff..... 30,762
- Steel. Method of treating low. H. A. Harvey..... 30,757
- Steering apparatus for vessels. J. H. Snelling..... 31,454
- Stencil drum. J. Parish..... 32,193
- Step: see Extensible. Folding.
- Step bearings for shafts. C. A. Johansson..... 31,243
- Step or platform. Frank H. Stanwood..... 32,236
- Stereotype and electrotype plates. Machine for bevelling. John Manning..... 32,657
- Stereotype plates. Machine for separating, trimming and grooving. J. R. Cummings..... 31,501
- Stiffening blade. Ira De Ver Warner..... 32,359
- Stitching: see Button.
- Stockings. Art of knitting. W. Esty et al..... 31,739
- Stool. G. Scott..... 31,373
- Stone: see Artificial. Brick.
- Stone. Artificial. George M. Ford..... 32,400
- Stone, etc. Machine for cutting. H. Young..... 31,094
- Stop cock. M. M. Forester..... 31,262
- Stop valve. R. and J. Wellens..... 30,914
- Stopper: see Bottle. Cork.
- Stopper for bottles and means for securing it. E. L. Blake et al..... 31,196
- Stopper for bottles, pots, jars, etc. Henry L. Phillips..... 32,199
- Stopping bottles, jars and other vessels. W. Shepherd..... 30,559
- Storage battery plate. C. D. P. Gibson..... 31,631 31,632
- Storage battery. Harry E. Dey..... 32,655
- Storage battery. Thomas J. Haslam..... 32,596
- Store service apparatus. H. Herbert..... 30,653
- Store service apparatus. James R. Haight..... 32,935
- Store service apparatus. W. E. Springsteen..... 30,760
- Stove: see Coal. Furnace. Gas. Heating. Hot. Oil. Straw.
- Stove. Alfred McPheeters Sanders..... 33,014
- Stove. D. Moore Co..... 32,850
- Stove. F. D. Taylor..... 31,933
- Stove. J. McMaster..... 31,641
- Stove. Ophni L. Gadowry..... 32,483
- Stove. R. Bogue..... 31,913
- Stove drum. M. G. McEwen et al..... 31,802
- Stove drum. Robert O. Dobbin..... 32,464
- Stove. Petroleum oil. J. A. Vagner..... 30,894
- Stove pipe. J. O. Thorn et al..... 30,620
- Stove pipe damper and ventilator. John W. Campbell..... 32,740
- Stove pipe thimble. A. Staub..... 31,382
- Stove or furnaces. Means of heating schools, churches and halls from ordinary. Joseph Millard..... 32,535
- Strainer: see Milk.
- Straining device for steam traps. W. Haythorn..... 30,892
- Strap: see Shoe.
- Straw burning stove. Thomas J. McBride..... 32,562 32,563 32,564
- Straw burning cook stove. Thomas J. McBride..... 32,618
- Straw cutter. A. La Marsh..... 30,910
- Straw cutter. C. A. Pettet..... 30,876
- Street or station indicator. W. P. Williams et al..... 31,881
- Street railway. Judson Pneumatic Street Railway Co..... 32,567
- Stretcher: see Fence. Folding.
- Stretching: see Carpets.
- Stringed instrument. J. L. Ximenes..... 31,999
- Strip for window shade rollers. Abram B. Dunkle..... 32,533
- Submarine telegraph cables. J. C. L. Leoffler..... 30,726
- Sucking cushion. Otto Horig..... 32,683
- Substances in a state of fusion. Method and means of electrolysis of. M. Killani..... 31,798
- Substation: see Telephone.
- Sugar: see Refining.
- Sugar and granulated matters. Apparatus for drying. D. Stewart..... 30,946
- Sugar cane: see Car.
- Sugar evaporator. Reid P. and James S. Small..... 33,140
- Sulky. J. Barsalow..... 31,042
- Sulky plough. A. Coon..... 30,823
- Sulky plough. Cyrus Ross..... 32,547
- Sulky plough. J. Marr..... 30,708
- Sulky plough. N. Lampman..... 30,685 30,743
- Sulphate of lead pigments. Apparatus for the manufacture of. James B. Hannay..... 32,891
- Support: see Carriage. Doors. Rein. Water.
- Supporter: see Abdominal. Mast.
- Surgery: see Veterinary.
- Surveying: see Tripod.
- Sunken vessels. Device for securing hoisting chains to. Joseph A. Sloan..... 33,013
- Sunshade for vehicles. Letitia V. Luce..... 32,560
- Suspender: see Arched. Hooked.
- Suspender. B. Goodman..... 31,504
- Suspender. E. B. Stimpson..... 31,452
- Suspender. J. E. Atwood..... 31,741
- Suspender belt. George Van Duzer..... 33,158
- Suspender end. Tom B. Pell et al..... 32,956
- Suspender end and clasp button. William L. Doran..... 32,229
- Suspenders. Detachable fastening for. E. F. Paramore..... 31,293
- Suspension. Device for electric railway conductors. Charles J. Van Depoele..... 33,070
- Suspension file box. M. R. Jewell..... 31,608
- Suspensories. A. J. Wells..... 32,006
- Sweat pad. E. F. Pflueger..... 31,387
- Sweat pad fastener. E. F. Pflueger..... 31,034
- Sweat pad hook. F. S. Derr..... 30,953
- Swimming machine. J. Malo..... 32,191
- Swing: see Barrel.
- Swing. Alexander W. Little..... 32,378
- Swing. H. H. Fowler..... 32,059
- Switch: see Crossing. Electrical. Electric. Railway. Railroad. Overhead. Safety. Tie rod.
- Switch. M. Leary..... 30,920
- Switch rail chair. A. A. Strom..... 31,804 31,819
- Switch stand. A. A. Strom..... 31,804 31,810 31,811
- Swivel for flag halyards. H. B. Thompson..... 30,995
- Swivel. Oneida Community..... 31,703 31,928
- Synchronous movements and telegraphy. P. B. Delany..... 30,645
- Synchronous multiplex printing telegraphy..... 30,644
- Syringe. J. W. Kirkwood..... 32,066
- Syringe for hand fire extinguisher. A. L. Pitney..... 31,746
- Syrup: see Cough.
- Table: see Bedstead. Billiard. Concentrating. Envelope. Extension. Mail. Sound.
- Table for playing skittles. James S. Burroughes..... 33,046
- Table machine for sewing, knitting, etc. Driving gear for. P. A. Dolhis..... 31,650
- Tablet for graphophones. C. S. Tainter..... 31,409
- Tablet for indelible ink marking. W. A. Weed..... 31,691
- Tablet for receiving sound records. C. S. Tainter..... 31,397 31,397
- Tacker: see Rabbet.
- Tally: see Grain.
- Tank: see Flushing. Oil. Water.
- Tank. Hugh W. Harry..... 33,161
- Tank. Liquid storage. S. F. and A. Bowser..... 30,684
- Tanning: see Leather. Water.
- Tanning. W. Zahn..... 31,312
- Tap: see Water.
- Tap. Henry C. Willmott et al..... 32,885
- Tapping: see Screw.
- Tapping attachment. J. T. Halsey..... 30,985
- Tar: see Burning.
- Target. David Ouellet..... 32,991
- Target. J. Paterson..... 31,101
- Tea and coffee pot. A. H. Bowman..... 31,269
- Telautograph. E. Gray..... 30,839
- Telegraph: see Electric. Fire-alarm.
- Telegraph circuits. Operation of long line. David H. Keeley..... 33,008
- Telegraph receiver. Charles Selden..... 32,639
- Telegraph relay. F. Sützel et al..... 31,067
- Telegraphic: see Insulator.
- Telegraphic instrument. Charles G. Burke..... 32,975
- Telegraphic relay. P. B. Delany..... 30,643
- Telegraphy: see Synchronous. Telephony.
- Telegraphy. E. Gray..... 30,812
- Telegraphy. Apparatus for the employment of vibratory electricity in. C. L. Davies..... 31,115
- Telephone: see Elbow. Transmitter.
- Telephone. George F. Shaver..... 33,211
- Telephone and electric systems. A. B. Ferdinand..... 31,041
- Telephone call box. Amenzo Griffith et al..... 32,334
- Telephone central station apparatus. T. N. Vail et al..... 31,749 31,748
- Telephone exchange signalling. T. N. Vail et al..... 31,720
- Telephone substation apparatus. T. N. Vail et al..... 31,750
- Telephone system. Fred A. Holcomb et al..... 32,368
- Telephone transmitter. Robert D. Unger et al..... 33,083
- Telephonic communication system. C. F. Lise..... 31,342
- Telephony and Telegraphy. C. L. Davies..... 31,603
- Tell tale: see Time.
- Temperature: see Electric.
- Temporary binder. G. A. Harvie..... 31,389
- Temporary binder. J. Dornbrirer..... 31,299
- Tension regulator for spinning machines. P. L. Kenney et al..... 31,278

Tension releasing device for sewing machines. W. Haydon	31,087	Tram car starter. A. A. Watkins	32,003
Tension weight for shuttles. H. Kelly.....	32,166	Tram cars: see Self.	
Tetrachloride of carbon. Manufacture of. Lever Brothers.....	33,146	Transfer system of electrical distribution. E. Thomson.....	31,535
Textile surgical dressings. Method of packing anti-septic. Edwin L. Wood.....	32,691	Transformers. Method of regulating current or potential on secondary of. E. Thomson	31,770
Thermo canter and instrument for administering anaesthetics. William H. Beach.....	32,862	Transmitter: see Electro. Telephone.	
Thermometer. W. F. Brewster.....	31,502	Transmitter for telephones. J. Straton	31,340
Thermostat. E. H. Davis.....	30,890	Transmitting motion. Machine for. S. D. Kinsey...	31,910
Thermostat. H. Courtland	32,097	Transmitting power. Device for. T. W. Lemieux...	31,893
Thermostat. R. Westervelt.....	30,897	Transom lifter. Charles C. Mitchell.....	32,717
Thill: see Pole. Vehicle.		Transplanting: see Tree.	
Thill. E. J. Hagan.....	31,700	Transplanting implement. T. R. Coon et al.....	31,267
Thill coupling. George Worrall Lee et al.....	32,856	Trap: see Animal. Lobster. Sewer. Steam.	
Thill coupling. W. T. Ross	32,083	Trap. W. F. and G. C. Denman ..	31,261
Thill coupling. Joseph H. and Jean M. Richardson..	33,126	Tray: see Dough. Lime.	
Thill couplings. Lewis Miller et al.....	32,512	Treadle. J. H. Whitney.....	30,987
Thill couplings. S. B. Castle et al.....	31,902	Treating hides, skins, etc., in liquids. Apparatus for. Charles W. Cooper.....	32,201
Thill coupling. Anti-rattler for. The Selle Gear Company	32,612	Tree and plant setting machine. T. A. Sutton.....	31,470
Thimble: see Axle. Sleeve. Wall.		Tree. Double and whiffle. J. and B. Bear	30,598
Thrashing machines. Band cutter platform for. Alfred B. Leeper.....	32,408	Tree transplanting waggon. W. A. Estes	31,223
Thrashing machine. A. Kleinstiver et al.....	31,926	Trees. Machine for uprooting. J. F. Foulke.....	31,273
Thrashing machine. F. T. Landis	31,991	Trimmer: see Hoof.	
Throat or lung complaints. Apparatus for healing. L. Weight.....	30,975	Trimmer for lumber. M. Garland.....	30,927
Thread holder and cutter. M. E. West.....	32,054	Trimming attachment for sewing machines. J. W. Dewees.....	31,593
Threading: see Bolt. Screw.		Tricycle. George Pinkert.....	33,051
Ticket: see Railway.		Tripletrees. Equalizer for. Phelps Evans.....	82,329
Tickets. Apparatus for issuing, recording and numbering. R. J. H. Rastrick	31,588	Tripod head for surveying instruments. W. D. Johnson.....	31,635
Tie: see Bags. Metal.		Truck: see Car. Drum. Hand. Waggon.	
Tie rod for switch rails. A. A. Strom.....	31,806	Truck jack. Beriah Riddell.....	32,704
Tile: see Brick. Illuminating.		Truck and bag holder. J. Wilson.....	31,289
Till: see Curb.		Trunk. H. W. Rowntree.....	31,090
Timber with antiseptic or preservative fluid. Method and apparatus for treating. S. B. Boulton.....	31,638	Trunk lid. Harriet Stephens.....	33,073
Time detector. G. B. Fessenden.....	33,311	Trunks, etc. Appliance for addressing. Joseph A. Begin	33,088
Time index marker. H. Wissemann et al.....	31,988	Truss. G. W. Bell.....	31,474
Time piece. M. V. B. Ethridge et al.....	30,813	Truss. J. R. Melony.....	30,755
Time recorder. A. Dey.....	31,787	Tube cleaner. David K. Strachan	32,681
Time stamp. E. H. Rogers, Jr.....	30,861	Tube expander. A. B. Jardine and Co	30,575
Tip: see Gas. Vehicle.		Tube for Mosaic embroidery. R. A. Bonnan.....	32,113
Tire: see Wheel.		Tubular lantern. J. Lind.....	31,488
Tire heating apparatus. W. Hassman	31,510	Tubular lantern. Joseph B. Stetson	32,548
Tire truing machine. T. J. Reid.....	32,142	Tubing: see Hose.	
Tiring wheels. T. J. Reid.....	30,863	Tubes: see Paper.	
Tool: see Combination. Drilling. Roofing. Sharpening.		Tubes. Machine for closing ends of metal. J. P. Kennedy	31,832
Tool and tool holder. William H. Laguire	32,312	Tug holder. Arden D. Kimball.....	33,061
Tool for breaking ice. Alexander W. M. Moore.....	32,597	Tunnel. C. W. Wetmore	30,826
Tool hands. System for fastening. Julius Weiss.....	32,648	Tunnels. Method of constructing. Luther Beecher...	32,389
Tool or nippers. Combination. J. Sponseller	31,301	Tuyere: see Blacksmith.	
Tooth: see Cultivator.		Twine holder. W. C. Riesberry	31,435
Tooth. Artificial. E. A. Floyd.....	31,285	Twine and device for making the same. J. Lyall.....	30,646
Tobacco: see Cutting.		Twine holder for grain binders. David Gabel.....	32,786
Tobacco box. A. D. Kimball.....	31,325	Twine or cord. Machine for finishing. J. Cheyne...	31,311
Tobacco cutter. Theophile Coté.....	32,984	Twisting: see Spinning.	
Tobacco. Device for moistening. J. McPherson.....	31,491	Two-wheeled vehicle. Charles A. Ellison.....	33,226
Tobacco pipe. Charles E. Darling et al.....	32,374	Two-wheeled vehicle. H. Malmberg.....	31,977
Tobacco pipe bowl. W. S. Blake.....	31,211	Type: see Printer.	
Toe-tp: see Heel.		Type pounding machine. Francis Keehn.....	32,644
Toilet paper. C. D. Chase.....	30,682	Type writer. A. Downey	31,133
Tongue depressing insufflator. Joseph D. Osborne....	32,730	Type writer. Elliott G. Thorpe.....	32,251
Top: see Carriage.		Type writer. J. de la C. Escobar	31,361
Tow boat. Alexander McDougall.....	32,940	Type writing machine. D. Allen.....	31,318
Toy. Charles M. Crandall.....	33,241	Type writing machine. F. D. Taylor et al.....	32,032
Toy. E. F. Lane et al.....	31,058	Type writing machine. Mortimer G. and Charles E. Merritt	32,634
Toy. Frederick Oakley.....	32,241	Types. Art of forming justified lines of. Lanston Type Machine Co	30,581 30,582 30,583
Toy. Frederick W. Dennis	33,112	Types. Machinery for rubbing. G. S. Eaton et al....	31,738
Toy. John A. Goodwin.....	32,553	Ultramarine and furnace and apparatus thereof. Process of manufacturing. Leon J. B. A. J. Bouillet	32,615
Toy. Joseph S. O'Brien	32,381	Umbrella: see Handle. Hinged.	
Toy gun. George H. Weston.....	33,122	Umbrella stand and folding screen. Frank J. Darlington et al.....	32,698
Toy picture. C. Heller.....	31,319	Undervest: see Knitted.	
Toy windmill. Alcidas E. Morin.....	32,387	Unions: see Rail.	
Trace. George W. Fall.....	32,220	Upper: see Boot.	
Trace buckle. E. R. Leilein.....	32,011	Upper for shoes, etc. J. Fortin.....	31,216
Trace buckle. Vincent A. Coleman.....	32,507	Upright piano case. Richard M. Bent.....	32,384
Trace chain. Oneida Community.....	32,806	Urethral powder applicator. C. E. Sage.....	31,057
Trace holder. George L. Hydorn	32,260	Utensil: see Cooking. Culinary. Household.	
Traction engine. George T. Glover.....	32,422	Vacuum brake. J. Gresham	30,993
Traction engine. H. D. Smith et al.....	31,029	Vacuum evaporating apparatus. H. T. Yaryon.....	32,189
Tractor. George H. Edwards.....	32,893	Valve: see Air. Balanced. Drain. Fire. Lock. Slide. Steam.	
Trade mark: see Marking.			
Train signal. Albert C. Griggs.....	33,170		

Valve. H. A. Goll..... 30,566
 Valve. Palmer Albert Montgomery..... 32,853
 Valve. W. E. Wood..... 31,822
 Valve and governor. John M. Foster..... 32,986
 Valve controller. E. H. Davis..... 30,898
 Valve for engines. Henry C. Sergeant;..... 32,206
 Valve for steam engines. W. J. Allen..... 31,659
 Valve for steam pumps, etc. B. R. Patten..... 31,908
 Valve gear. Robert Whitehill..... 33,184
 Valve gear for engines. J. Grime..... 32,084
 Valve gear. Non-eccentric. M. J. Welch et al..... 31,643
 Valves to air break hose couplings. Devices for operating and closing. J. H. Porter et al..... 30,717
 Vamp: see shoe.
 Vapor engines or motive power apparatus. Composition of liquids for use in generating vapors etc. to work. M. Blumrich..... 30,710
 Vaporizer: see Hydro.
 Vaporizer. G. M. Sherman..... 30,811
 Vaporizing apparatus. H. F. Williams..... 31,592
 Varnish: see Ivory.
 Vats: see Faucet.
 Vehicle: see Camping. Gear. Jump. Running. Sleigh. Spring. Two-wheeled.
 Vehicle. Culver G. Thyng..... 32,927
 Vehicle. Jacob G. Kenyon..... 32,898
 Vehicle axle. Buffalo Patent Axle and Wheel Co..... 33,156
 Vehicle axle. W. H. Wright..... 31,816
 Vehicle dash. Lachlan E. McKinnon..... 32,776
 Vehicle hub. Thomas J. Reid..... 33,228
 Vehicle hub. T. J. Reid..... 32,960
 Vehicle pole. Homer A. Burt..... 32,755
 Vehicle pole tip. George T. Wilson..... 32,594
 Vehicle poles. Safety attachment for. C. W. Eunsen et al..... 31,391
 Vehicle seat. Harlan P. Wells..... 33,178
 Vehicle seat. Joseph F. Goodrich..... 32,900
 Vehicle spring. Edward L. Norfolk..... 33,048
 Vehicle spring. E. M. Van Valkenburg et al..... 31,398
 Vehicle spring. J. Diehl..... 31,921
 Vehicle spring. William E. Powers..... 32,678
 Vehicle thill. G. A. Hynds..... 31,944
 Vehicle wheel. A. P. Ricard..... 30,588
 Vehicle wheel. J. E. Fisher..... 30,696
 Vehicle wheel. Melville B. Malmrin..... 32,397
 Vehicle wheel. William J. Holland..... 33,174
 Vehicles: see Evener. Spring.
 Vehicles. Attachment for. Charles C. Graham..... 32,954
 Vehicles. Elastic draft for. A. B. Webster..... 31,473
 Vehicles. Holdback for. G. T. Wilson..... 31,484
 Vehicles on train and railway. Application of electricity to. F. Wynne..... 32,026
 Vehicles. Running gear for. T. G. Mandt..... 31,524
 Vending apparatus. J. A. Williams..... 31,955
 Vending apparatus. J. M. O'Kelly..... 31,607
 Veneer. H. Silver..... 32,101
 Veneer saw. Dietrick P. A. Morsing..... 32,944
 Ventilator: see Stove. Wall.
 Ventilator. Brisbane M. Turnbull..... 32,988
 Ventilator. H. G. Fox..... 31,128
 Ventilating device. A. G. Stevenson..... 30,851
 Ventilating man-hole for sewers. Thomas W. Morgan..... 32,272
 Ventilation: see Window.
 Ventilation of man-holes for sewers. Thomas W. Morgan..... 32,272
 Vessel: see Cooking. Electric. Signal. Sunken.
 Vessels. Means for propelling. Clifton Vose..... 32,424
 Vestibule car. John Krehbiel..... 33,127
 Vestibule car. Newell P. Cowell..... 33,175
 Vestibule car. T. E. Thompson et al..... 30,718
 Vestibule connection. Pullman Palace Car Co..... 31,965
 Veterinary surgery. J. W. Benedict..... 31,334
 Vignetter: see Photographic.
 Village cart. L. Burg..... 32,171
 Vulcanizer. Edward B. Crane..... 32,230
 Vulcanizing wood. Method of. S. E. Haskin..... 31,916
 Wadding and gauze, etc. Substance consisting of a combination of. Martin Chotzen et al..... 32,593
 Waggon: see Farm. Tree.
 Waggon jack and truck. W. Beckert..... 30,857
 Waggon reach coupling. E. S. Cushman..... 31,829
 Wagon. W. C. Nason..... 31,091
 Wagon brake. Fred Rice..... 32,790
 Wagon brake. W. Aylesworth et al..... 32,068
 Wagon jack. J. V. Thompson..... 31,144
 Wall: see Finish.
 Wall hangings, etc. Manufacture of. Samuel Fisher..... 32,431

Wall ventilator and stove pipe thimble. J. P. Ekstrom..... 31,788
 Warming, scalding and refrigerating liquids. Machine for. L. Watson..... 31,777
 Wash boiler. Arthur P. Thissel et al..... 32,435
 Wash board. G. P. Fuller..... 31,436
 Washer: see Metal.
 Washing machine. A. F. Kempton..... 31,122
 Washing machine. A. W. Burke..... 31,919
 Washing machine. Henry Broadwell et al..... 32,365
 Washing machine. Hiram H. Gifford..... 32,331
 Washing machine. H. O. Kelsey et al..... 31,492
 Washing machine. J. J. O'Neill et al..... 31,170
 Washing machine. James Lachlin Welr..... 32,333
 Washing machine. J. H. Jones..... 30,395
 Washing machine. Joseph Mayor..... 32,807
 Washing machine. Lewis N. Campbell et al..... 33,201
 Washing machine. W. H. Goss..... 31,617
 Washing machine. W. J. M. Causland..... 30,830
 Washing machine. W. Shedlock..... 32,053
 Washing and steaming machine. H. J. F. Rose..... 31,399
 Washing clothes. Machine for. W. Fowler..... 31,416
 Watch: see Mainspring.
 Watch. A. Amaron..... 31,957
 Watch. A. H. Potter..... 31,658
 Watch case. E. F. Heffernan..... 31,537
 Watch case. F. Ecaubert..... 31,505
 Watch case. Gaspard Schelker..... 32,419
 Watch case centres. Method of ornamenting. Robbins & Appleton..... 32,471
 Watch case centres. Means for ornamenting. W. Hoffmann..... 31,740
 Watch case lid. F. Ecaubert..... 32,001
 Watchman's time detector. E. H. Davis et al..... 31,044
 Watch mechanism, etc. F. Leman..... 31,648
 Watch stand. Richard Bresch..... 32,202
 Watch with transparent body. H. Rime..... 31,657
 Water: see purification.
 Water cleansing and tanning. Matter to be used in. Thomas L. Simmons..... 32,819
 Water closet. David L. Dwinell et al..... 32,197
 Water closet cisterns. Appliances for. Henry Whitaker et al..... 32,711
 Water closet and reservoir therefor. Smith E. Hughes..... 33,100
 Water closet, etc. flush. Miller Brothers and Toms et al..... 32,452
 Water closets. Pneumatic flushing tank for. J. E. Boyle..... 31,165
 Water cock. H. D. Medrick..... 30,687
 Water conductors. Support for. J. Davis..... 31,526
 Water current motor. A. A. Besemer et al..... 32,071
 Water guage cock. Nels A. Svensson..... 32,595
 Water heater. C. G. Jewett..... 31,790
 Water heater. Eugene N. Gates..... 33,218
 Water heater. George C. Blackmore..... 32,628
 Water heater. Herbert E. Harrington..... 33,054
 Water heater. James Pullen..... 32,968
 Water heater. Newell P. Andrus..... 32,559
 Water heater. T. G. G. Mouat et al..... 32,094
 Water heater. Warden King..... 32,499
 Water heater. William A. White et al..... 32,321
 Water. Means for purifying. J. Davis..... 31,781
 Water motor. H. E. Trumble..... 30,864
 Water motor. Hezekiah Brown..... 32,552
 Water or fluids. Apparatus for registering the flow of. H. H. Sporton et al..... 31,149
 Waterproof and anti-corrosive compound for coating ships. A. Andrews et al..... 30,555
 Watermarks and waterprints. Preparation of. James Husnik..... 32,443
 Water pipe for eave troughs. Charles Brodeur et al..... 32,395
 Water power. Means for obtaining. D. B. Long..... 31,768
 Water. Process and apparatus for purifying. A. R. Leeds..... 31,789
 Water proof fabrics, etc. Vulcanization of. H. H. Waddington..... 31,623
 Waterproofing; see Ivory.
 Waterproofing and preserving materials. Process for. Charles F. Hime et al..... 32,739
 Waterproofing compounds. C. T. Snedekor..... 30,612
 Water tap. Francis H. Hyde..... 32,227
 Water tank. J. Skinner et al..... 32,167
 Water tube boiler. John Wood..... 32,694
 Water wheel. Albert P. Brayton..... 32,918
 Water wheel. J. F. Evans..... 31,016
 Water wheel. L. M. and O. N. Morin..... 31,018
 Water wheel. Universal Water Power Co..... 32,252

Water works. Robert Cooke Sayer.....	32,465
Wax end needle. J. T. Smith	31,878
Weather strip. John E. Jones	32,293
Weaving: see Circular.	
Welgher: see Grain.	
Weighing: see Grain.	
Weighing bridges and weighing engines. P. Guel- laumim	30,934
Weighing and price scales. J. E. Pitrat.....	32,025
Weighing machine. G. P. Skipworth.....	32,002
Weighing scale. Robert Emmett Glover.....	32,357
Weight: see Raising, Sash.	
Weir: see Fish.	
Welding: see Electric.	
Welding compound. Hiram G. Hicks.....	32,741
Well curb. J. T. Lenoir.....	32,149
Wells: see Artesian.	
Whale bone: see Ivory.	
Wheel: see Fifth. Gear. Ratchet. Metallic. Paddle. Vehicle. Water.	
Wheel. A. Gillies.....	31,286
Wheel. T. J. Rice.....	31,443
Wheel. W. A. Smith et al.....	31,152
Wheel for vehicles, etc. James Arnot.....	33,019
Wheel for velocipedes. Charles J. Reynolds.....	32,605
Wheel for vehicles. Thomas Heddon et al.....	32,847
Wheel hubs and axles. Mechanism for detachably connecting. A. F. C. Garben.....	30,572
Wheel metal. R. H. Bothwell.....	31,472
Wheel tire. W. B. Morris.....	31,591
Wheels: see Tiring.	
Whiffletree: see Hook.	
Whiffletree. Johnson Ellis.....	32,796
Whiffletree. J. H. Willey.....	31,795
Whiffletree hooks. G. T. Wilson.....	30,721
Whiffletree snap. A. E. Eysaman.....	32,172
Whiffletree. Tug fastening for. C. S. Newsom et al	31,305
Whip, robe lock and line holder. H. Martin et al.....	31,755
Whistle. James R. Eldridge et al.....	32,496
Whistle actuating mechanism. W. Rymer.....	32,087
White lead. Ralph W. E. MacIvor.....	32,524
Wind engine. Arthur S. Clark.....	32,235
Windlass. Adolph Voss.....	32,430
Wind mill: see Balanced. Toy.	
Wind Mill. J. B. Foster.....	31,932
Wind mill. N. P. Hess et al.....	31,099
Wind mill derrick. T. O. Perry.....	30,788
Winding gears. Apparatus for equalizing the strain on. G. Lansell.....	31,037
Winding wire with covering material. Machine for. James B. Atherton.....	33,224
Window blind fastener. G. J. Frost et al.....	31,365
Window blind slats. Device for holding the connect- ing bar of. Marquis L. Hall.....	32,599
Window glass setting. J. V. Anth.....	31,234
Window screen. W. J. Horton.....	31,884
Window ventilation. N. McDonald et al.....	31,536
Wine machine. Andrew and Herman Wehrle.....	32,577
Winker: see Round-rein.	
Winker-fork. E. B. Knapp.....	30,924
Wire: see Fence.	
Wire belting. Thomas Midgley et al.....	32,763
Wire body for hose. T. Midgley et al.....	31,966
Wire carrier: see Needle.	
Wire cloth holder. W. A. Tea.....	31,246
Wire coupling. W. Bainbridge.....	31,756
Wire cutting and crimping apparatus. T. Connors.....	30,694
Wire drawing machine. Herbert Smith.....	33,110
Wire. Machine for cold rolling. H. A. Williams.....	31,773
Wire. Machinery for drawing. A. S. and T. Bolton.....	32,037
Wire rod mill. Henry Roberts.....	32,913
Wire rope. B. Greening Wire Co.....	32,917
Wire screen. D. Wesemann.....	31,425
Wire screen. J. Burkhardt et al.....	30,564
Wire screen, and means for securing wire gauze in screen frames. D. Wesemann.....	31,426
Wire stretcher. Frederick J. Townsend.....	33,205
Wire working apparatus. David Rawson.....	32,204
Wiring: see Corking, Wood.	
Wood: see Polishing, Vulcanizing.	
Wood. Artificial. B. Harrass.....	30,896
Wood carrier. E. W. Payne.....	31,182
Wood fences. Device for wiring. Ahira Jones.....	32,809
Wood fibre. Machine for making. Louis Arbey.....	32,686
Wood for the manufacture of cellulose and apparatus therefor. Method of sorting. L. Piette.....	31,025
Wood indestructible. Composition for rendering. D. H. Cameron.....	31,813

Wood to form boards, staves, etc. Machinery for cut- ting, grooving and bevelling. G. A. Oncken.....	31,231
Wood planing machine. J. Ross.....	31,924
Wood planing machine. MacGregor, Gourlay & Co... 32,713	32,713
Wood Screw. American Screw Co. 32,617 32,651 32,765.....	32,948
Wood screw and drive screw. American Screw Co.....	32,653
Wood turning machinery. Daniel H. Bacon.....	33,176
Wood working machine. G. Hughes et al.....	31,157
Wood working machine. S. F. Tibbetts.....	30,672
Wood and other fibrous materials. Means for dyeing. Charles Vandermeirrsche.....	32,343
Wool, etc. Apparatus for cleansing. G. and A. Bur- nell.....	30,752
Workman's time register. William K. Bassford et al	33,086
Woven fabrics. Machine for inserting diagonal strips into. H. B. Morris.....	31,520
Wrench: see Bit. Carriage. Pipe.	
Wrench. Caleb S. DeWitt.....	32,797
Wrench. Peter R. Erickson.....	33,032
Wrench. Joseph Williams et al.....	32,794
Wrench. Vincent John McDonnell.....	33,033
Wrench. W. C. Worthen et al.....	31,613
Wrench for pipes. D. R. Porter.....	30,994
Wringer: see Clothes. Mop.	
Writer: see Type.	
Yarn dyeing. Leonard Weldon.....	33,193
Yarn reel. G. Titus et al.....	32,070
Yoke: see Breast.	

INDEX OF PATENTEES.

Abbe, E. W. Sash cord fastener.....	31,130
Abbe, H. H. Spoon rest.....	31,163
Abbott, R. C. Ice creeper and skate.....	30,940
Abel, Frederick A. et al. Explosive.....	32,219
Aber, Daniel G. Wheel for vehicle.....	33,020
Abrahams, J. W. Water conductor and support.....	30,979
Acheson, Edward G. et al. Device for protecting elec- tric conductors.....	32,460
Ackerman, William J. et al. Burglar alarm.....	32,851
Adams, John W. Pipe wrench.....	32,878
Adams, W. H. et al. Anvil shears for cutting metal..	32,076
Ager, W. Method of and machine for polishing cereals.....	32,153
Aikman, David. Machine for manufacturing peat fuel.....	32,666
Aikman, D. Process for manufacturing peat fuel.....	31,202
Ajax Envelope Co. Envelope or bag machine.....	31,552
Alberger, L. R. et al. Apparatus for the manufacture of salt.....	31,356
Albrecht, H. Machine for cutting meat, etc.....	31,433
Albright, M. M. et al. Musical instrument.....	31,476
Aldridge, James George W. Berths and seats for ships and railway cars.....	32,261
Alfred, J. W. Dumping car.....	31,837
Allehin, F. W. Roundabout.....	30,900
Allen, C. W. Bag holder.....	31,217
Allen, C. W. Fire escape.....	30,905
Allen, D. Type writing machine.....	31,318
Allen, John F. Rivetting machine.....	32,588
Allen, P. Machine for constructing fences.....	30,699
Allen, S. J. Plow handle.....	31,587
Allen, Samuel L. Sled.....	32,845
Allen, W. J. Valve for steam engines.....	31,659
Allen, W. R. Cutter head, etc.....	31,994
Allison, W. D. et al. Reclining and operating chair.	30,723
Allyn, J. H. Fire grate.....	31,684
Almy, Bradford et al. Pole and thill for vehicles....	32,344
Altick, W. B. Road cart or two wheeled vehicle.....	30,553
Alton, G. H. et al. Incandescent lamp and socket.....	31,051
Alves, John. Concentrating table.....	32,501
Amaron, A. Watch.....	31,951
Ambler, W. et al. Glass bottle.....	30,546
American Arithmometer Company. Mechanical ac- countant.....	30,577
American Roll Paper Co. Paper cutter. 32,946 32,947 32,441.....	32,472
American Screw Co. Blank heading die.....	32,014
American Screw Co. Blank supporting device for screw threading machines.....	30,578
American Screw Co. Die for swaging drive screws..	32,613
American Screw Co. Horse shoe nail.....	32,949
American Screw Co. Machine for rolling screw threads.....	30,729

American Screw Co. Machine for rolling screws.....	32,645	Bachelor, Elmer N. et al. Oil tank.....	32,211
American Screw Co. Mode of forming screw threads upon screws	32,614	Backelandt, L. Photographic plate to be developed in water.....	30,641
American Screw Co. Nails, bolts, etc.....	32,616	Bachus, S. Connection with pipes for smoking tobacco and other substances, cigar holders, etc.....	30,609
American Screw Co. Pointing and cutting off dies.....	30,649	Bacon, Daniel H. Wood turning machine.....	33,176
American Screw Co. Screw swaging machine.....	32,654	Bacon, E. S. Ladder spike.....	30,977
American Screw Co. Wood screw, 32,617 32,652 32,705	32,948	Bailey, A. H. Clam extracts and process of making the same.....	30,570
American Screw Co. Wood screw and drive screw.....	32,653	Bailey, Charles H. Dinner pail.....	32,874
American Semaphore Co. Device for securing wire to railroad rails.....	31,241	Baillairge, C. Illuminated fountain.....	31,127
American Semaphore Co. Electric semaphore.....	33,041	Bainbridge, W. Wire coupling.....	31,756
American Semaphore Co. Semaphore signal.....	32,132	Baines, E. et al. Steam and hot water radiator.....	30,700
American Semaphore Co. Telegraph relay.....	31,067	Baird, A. et al. Invalid bedstead.....	32,118
American Telephone and Telegraph Co. Electric circuit.....	31,842	Baird, A. and M. B. et al. Oil spray lamp.....	31,753
American Watch Case Co. Watch case.....	31,537	Baird, Oliver et al. Machine for repressing bricks.....	32,715
Amet, E. H. Automatic scale for weighing cars and recording the weights.....	30,639	Baker, F. Lamp, lantern, etc.....	30,945
Amsden, Henry F. Cash register.....	33,187	Baker, James S. Hame fastener.....	32,754
Andersen, Anders. Machinery for manufacturing clips on horse shoes.....	32,539	Baker, J. M. B. Apparatus for removing sand bars, etc.....	32,036
Anderson, A. Horse shoe.....	31,985	Baker, Loran E. et al. Whistle.....	32,496
Anderson, A. Sled brake.....	30,691	Baldwin, C. W. Elevator.....	30,842
Anderson, Frank S. et al. Regulator for electric currents.....	33,093	Bambridge, G. F. Extension seats for pew ends.....	31,412
Anderson, James. W. Force Pump.....	32,234	Bangham, R. et al. Garden hoe.....	31,430
Anderson, John B. et al. Head rest.....	32,953	Bangs, Edwin D. Oil cup for lubricating.....	33,017
Anderson, J. P. et al. Bucket elevator for flouring mills.....	32,034	Bardsley, J. Gas regulator.....	31,323
Anderson, John. W. Fifth wheel.....	32,339	Barker, H. J. et al. Steam engine.....	31,258
Anderson, O. Band cutter and feeder.....	30,855	Bainard, G. A. Heating apparatus.....	30,561
Anderson, R. Book cover.....	30,800	Barnes, A. Semaphore switch signalling apparatus.....	31,796
Anderson, William. Purification of water and apparatus therefor.....	33,074	Barnes, J. T. Compound for coating coffee.....	31,797
Andress, Thomas. Neck yoke fastener.....	32,943	Barnes, N. H. Radiator.....	31,483
Andrews, A. et al. Water-proof and anti-corrosive composition suitable for coating ships and such like purposes.....	30,555	Barnes, Philo M. Buggy boot.....	31,320
Andrews, E. Jointer, side dresser and sharpener for saws.....	31,978	Barnes, W. J. Letter copying press.....	32,718
Andrew, F. Barrel.....	31,120	Barnhart, C. L. Car mover.....	30,957
Andrews, John S. Hydro carbon furnace.....	32,815	Barret, V. S. et al. Brake.....	31,004
Andrews, W. T. Car coupling.....	31,415	Barrett, J. A. Electric circuit.....	31,842
Andrus, Newell P. Water heater.....	32,559	Barrett, William N. Cork screw.....	32,297
Angel, J. R. Station indicator.....	31,380	Barron, E. Appliances for facilitating the removal of furniture, etc.....	30,954
Angevine, L. Dust pan.....	32,173	Barry, C. Railway time signal.....	30,926
Annandale, J. H. Pulp engine.....	32,021	Barry, E. Button hole cutter.....	31,221
Annandale, J. H. Steam boiler and furnace.....	31,318	Barsalow, J. Sulky.....	31,042
Antenrieth, E. F. Expansion pulley.....	32,095	Bartlett, J. B. Pencil sharpener.....	31,784
Anthes, J. S. Chair.....	31,469	Bartlett, Edward. Plow and cultivator.....	32,277
Arbey, Louis. Machine for making wood fibre.....	32,686	Bassett, Fred H. Curtain fixtures.....	32,544
Ardiehl, William H. Self locking gate.....	32,249	Bassett, N. C. Elevator.....	30,805
Aria, C. D. Lamp.....	31,381	Bassford, William K. et al. Workman's time register.....	33,086
Arkell, James. Paper bag.....	32,352	Bate, W. T. Steam boiler.....	31,419
Armstrong, F. Device for cutting the edges of sealed envelopes, etc.....	32,016	Batey, D. C. Elevator.....	31,518
Armstrong, J. G. Process for producing relief plates.....	31,008	Bauer, E. H. Gate.....	31,917
Armstrong, William. Barrel and package.....	33,101	Baumgarth, Alwin. Refining sugar and apparatus therefor.....	32,361
Arnold, S. S. and O. M. et al. Coffee grinder.....	31,118	Baxter, Robert S. et al. Manufacture of seed cake or cattle food from cotton seeds.....	32,392
Arnott, James. Wheel for vehicles.....	33,019	Baxter, R. S. et al. Apparatus for the removal of cotton fibre from cotton seed.....	30,859
Ashworth, J. J. Fabric.....	31,693	Baylis, Henry et al. Process of converting metallic lead into a salt suitable for white paint.....	32,417
Asselin, O. Appliance for filling bags.....	30,853	Beach, Henry L. Joint for furniture boxes, etc.....	32,421
Atberton, James B. Machine for winding wire with covering material.....	33,224	Beach, William H. Thermo-cancer and instrument for administering anaesthetics.....	32,862
Atkins, Edward E. et al. Oil lamp.....	32,872	Beacock, George et al. Heel counter.....	33,045
Atkins, Leroy. Grain steamer.....	32,551	Beacock, G. et al. Heel counter and toe-tip.....	31,947
Atkinson, D. R. et al. Rail joint.....	32,112	Bear, J. and B. Double and whiffletree.....	30,598
Atkinson, William. Saw.....	33,155	Bearsley, Frank E., et al. Axle cutter.....	32,672
Atkinson, William B. et al. Door bell.....	32,320	Bean, D. V. Rear sight for firearms.....	31,385
Atsatt, J. C. F. Apparatus for control of combustion in heating apparatus.....	31,270	Beauchamp, E. Lever for operating the jaws of vices or tongs.....	31,562
Atwood, Henry A. et al. Scarf holder.....	33,078	Beauchemin, J. E. Rotary engine.....	30,556
Atwood, J. E. Suspender.....	31,741	Beauchemin, L. N. Sole and heel plate.....	31,621
Augustin, L. et al. Slop pail.....	32,908	Beauharnais, Eugène de, et al. Method of combining electricity with gas.....	32,998
Austin, Frederick C. Grading and ditching machine.....	33,190	Beaupré, W. Hot water furnace.....	31,240
Auth, G. A. Portfolio.....	31,973	Becher, James A. Machine for bolt threading.....	32,992
Auth, J. V. Window glass setting.....	31,234	Becker, W. Waggon jack and truck.....	30,857
Automatic Car Coupler Heating Co. Car coupler for heating purposes.....	32,572	Becks, William H. et al. Bob sleigh.....	32,346
Automatic Vending Box Co. Vending apparatus.....	31,607	Bédard, V., et al. Axle grease.....	30,548
Auto-Pneumatic Car Motor Co. Air supply for propelling cars.....	31,840	Beddall, Richard. Journal bearing.....	32,749
Averitt, Converse. Clevis.....	33,199	Beecher, L. Method of constructing tunnels.....	32,389
Avery, W. G. Belt fastener.....	31,673	Beeman, George C. Grain separator.....	32,288
Avery, W. G. Elevator bucket.....	31,031	Begin, Joseph A. Appliance for addressing trunks, etc.....	33,088
Aylesworth, W. et al. Wagon brake.....	32,068	Begin, Joseph A. Railway station annunciator.....	33,177
Babcock, J. B. Roller for leveling snow and roads.....	32,126	Behm, Joseph, et al. Pulverizer.....	32,995
		Bell, H. A. Panel Door.....	30,841
		Bell, G. W. Truss.....	31,474

Bell Telephone Co. Telephone communication system	31,342	Boland, J., et al. Pipe wrench	31,132
Bellaire, T. Harrow	31,880	Bolduc, A., et al. Machine for making paper bags	30,715
Bellamy, George. Bedstead and table	32,298	Bolton, A. S. and T. Machinery for drawing wire	32,037
Belanger, J. Spring bed	31,010	Bolton, H. Fanning mill	31,583
Bellavance, E. Overflow for baths and wash boards	31,511	Bond, John R., et al. Foresight for firearms	32,677
Belding, Edgar F. Counter skiving machine	32,894	Boney, J. et al. Car coupler	31,317
Beller, A. E. Crystallizing frame	31,359	Bonnand, B. G. Process for obtaining, by the aid of light, paintings on canvas, wood, etc.	31,295
Bellingham, A. H., et al. Car coupling	31,111	Bonnar, R. A. Tube for Mosaic embroidery	32,113
Bellingham, William. Car spring	32,627	Bonninghausen, H., et al. Folding door lock	31,054
Bellon, David. Car coupling	32,759	Booker, Henry A. and Charles. Creamer	32,626
Bellisle, W. Lifting implement	31,814	Booth, G. T. Disc harrow	31,177
Benedict, H. A. Panel	31,931	Boppel, J. Sewing machine	30,786
Benedict, J. W. Veterinary surgery	31,334	Bork, Joseph, et al. Grain separator	32,565
Benoist, Lucien, et al. Means of preventing the formation or development of injurious germs of animal or vegetable life	32,457	Borland, W. D., et al. Ammunition and its manufacture	30,609
Benson, W. H. Bank book	31,089	Bortree, M. K., et al. Corset	31,738
Bent, Richard M. Upright piano case	32,384	Bostick, A. Sleigh knee	31,153
Béraud, George H. Method and apparatus for utilizing peat fibre	32,867	Bostwick, Frederick R. Hame fastener	32,902
Bergendall, L. J. Railway snow plough	30,704	Boswell, G. G. T. J. E. and J. F. Drive chain	32,010
Berger, William H. Hand truck	32,287	Both, A. C. Scale divider and section liner	31,300
Bergh, A. Process and apparatus for aerating and purifying beer worts and beer	30,928	Bothwell, H. R. Metal wheel	31,472
Bergh, W. Fluid separating machine	31,534	Botsford, Frederick G. Pipe coupling	32,972
Bergmann, I. Pen guide or rest	32,175	Bouchard, C. Folding door lock	31,054
Berlin Machine Works. Machine for polishing wood	32,168	Bouillet, Leon J. B. A. J. Process of manufacturing ultramarine and furnace and apparatus therefor	32,615
Berne, Arthur W., et al. Fare collector	32,852	Bouliane, I. Cover for circular vessels	31,465
Bertram, H. Machine for planing and shaping metals	31,185	Boulton, S. B. Method and apparatus for treating timber with antiseptic or preservative fluid	31,638
Besemer, A. A., et al. Water current motor	32,071	Bource, T. A., et al. Apparatus for manufacturing gas	31,362
Besimer, Anson B., et al. Lock case attachment	32,568	Bource, W. G., et al. Art of manufacturing gas	31,363
Besimer, A. D., et al. Door key	32,020	Bourne, J. Apparatus for obtaining motive force for fluid pressure engines	31,766
Besimer, D., et al. Lock case attachment	31,963	Bouvier, L. P. Envelope machine	30,660
Best, E. Car axle box	31,628	Bovensiep, E. Pulley	31,190
Best, Edward. Car axle lubricator	33,015	Bowden, Junius A. Filter	32,511
Best, Thomas J. Heat radiator	32,772	Bowdish, A. and C. Milk cooler and strainer	31,113
Bettini, Gianni. Method of recording and reproducing sounds	32,873	Bowen, O., et al. Charcoal	31,651
Bevinger, W. H. Hip belt	31,661	Bower, G. Furniture drawer	30,724
Beynon, J. R., et al. Alarm for grain elevators and analogous devices	30,576	Bowes, W. Air motor	31,729
Beynon, J. R., et al. Elevator and separator for mills	30,605	Bowing, J. Manufacture of fuel from coal slack, etc.	31,408
Beynon, J. R., et al. Grain separator	32,109	Bowker, C. M. Ladder	30,789
Beynon, J. R., et al. Roller mill	30,606	Bowler, G. Rail chair, fish-plate and nut lock	31,828
Bielenberg, J. Fire place	31,290	Bowler, Giles. Hoof trimmer	32,270
Billings, Charles E. Commutator bar for dynamo electric machines	32,879	Bowling, E. C. Garment stay	31,509
Binsfeldt, Louis, et al. Door lock and hinge	32,890	Bowman, A. H. Tea and coffee pot	31,269
Birch, J. C., et al. Machinery for rubbing types	31,738	Bowser, S. F. and A. Liquid storage tank	30,684
Bisson, L. Purl	32,048	Boyce, S. S. Disintegrating fibrous substances	30,617
Bizzozero, C. E. and E. Medicine	30,659	Boyd, E. L., et al. Device for opening and closing valves to air brake hose coupling	30,717
Black, A. W. Potato planter	31,252	Boyd, H. J., et al. Gas burner	32,051
Black, Benjamin Newman. Pencil sharpener	32,994	Boydson, W., et al. Ralsin seeder	30,539
Black, H. N. Cornices for the interior of dwelling houses and other public and private edifices	30,652	Boyer, E. C. Disk harrow	33,214
Blackball, William B. Parallel ruler	33,072	Boyle, H. Le R. Fire escape	31,554
Blackman, Henry. Art of and apparatus for disintegrating fibres and manufacturing paper pulp	32,210	Boyle, J. E. Pneumatic flushing tank for water closets	31,165
Blackmore, G. C. Pipe hanger	31,442	Boynton, E. G., et al. Eveuer for vehicles	31,281
Blackmore, George C. Water heater	32,628	Boynton Furnace Company. Hot water heating apparatus	32,337
Blain, Hugh, et al. Method of combining electricity with gas	32,998	Brabant, Zephrin. Remedy for gastralgia, enteritis, flatulency, cramps, etc.	32,549
Blair, John, et al. Process of converting metallic lead into a salt suitable for white paint	32,417	Brabb, George W., et al. Road cart	32,525
Blair, R. D. Composition for preventing the formation of scales in steam boilers	30,838	Brace, Everett A. Scaffold bracket	32,475
Blake, E. L., et al. Stopper for bottles and means for securing same	31,196	Bradford, C. K. Fishing reel	31,336
Blake, W. S. Tobacco pipe bowl	31,211	Bradley, Gilbert W. Butter package	32,515
Blake, William L. Steam trap	32,319	Bradshaw, H. C., et al. Thill couplings	31,902
Blashear, John A., et al. Eye piece for optical instruments	32,860	Bradshaw, J., et al. Mode of and apparatus for dyeing textile materials	30,818
Blincoe, Aloysius G. Bag holder and fastener	32,702	Bradstreet, George S., et al. Wash boiler	32,435
Blondin, J. A. and F. H., et al. Device for boring artesian wells	30,586	Brady, Charles N. Machine for finishing the necks of glass bottles, etc.	32,875
Blumrich, M. Composition of liquid for use in generating vapors through heated water	30,710	Brady, C. N., et al. Machinery for finishing necks of bottles	33,793
Blythe, Charles, et al. Gas generator and burner	32,371	Brain, F. E., et al. Shirt wrist band	31,220
Boardman, F. R. Arc lamp	31,096	Brake, Archibald. Hot water heater	32,263
Bockel, August, et al. Roll shutter list	32,701	Branford Cordage Co. Feed regulator for spinners	31,065
Böcker, Wilhelm. Manufacture of hook nails or spikes	32,706	Brann, A. R., et al. Horse release	31,062
Böckh, Charles. Boot scraper and wiper	33,131	Brayton, Albert P. Water wheel	32,918
Böehme, E. Automatic friction coupling	30,679	Breithaupt, Louis and Co. Liquid heater	32,831
Böelsterli, Johann. Spinning and twisting machine	33,164	Bresch, Richard. Watch stand	82,202
Bogue, R. Stove	31,913	Brewster, W. F. Thermometer	41,502
Bolvin, Guillaume. Shoe sole	33,052	Briggs, G. E. Mathematical puzzle	32,041
		Briggs, J. H., et al. Dynamo electric machine	31,265
		Briggs, J. H., et al. Regulator for dynamo electric machines	31,242
		Briggs, W. R., et al. Oar lock	30,573
		Bright, Charles E. Creamer	32,742

Bright, R. A. Filler for cigars and method of preparing the same.....	30,961	Bustel, C. A., J. F. and F. E., et al. Knitting machine.....	32,195
Brindle, J. Smoking pipe.....	31,839	Buss, Edward, et al. Embroidering machine.....	32,818
Brink, Hobert, et al. Burglar alarm.....	32,851	Butler, Charles B. Pessaries.....	33,095
Bristol, E. R., et al. Car brake.....	32,262	Butterfield, S. K. Spring stay.....	30,623
Broadbent, Charles F. Composition for the manufacture of medallions, etc.....	32,973	Butters, J. M. Rotary cutting knife.....	30,603
Broadbent, Eli W. Plating attachment for sewing machines.....	32,928	Button, T. E. Steam boiler.....	32,046
Broadbent, Eli W. Quilting machine.....	32,907	Butch, W. C., et al. Nail driver and set.....	32,042
Broadwell, Henry, et al. Washing machine.....	32,365	Butz, W. D. Bottle cleaner.....	31,975
Brockett, A. E. Pulley.....	31,728	Buxton, Benjamin W. Stapling instrument.....	32,667
Brodén, Charles, et al. Water pipe for eave troughs.....	32,395	Byam Manufacturing Co. Hinge for window blinds.....	33,147
Brohard, Joseph M. Door check and holder.....	32,604	Byers, J. J. Garment.....	31,421
Brook, J. L. Loom.....	31,360	Byrne, S. Car coupler.....	31,411
Brook, T., et al. Pneumatic railway signal.....	31,280	Caesar, P. J., et al. Device for sharpening razors.....	31,478
Brookbank, J., et al. Car coupler.....	31,817	Cahill, A., et al. Lubricating apparatus.....	31,055
Brooks, A. A. Electric conductor.....	31,726	Calef, J. W. Raisin seeder.....	30,539
Brooks, A. A., et al. Circular weaving machine.....	31,422	Calkins, Gary G. Burner for liquid fuel.....	33,180
Brooks, F. N. Coin operated circulating machine.....	31,618	Cameron, D. H. Composition for rendering wood indestructible.....	31,813
Brooks, S. O., et al. Railway ticket.....	31,371	Cameron, S. Railway switch.....	31,605
Brooksbank, Frederick C., et al. Pneumatic hammer.....	32,589	Camp, D. A. Hold back.....	30,666
Brophy, G. P., et al. Flexible pipe coupling for railway cars.....	31,441	Campbell, A. Manufacture of artificial stone or marble.....	30,579
Brosius. International Motor Sewing Machine Company. Motor for sewing machine.....	32,165	Campbell, A. B. Baking pan.....	32,141
Brotherton, Willard J., et al. Coffee cleaner and separator.....	32,827	Campbell, A. G. Railway frog guard.....	32,081
Broughton, Milton. Machine for mixing mineral compounds.....	32,432	Campbell, C. Bustle.....	31,712
Brower, James F., et al. Saw gummer.....	32,324	Campbell, F. F. and J. E. Car coupler.....	31,317
Brown, A. G., et al. Evener for vehicles.....	31,281	Campbell, John W. Stove pipe damper and ventilator.....	32,740
Brown, A. M., et al. Machine for laying electric wires underground.....	31,060	Campbell, Lewis N., et al. Washing machine.....	33,201
Brown, Charles B., et al. Nut lock.....	32,857	Campbell, R., et al. Machine for making hollow ware pottery.....	30,780
Brown, F. R. F. Attachments to rotary snow ploughs.....	30,621	Canadian Pacific Railway Co. Attachment to rotary snow ploughs.....	30,621
Brown, Hezekiah. Water motor.....	32,552	Canadian Rubber Co. Circular weaving machine.....	31,422
Brown J. H. Fibre digester.....	31,549	Cannon, F. W. Box for delivering matches, etc.....	31,291
Brown, J. C. Milk cooler and strainer.....	31,113	Cardwell, R., et al. Rail chair and coupling.....	31,124
Brown, John W. Steam engine governor.....	32,967	Carey, W. Lock stitch.....	31,584
Brown Irving. Chain link.....	32,840	Carleton, G. E. Lime.....	31,590
Brown Lewis A. Sash fastener.....	32,703	Carley, Oliver F. Process and apparatus for heating tan liquor.....	32,974
Brown, Perry J. Smoke stack for locomotives.....	32,418	Carlisle, F. Apparatus for the absorption of gases.....	30,773
Brownell, Emerson P. Method of manufacturing spoils.....	32,386	Carman, J. S., et al. Plow point sharpener.....	30,922
Brownley, Patrick, et al. Journal box.....	33,044	Carpenter, Frederick H. Carding machine.....	33,034
Bruce W. Fire escape.....	32,052	Carpenter, Hiram H. Secondary battery.....	32,914
Bruce, William. Folding crate.....	32,748	Carper, Kent H. Spark conductor.....	32,753
Bryan, J. M. Quartz mill.....	31,376	Carr, I. L., et al. Fire extinguisher.....	31,335
Bryant C. Band sawing machine.....	31,179	Carsley, R. B. Burner.....	31,765
Buchanan, R. J. Rotary measuring instrument.....	31,155	Carson H. A. Apparatus for raising and moving earth.....	31,451
Buchanan, R. J. Sash lock and holder.....	31,460	Carss, O. Milk aerator.....	31,266
Buchanan, William M. Carriage curtain fixture.....	32,404	Carter, D. W. Machine for multiplying power.....	31,610
Buffalo Patent Axle and Wheel Co. Vehicle axle.....	33,156	Carter, H., et al. Slop pall.....	32,908
Buford, Marcellus A. Rotary engine.....	32,516	Carveth, J. S. Matter for preserving meat, eggs, butter and fruit.....	31,345
Buland, Knut. Ledger index.....	32,961	Caryl, Charles H. Sheath for book covers.....	32,664
Bunce, William M., et al. Car coupler.....	33,038	Casamajor Filter Co. Cleaning and recovering sawdust, etc. from filtrates.....	30,630
Bundy, W., et al. Saw.....	31,685	Casamajor, L. J. Apparatus for cleaning and recovering sawdust, etc. from filtrates.....	30,630
Bunker, J. S. Fire and burglar alarm.....	30,712	Case, C., et al. Railway brake shoe.....	31,612
Burbank, Aenry A., et al. Telephone call box.....	32,334	Case, E. Cultivator.....	31,061
Burdick, J. H. Manuf. of nuts.....	30,690	Case, J. M. Rotary bolt.....	31,313
Burg, L. Village cart.....	32,171	Case, John M. Grain scourer.....	32,445
Burgess, Benjamin A., et al. Lubricator.....	32,208	Case, J. T. Steam engine.....	30,587
Burgess, Samuel, et al. Car coupler.....	32,318	Case Manufacturing Co. Rotary bolt.....	31,313
Burke A. W. Washing machine.....	31,919	Casswell, R. H. Milk purifier.....	31,069
Burke, Charles G. Telegraphic instrument.....	32,975	Castle, S. B., et al. Thill couplings.....	31,902
Burkhardt, J., et al. Wire screen.....	30,564	Cately, Shepard S. Buggy top.....	32,436
Burkhardt, John, et al. Die for impressing ornamental designs on metal tubes.....	32,214	Catherman, C. W., et al. Bureau, etc.....	32,080
Burkhardt, John, et al. Process of treating metallic tubing to convert it into ornamental spheroidal and analogous forms.....	32,335	Chabot, P. O., et al. Ballot slip.....	30,764
Burkhardt, John D. Side hill plow.....	33,026	Challen, J. Plough clevis.....	31,226
Burrage, W. R. Bag holder.....	31,217	Challenger, William. Hammock and support.....	32,264
Burroughes, James S. Table for playing skittles.....	33,046	Chambers, Cornelius. Cork drawing machine.....	33,167
Burroughes, W. S. Mechanical accountant.....	30,577	Chambers, C., et al. Manufacture of artificial stone or marble.....	30,579
Burnell, G. and A. Apparatus for cleansing wool, etc.....	30,752	Chambers, Robert, et al. Life boat.....	32,817
Burnham, A. W., et al. Mop wringer.....	31,423	Chandler, S. S., jr. and J. Apparatus for washing and scrubbing gas.....	30,921
Burnham, D. B. Steam pump.....	30,730	Chapin, H. A. Igniting and extinguishing apparatus.....	31,497
Burnham, Walter. Connection for steam generators.....	32,774	Chaplin, Orrin B., et al. Shoe nailing machine.....	32,768
Burns, J. R. Lobster pound.....	31,353	Chaplin W. Blank fork.....	32,077
Burt, Homer A. Vehicle pole.....	32,755	Chapman, Eugene M., et al. Button.....	33,159
Burt, L., et al. Water heater.....	32,094	Chapman, George W., et al. Horse collar.....	32,198
Bustel, C. A., J. F. and T. E., et al. Art of knitting stockings.....	31,739	Chapman, Henry H. R. Clip for grasping plates, saucers, etc.....	32,714
		Chapman, J. W. Stave.....	31,191

Chappell, Allen & Co. Attachment for sewing machines.....	32,870	Collins, Allen B. Air brake signal.....	32,407	32,427
Chappell, Allen & Co. Sewing machine.....	33,096	Collins, J. J. Plough.....		31,070
Chappell, R. Metal sheet for making wash boilers....	32,127	Collins, J. R. Fuse and taper lighter.....		30,966
Chappell, T. F., et al. Car truck.....	31,663	Commercial Over Seaming Sewing Machine and Manufacturing Co. Sewing machine.....		31,052
Chase, C. D. Toilet paper.....	30,682	Conger, D. et al. Safety attachment for vehicle poles.....		31,391
Chase, M. Nail machine.....	31,840	Conklin, T. F. Blueing package.....		31,499
Chateau, John, et al. Door lock and hinge.....	32,890	Connell, C. H. et al. Shirt wrist band.....		31,220
Cheatham, W. T. Fifth wheel.....	30,783	Connelly, J. T. Tubular guide drill.....		30,909
Cheyne, J. Machine for finishing twine or cord.....	31,311	Connelly, Patrick J. Machine for carding cotton.....		32,610
Child, F. D. Steam engine.....	30,904	Connett, Matthew F. et al. Car mover.....		32,473
Childs, W. H. H. Composite fabric.....	21,942	Conners, T. Apparatus for casting lead seals.....		30,688
Childs, W. H. H. Process for strengthening paper.....	31,971	Conners, T. Wire cutting and crimping apparatus.....		30,694
Chinic, E. N., et al. Field filtering water bottle.....	30,806	Connett, M. F. Hand fence machine.....		30,678
Chotzen, Martin, et al. Substance consisting of a combination of wadding and gauze, etc.....	32,593	Connor, J. H. Belt fastener.....		30,934
Chown, C. D. Grate.....	31,279	Connor J. H. et al. Metallic ladder.....		31,477
Chown, C. D. et al. Stove.....	31,641	Connor, W. A. et al. Conductor of electricity.....		32,146
Christie, G. R., et al. Audible signal.....	31,112	Consolidated Car Heating Co. Drain valve.....		32,832
Christie, T. T. Machine for pointing and lapping hoops.....	31,574	Cook, A. E. Spring for vehicle.....		30,638
Christman, John H., et al. Bottle stopper.....	32,697	Cook, Frederick, et al. Feed water regulator.....		32,584
Christophe, A. T. Rectification of alcohol.....	31,540	Cook, Frederick W. Inserted saw tooth.....		32,428
Clapp, D. C., et al. Bureau.....	31,570 31,571	Cook, Percy T. et al. Telephone system.....		32,368
Clapp, Dwight, C., et al. Drawer guide for bureaus....	32,805	Cook, O. R. Mortise lock.....		31,490
Clapp, D. C., et al. Furniture drawer.....	31,682	Cooley, C. A. Lamp shade.....		30,997
Clapp, George L., et al. Pole and thill for vehicles....	32,344	Coombes, J. A. Mineral separator.....		31,195
Clapp, Joseph, et al. Sprinkler.....	32,325	Coombes Mining and Dry Mineral Separator Co. Mineral separator.....		31,195
Clark, Aaron W. Photographic vignetter.....	32,979	Coon, A. Sulky plough.....		30,823
Clark, Arthur S. Wind engine.....	32,235	Coon, T. R. et al. Transplanting implement.....		31,267
Clark, Chester W., et al. Pulley.....	33,134	Cooper, Charles B. Pipe elbow.....		32,514
Clark, G. H. Last.....	32,123	Cooper, C. F. et al. Apparatus for electrolyzing bleaching solutions.....		31,656
Clark, George H. Follower or former for boots and shoes.....	32,843	Cooper, C. W. Method of treating hides, skins or scraps in liquids.....		31,545
Clark, G. N. Spring stay.....	30,623	Cooper, Charles W. Apparatus for treating hides, skins, etc., in liquid.....		32,201
Clark, J. M. Car coupling.....	31,080	Cooper, F. J. Shears.....		31,344
Clark, O. M. et al. Saw gummer.....	32,324	Cooper, Richard H. Process for the removal and prevention of scales in steam boilers.....		32,965
Clark, Owen A. Snow plow.....	33,235	Cooper, W. H. Corset.....		31,462
Clark, R. Furnace.....	31,464	Copp, W. J. Hot air heating stove.....		31,834
Clark, Robert. Furnace.....	33,165	Copp, William J. Hot air radiator and furnace.....		32,873
Clark, William A. Fruit Basket.....	32,402	Copeland, Isaac C. Apparatus for smoking meats.....		32,985
Clarke, Alexander and John F. Combination tool.....	32,317	Copeland, William L. et al. Telephone transmitter....		33,083
Clarke, C. D. Lumber piler.....	30,968	Corbin, Jay S. Disk harrow.....		32,665
Clarke, Edward F. Machine for compressing air or other gas.....	32,675	Corbin, P. and F. Door bell.....		32,497
Clarke, G. R. Envelope or bag machine.....	31,552	Corell, J. Steam trap.....		31,578
Clarke, R. Support for sliding doors.....	30,880	Cork, H. T. Folding step.....		31,141
Claus, C. F. Purification of gas.....	31,140	Corley, J. W. Card or ticket box.....		31,015
Clauxton, Thomas J. et al. Heel counter.....	33,045	Cornell, E. B. Air injector for boiler furnaces.....		31,224
Cleaveland, Elias A. Bed bottom.....	32,752	Cornell, Jonas et al. Machine for repressing bricks....		32,715
Cleek, J. D. Nut lock.....	31,418	Cortland, Harvey et al. Operating mechanism for railway semaphores.....		32,760
Cleveland, Frederick W. et al. Apparatus for obtaining motive power.....	33,141	Cortland, H. Thermostat.....		32,097
Clifford, Isidore E. Apparatus for receiving and offering a receipt for coin.....	33,245	Cortland, Henry et al. Mechanism for operating railway semaphores.....		32,453
Clifford, J. S. Apparatus for receiving coin and delivering a receipt therefor.....	31,758	Coté, A. et al. Belt fastener.....		30,553
Close, H. M. Method and apparatus for transferring liquids.....	32,023	Coté, Francis A. Electric circuit switch.....		33,111
Cloud, John W. Rail Joint.....	32,513	Coté, Joseph A. Grate blower handle.....		32,517
Clouse, Joseph N. Cuff holder.....	32,693	Coté, Theophile. Tobacco cutter.....		32,934
Clueth, C. Instrument for straightening club feet.....	31,093	Cottrell, Herbert. Apparatus for making gas.....		33,057
Coad, T. Lens.....	31,324	Couch, Joel. Mast support.....		33,056
Cobb, Henry B. Manufacture of metal coated electric wires.....	32,700	Coulston, J. W. Signal lights for vessels.....		30,728
Cobeldick, J. et al. Charcoal.....	31,651	Councilman, A. G. et al. Punching Device.....		31,368
Coburn, N. et al. Horse blanket fastener.....	30,714	Courtemanche, Moses. Medicinal compound.....		32,390
Cochran, John et al. Foresight for firearms.....	32,677	Courtney, C. U. Car coupler.....		32,085
Cockshutt Plough Co. Plough clevis.....	31,226	Cox, C. A. and J. F. Alarm system.....		32,100
Cody, Lorenzo J. Elevated railway.....	32,233	Cox, M. D. Car coupling.....		32,147
Coe, Arthur et al. Latch and lock.....	32,527	Cowell, Newell P. Vestibule car.....		33,175
Coe, Frederick W. Ice creeper.....	32,592	Craig, John C. Egg boiler.....		32,383
Colby, Edward J. Coin controlled opera glass case....	33,339	Craig, W. H. Sieve scalper.....		32,131
Colby, Edward J. Coin controlled testing machine....	32,932	Craig, W. H. Lubricator for locomotive engines.....		31,751
Cole, C. Hydro-carbon burner.....	31,110	Crandall, A. et al. Street or station indicator.....		31,881
Cole, G. P. Harness buckle.....	31,228	Crandall, Charles M. Toy.....		33,241
Coleman, J. A. Horse shoe nail.....	30,971	Crane, Edward. Vulcanizer.....		32,230
Coleman, J. A. Mechanism for feeding nails or nail blanks.....	30,942	Crane, Thomas S. Machine for cutting boards from logs.....		32,557
Coleman, R. H. Spark arrester.....	30,673	Cranson, Giles S. Grain scourer.....		32,275
Coleman, R. H. Spark arrester for coal burning locomotives and other engines.....	30,675	Crary, W. P. Bottle stopper.....		30,955
Coleman, Vincent A. Trace buckle.....	32,507	Cridge, A. H. Implement for separating checks, etc., from their stubs.....		31,763
Coleman, V. A. Snap link.....	31,671	Crittenden, Simeon. Butter package.....		32,313
Collier James W. Holder for incandescent lamps....	32,882	Crosby, Adon D. Bucket for chain pumps.....		32,783
Collin, Emile et al. Means for preventing the formation or development of injurious germs of animal or vegetable life.....	32,457	Cross, John R. et al. Separator.....		32,920
		Crouch, William T. et al. Plant protector.....		32,637
		Culp, S. T. Art of producing buoyancy.....		31,145
		Culley, Charles. Machine for sewing shoes.....		32,721

Cutloch, A. M. Sash weight.....	31,775	Della, Eugene. Fire escape.....	32,364
Cumming, J. and M. Railway crossing.....	30,913	Delisle, C. H., et al. Apparatus for manufacturing gas.....	31,362
Cumming, J. Blacksmith's tuyere.....	30,845	Delisle, C. H., et al. Art of manufacturing gas.....	31,363
Cummings, J. R. Machine for separating trimming and grooving stereotype plates.....	31,501	Denham, F. B. Game.....	31,914
Cummings, W. Cement.....	32,031	Denis, W. L., et al. Electric signalling and alarm apparatus.....	31,531
Cunningham, H. et al. Stove.....	31,641	Denman, W. F. and G. C. Trap.....	31,261
Cunningham, J. et al. Grate.....	31,098	Dennis, Frederick W. Toy.....	33,112
Cunningham, H. Grate.....	31,279	Dennis, Joseph W., et al. Steam engine.....	32,444
Cunninghame, John C. et al. Coal weighing and cleaning machinery.....	33,104	Derby, Edwin C. Land roller.....	32,990
Currier, J. E. W. Car truck.....	30,594	Dew, F. S. Sweat pad hook.....	30,953
Curry, T. P. Railway signal.....	32,004	Desmarais, C. Motor for vessels.....	31,282
Curtis, F. et al. Flat iron.....	31,945	Desmarais, C., et al. Mode of propulsion of ships.....	32,186
Curtis, John B. et al. Process of making hollow glass ware.....	33,037	Des Trois Maisons, Gustave. Device for the manufacture of pure ice.....	33,084
Cushman, E. S. Waggon reach couplings.....	31,829	Detroit Stay Company. Garment stay.....	30,542
Cutler, J. G. Letter box connection.....	30,639	Deveril, Herbert, et al. Photographic negatives and sensitive plates.....	32,340
Cutter, Eben J. Sight for firearms.....	33,091	De Vilbiss, A. Spray producer.....	31,027
Cutter, M. A. Lock hinge.....	31,895	Devoe, Benjamin G. Gas or oil stove.....	32,250
Daimler, G. Gas and petroleum motor engine.....	32,040	Dewar, James, et al. Explosive.....	32,219
Dake Engine Manufacturing Co. Engine.....	30,648	Deweese, J. W. Trimming attachment for sewing machines.....	31,593
Dake, W. F. Engine.....	30,648	Dewey, James A., et al. Lock case attachment.....	32,568
Dalby, T. et al. Raisin seeder.....	30,539	Dewey, J. S., et al. Door key.....	32,020
Dalrymple, J. W. Photographic washing apparatus.....	32,152	Dewey, J. S., et al. Lock case attachment.....	31,968
Dalton, George. Steam engine.....	32,529	Dewhurst, G. B. Apparatus for marking folded piece goods with trade marks, etc.....	31,011
Dambmann, C. F. W. et al. Methods of converting insoluble phosphoric acid in mineral and petrified phosphates into available phosphoric acid.....	31,114	De Witt, Caleb S. Wrench.....	32,797
Darling, Charles E. Tobacco pipe.....	32,374	De Witt, C. S. Price and inventory check.....	31,589
Darlington, Frank J. et al. Umbrella stand and folding screen.....	32,698	Dey, A. Razor sharpening machine.....	31,701
Davidson, L. Apparatus for securing the ends on cans.....	32,178	Dey, A. Time recorder.....	31,787
Davies, C. L. Apparatus for the employment of vibratory electricity in telegraphy.....	31,115	Dey, Harry E. Storage battery.....	32,655
Davies, C. G. et al. Gas burner and heater.....	31,525	Dickinson, J. G., et al. Commode.....	31,370
Davies, C. L. Telephony and telegraphy.....	31,603	Dickinson, Mathew M. Driving rein.....	32,795
Davies, Charles L. Rhythmic generation of electric currents.....	32,659	Dicks, William, et al. Printing press.....	32,743
Davies, T. A. Railway spike and method of making same.....	31,662	Dickson, A. A. Apparatus for manufacture of peat fuel.....	30,884
Davis, E. Ink stand.....	31,266	Dickson, A. A. Process of manufacturing peat fuel.....	31,201
Davis, E. H. et al. Electric temperature regulator.....	30,895	Dickson, Archibald A. Apparatus for the manufacture of peat fuel.....	32,682
Davis, E. H. et al. Electric thermostat.....	30,890	Dickson, G., et al. Window blind fastener.....	31,365
Davis, E. H. et al. Electric motor.....	31,349	Dickson, J., et al. Stove drum.....	31,802
Davis, E. H. et al. Fire alarm telegraph system.....	30,989	Dickson, S. J. Bed bottom.....	30,668
Davis, E. H. et al. Thermostat.....	30,890	Diehl, J. Vehicle spring.....	31,921
Davis, E. H. et al. Valve controller.....	30,898	Diehl, P. Sewing machine.....	30,585
Davis, E. H. et al. Watchman's time detector.....	31,044	Diller, A., et al. Car coupling.....	31,239
Davis, George M. Air valve.....	32,225	Dion, L. A. Nut lock.....	31,606
Davis, Henry C. et al. Hydro-carbon heater.....	32,828	Dix, Joseph. Floor jack.....	32,884
Davis, H. T. Quilling frame.....	31,186	Dixon, John T., et al. Means for exterminating gophers, moles, etc.....	33,105
Davis, J. Means for purifying water.....	31,781	Dobbin, Robert O. Horizontal drum and radiator.....	32,638
Davis, J. Support for water conductors.....	31,528	Dobbin, Robert O. Stove drum.....	32,464
Davis, J. Water conductor and support.....	30,979	Dodge, J. E., et al. Rail joint.....	32,112
Davis, John S. Grain blinding harvester frame.....	33,132	Dodgson, E. A. Powder dusting machine.....	30,562
Davis, John S. Reel support for harvesters.....	32,482	Doerson, P. Fifth wheel for vehicles.....	31,998
Davis, N. H. Dies for manufacturing lids of journal boxes.....	31,200	Dohls, P. A. Driving gear for table machines for sewing, knitting, etc.....	31,650
Davidson, H. J. Button hole attachment for sewing machines.....	32,072	Dolan, E. J. Can assembling machine.....	30,777
Davy Clay Ballast Co. Feeding apparatus for burning clay for ballast.....	30,998	Dolan, E. J. Hand soldering iron.....	31,189
Davy, W. Feeding apparatus for burning clay for ballast.....	30,998	Dolan, E. J. Seam for sheet metal.....	30,549
Dawson, Wallace. Medicinal compound.....	32,312	Dolan, E. J. Soldering machine.....	31,253
Day, J. Curtain ring.....	30,856	Doland, Timothy. Road cart.....	32,996
Day, John H. Dry flour paste.....	32,316	Dominion Safety Steam Boiler Co. Steam boiler.....	32,218
Day, M. H. Machinery for forming and keeling ropes and strands.....	31,990	Domplere, Bazille Z. Dough raising tray.....	33,125
Day, Selden A. Electric cartridge and primer.....	32,899	Donahoe, William E., et al. Hydro-carbon heater.....	32,826
Deadman, William H. Snow plow.....	32,609	Doney, A., et al. Baby walker.....	31,617
Deane, C. H. Printing apparatus.....	31,121	Dooley, Thomas B. Cord and rope making machine.....	32,437
De Beaumarais. Art of manufacturing gas.....	31,429	Doolittle, C. E., et al. Machine for reducing rails.....	31,116
Decary, A. C., et al. Composition for bricks and artificial stone.....	31,539	Doolittle, S. L., et al. Manufacture of chairs.....	30,580
De Garmo, Daniel, et al. Machine for cutting tobacco.....	32,363	Doran, William L. Suspender and clasp button.....	32,229
De Graff, John. Sawing machine.....	33,219	Dorensen, Niels G. Lock.....	32,292
Dehany, G. E. Extinguisher for lamps.....	30,949	Doremus, W. T. Pillow and cover.....	32,144
De Lamarre, C. B. Oyster knife.....	30,571	Dormitzer, A. Step ladder.....	30,797
De Land, F. A. attachment to lawn mowers.....	31,897	Dornbirer, J. Temporary binder.....	31,299
De Lano, H. E., et al. Punching device.....	31,368	Dossett, W. L. Lounge.....	31,456
Delany, P. B. Synchronous movements and telegraphy.....	30,645	Donds, B. J. Permutation lock.....	30,825
Delany, P. B. Synchronous multiplex printing telegraphy.....	30,644	Douglas, W. H. Clock escapement.....	30,634
Delany, P. B. Telegraphic relay.....	30,643	Douglas, W. H. Meter for measuring electrical currents.....	30,893
De Lany, W. Hinge and pin tongue for brooches, etc.....	30,965	Douse, T. R. Apparatus for preventing fire and for giving the alarm.....	30,866
		Dove, Leonel, et al. Apparatus for obtaining motive power.....	33,141
		Dovercourt Twine Mills Co. Rope twisting machine.....	33,188
		Dowler, Frank K. Hoof expander.....	32,303
		Dowling, Robert H., et al. Car coupling.....	33,186

Downend, F. L., et al. Horse power hoisting machine	31,705	Electric Storage Battery Co. Secondary battery	33,153
Down A. Type-writer	31,133	Eli, Alexander J. Lamp	32,88
Downing, J. H. Seed drill	31,245	Elias, A. J. Envelope and stamp moistener	31,358
Drader Joseph. Cultivator tooth	32,401	Ellcott, Benjamin W. Metal railway tie	32,488
Draper, Joseph. Rotary plow	32,661	Elliott, James. Grate bar	32,477
Draper, William R., et al. Machine for the manufacture of paper	32,245	Elliott, William A. Heel motor for boots and shoes	32,663
Driggs, W. W., et al. Railway brake shoe	31,612	Elliott, William, et al. Journal bearing	32,764
Dubbs, Jesse A. Process of refining oil	32,254	Ellis, Charles L., et al. Parallel ruler	33,012
Dudden, Alfred. Door spring	33,179	Ellis, David R. Oil filter	33,031
Dudley, W. J. Transmitting instruments for electric signalling apparatus	31,521	Ellis, Johnson. Whiffletree	32,796
Duff, J. Dumping car	30,568	Ellis, Lewis S. Crupper for harnesses	32,625
Dugan, G. Indexing	31,277	Ellis, S., et al. Lamp burner	31,553
Duncan, G. S., et al. Apparatus for manufacturing gas	31,362	Elmson, Charles A. Two wheeled vehicle	33,226
Duncan, G. S., et al. Art of manufacturing gas	31,363	Elmore, Alexander S. Electro deposition of metals and apparatus therefor	32,522
Duncan, J. M. Evaporating pan	31,724	Elser, P. C. Adjustable chimney	30,843
Duneka, F. A., et al. Base ball bulletin board	31,343	Emerson, E., et al. Wire body for hose	31,966
Dunham, Joseph M., et al. Drawing roll	32,960	Emerson, Ezekiel, et al. Wire belting	32,762
Dunham, George. Nut making machine	32,415	Emerson, J. E. Method of manufacturing belting	31,576
Dunkle, Abram B. Extension strip for shade rollers	32,533	Emerson, James E., et al. Belting	32,542
Dunn, Louis. Safety switch	32,295	Emerson, J. E., et al. Hose or tubing	31,715
Dupepe, Frank. Running gear for vehicles	32,207	Emerson, S. G. Pulley for hoisting apparatus, etc.	30,784
Durand, A. Sand papering machine	31,706	Emerson, S. G. Sling lock	32,180
Durham, J. F., et al. Hot air furnace	31,927	Emerson, Tulcott and Co. Mowing machine	32,110
Durkin, James F. Car brake	32,725	Emery, J. Clothes horse	30,871
Durning, Joseph S. Horse hay fork	33,059	England, E. Device for sharpening stone cutting tools, etc.	30,635
Durocher, O. Moccasin boot fastening	31,711	English, A. M. Button setting machine	31,519
Durocher, O., et al. Ballot slip	30,764	English, Edward H. Iron ladder	33,136
Durvin, J. A. Railway frog	31,309	Eno, Joseph A. Steam boiler, etc.	32,503
Dutcher, Pierpont E. and John A. Oil heating stove	32,246	Eno Steam Generator Co. Steam generator	31,264
Dutton, S. T. Apparatus for charging cisterns with oil	31,040	Erickson, P. R. Hatchet drill	32,184
Dutton, Samuel T. Locking and unlocking railway points and signals, etc.	32,570	Erickson, Peter R. Wrench	33,032
Dwinnell, D. L., et al. Water closet	32,197	Ernst, Victor H. Secondary battery	32,380
Dwinnell, David L., et al. Closet cistern	33,099	Ertel, George. Power mechanism for baling presses	33,213
Dwinnell, Lancaster, et al. Water closet flush	32,452	Escobar, J. de la C. Type writer	31,361
Dwyer, John T. Knapsack and shoulder strap bag	33,253	Estes, W. A. Tree transporting waggon	31,223
Dwyre, W. L. Car coupler	31,233	Estey, Charles M., et al. Drawer guide for bureaus	32,805
Dyer, J. L. Coach	31,614	Estey, D. M. et al. Bureau	31,571
Dzondi, A. Mode of suspending the pendulums of clocks	32,164	Estey, D. M. et al. Furniture drawer	31,682
Eacret, William. Fire lighter	32,216	Estey Manufacturing Co. Bureau	31,570
Earle, R. H. Signal bomb	31,322	Estey Manufacturing Company et al. Drawer guide for bureaus	32,805
Earle, Z. T. Car for carrying sugar cane	31,103	Esty, W. et al. Art of knitting stockings	31,739
Easley, J. L. Lemon juice extractor	32,043	Esty, William et al. Knitting machine	32,195
Eastman, Ambrose. Lasting and sole laying machine	32,699	Ethridge, M. Van B., et al. Time piece	30,813
Eastman, Ambrose. Machine for fluting boot or shoe uppers	32,668	Ettles, J. Door	31,074
Eastwood, J. W. Felt and felt clothes	31,533	Eunson, C. W., et al. Safety attachment for vehicle poles	31,991
Eaton, G. S., et al. Machinery for rubbing types	31,738	Euston, Alexander. Cartridge loader	32,449
Eaton Type Finishing Machine Co. Machinery for rubbing types	31,738	Everett, Henry H. Car coupling	32,632
Eby, Joseph F., et al. Method of combining electricity with gas	32,998	Everson, George H. Metallic wheel	32,278
Ecaubert, F. Watch case	31,505	Evans, Arthur K. Rope grip	32,660
Ecaubert, F. Watch case lid	32,001	Evans, George F. Frictional gearing	32,789
Eckardt, Heinrich, et al. Process of making alloys of chrome and manganese	32,217	Evans, H. P. Fire grate	31,684
Eckel, W. et al. Spray oil burner	31,315	Evans, J. F. Water wheel	31,016
Eddy, C. T. Lifting jack	31,566	Evans, James, et al. Furnaces and smiths hearths and means for operating them	32,814
Edge, W. T. Process for producing lustre bronze	30,981	Evans, J. E. Bicycle clutch	31,624
Egerton, Nathan H. Steam engine	32,925	Evans, J. W. Percolator	31,164
Edward, J. H. Sled	31,838	Evans, Phelps. Equalizer for tripletrees	32,329
Edwards, A. Portfolio	31,759	Evans, S. D., et al. Solar bath	32,170
Edwards, Fitz. H., et al. Hot air furnace	31,927	Eysaman, A. H. Whiffletree snap	32,172
Edwards, George H. Tractor	32,893	Eysenbach, H. P. Envelope	31,710
Edwards, M. L. Hoppie	31,244	Faifer, F. File	31,105
Edwards, Richard J. Car and air brake pipe couplings	32,305	Fall, George W. Trace	32,220
Edy, William D., James N., et al. Lubricator	32,208	Fairbanks, W. A. Plough	30,791
Eichorn, Mary C. Broom clasp	32,915	Fairman, S. Car coupling	31,227
Eiken, A., et al. Medicinal compound	31,683	Fairweather, Frederick H. Root cutter	32,803
Elsaman, A., et al. Police nipper	30,602	Fales, O. B., et al. Hoppie	31,244
Ekstrom, J. P. Wall ventilator and stove pipe thimble	31,788	Farmer, J. M. Rotary engine	31,791
Elastic Nut Co. Nut	30,847	Farquhar, Francis, Milton J. and Henry B. Heater	33,139
Ellreg, H. H., et al. Reclining and operating chair	30,723	Farrar, C. M. Balanced valve for steam engines	30,744
Eldridge, Henry, et al. Mechanism for operating railway semaphores	32,453	Farwell, F. R., et al. Barley flakes and the process of producing the same	30,537
Eldridge, Henry, et al. Operating mechanism for railway semaphores	32,760	Favell, F. M., et al. Cash till	30,713
Eldridge, James R., et al. Whistle	32,496	Fawcett, W. Chill	30,703
Electric Storage Battery Co. Method of producing chloride of lead	32,769	Feed Water Heater and Purifier Co. Feed water purifier	30,915
Electric Storage Battery Co. Mold for casting plates for secondary batteries	32,770	Feeney, William et al. Latch and lock	32,527
		Feker, O. Sewing machine pedal	31,481
		Fell, A. G. Lead pigment and process of preparing the same	30,613
		Fellows, Alfred, et al. Hame fastener	33,203
		Felt, Seth C. Sleigh	32,782
		Fenby, J. B. Method and apparatus for supplying oil to lamps	31,649
		Fendel, C. J. Grain drill	32,161

Fenner, A. H., et al. Diaper.....	31,247	Frost, G. J., et al. Window blind fastener.....	31,365
Ferdinand, A. B. Telephone and electric system.....	31,041	Fry, Dan T., et al. Journal box and bearing.....	32,479
Ferguson, J. Lemon squeezer.....	30,888	Fuller, Drusilla M. Device for holding headgear.....	32,504
Ferguson, H., et al. Stop valve.....	30,914	Fuller, G. P. Wash board.....	31,436
Ferno, James H. Soldering iron.....	32,888	Fuller, R. S. C. Railway coach.....	31,745
Ferreira, C. E. Feed water heater and purifier.....	31,989	Fuller, F. Hammock.....	31,969
Ferris, H. Organ reed.....	30,868	Fulmer, George W., et al. Journal box and bearing...	32,479
Fessenden, Cortez. Electric arc lamp.....	33,233	Fulwider, Horace M. Machine for grain weighing and measuring.....	32,955 32,786
Fessenden, G. B. Time detector.....	31,331	Gabel, David. Twine holder for grain binders.....	32,203
Field mice trap. Herman Rippeke.....	32,680	Gable, Frank M., et al. Hame fastener.....	32,203
Finch, John M., et al. Separator.....	32,920	Gabriel, Charles, et al. Compound for the manufac- ture of sanitary and drain pipes.....	22,416
Firstbrook, W. A. Seal lock.....	31,444	Gadouray, Ophini O. Stove.....	32,483
Fisher, H. K., et al. Horse power hoisting machine...	31,705	Gage cock. Ezra Frick Landis.....	32,909
Fisher, J. C. Grain scouring machine.....	31,583	Gall, Harry S. Drilling tool.....	32,619
Fisher, J. E. Vehicle wheel.....	30,696	Gallagher, William, et al. Photographic negatives and sensitive plates.....	32,340
Fisher, Samuel. Manufacture of wall hangings etc...	32,431	Gamble, J. C. Liniment.....	31,183
Fisk, W. C., et al. Spray oil burner.....	31,315	Gamble, J. C. Medicinal compound.....	30,134
Fisk, B. A. Range and position finder.....	30,742	Gamble, J. C. Medicinal preparations for pulmonary complaints.....	31,161
Fisken, J. K. Bag holder.....	31,218	Gammon, J. E., et al. Raisin seeder.....	30,539
Fitzgerald, J. H. Plastering composition.....	30,636	Ganong, Gilbert W. Confectionery and apparatus for making.....	33,108
Fitzgerald, T. Kerosene lamp burner.....	30,748	Garben, A. F. C. Mechanism for detachably connect- ing wheel hubs and axles.....	30,572
Fleming, D., et al. Steam boiler setting.....	30,721	Gardner, A. O., et al. Railway brake shoe.....	31,612
Fleming, J. Saw mill dog.....	31,232	Gardner, C., et al. Vestibule car.....	30,718
Fletcher, Elmer. Method of stitching button holes....	32,284	Gardner, R. M., et al. Inside guard for electric light globes.....	30,916
Fletcher, F. F., et al. Yarn reel.....	32,070	Gare, Thomas. Pegging machine.....	32,396
Fletemeyer, H. C. Brake.....	31,255	Gareau, R. R. Indicator for hotels.....	30,647
Flick, C. G. Glass polisher.....	31,823	Garland, M. Lumber trimmer.....	30,927
Flick, O. C. Secondary batteries.....	31,310	Garnier, Thomas R. Ore concentrator.....	32,710
Flint, F. W. Electric drinking vessel.....	32,186	Garst, S. H. Manure distributor.....	31,920
Flint, William P. Billiard table.....	32,558	Garth, John H., et al. Appliances for water closet cisterns.....	32,711
Filgen, P. C. Control apparatus for counters.....	30,808	Garth, H. W. and J. H. Hot water furnace.....	31,929
Floran, A. E. D. Apparatus for levelling.....	30,972	Gartner, Alfred et al. Ocean signal.....	32,256
Floyd, E. A. Artificial teeth.....	31,285	Gartner, Alfred, et al. Electro regulator.....	33,085
Flynn, Michael J. et al. Shoe nailing machine.....	32,768	Gaskin, Robert. Sight for firearms and ordnance....	32,723
Fockler, C. Grain drill.....	32,182	Gates, Elnathan J. Hoe.....	32,208
Foley, James S., et al. Match magazine and lighter.....	33,222 32,080	Gates, Eugene N. Water heater.....	33,416
Folk, R., et al. Bureau, etc.....	32,080	Gaylord, E. M. Cultivator.....	31,061
Follett, Charles H. and Charles, et al. Car coupling.	33,185 33,186	Gedney, Stanley L., et al. Scarf holder.....	33,078
Fontaine, M., et al. Device for boring artesian wells.....	30,586	Geib, William. Steam engine.....	32,257
Foran, John W. Cleat.....	32,695	Gent, Joseph F. Drying apparatus.....	33,221
Foraya, J. F. Improvement in generating wood gas.....	32,181	Georgia, H. W. Jointer, side dresser and sharpener for saws.....	31,978
Forbes, J. Skate.....	30,595	Gethins, James L. Galvanic battery.....	33,028
Ford, George M. Artificial stone.....	32,400	Gibb, A. Folded paper for carpet linings, etc.....	31,038
Forde, G. M. Plaster.....	31,757	Gibbons, James. Gas stove.....	33,036
Forrest, J. M. Machine for catching lobsters.....	31,927	Gibbons, James. Burner.....	33,016
Forstler, M. M. Stop cock.....	31,262	Gibeault, U. Hub for wheels.....	31,625
Fortin, Joseph. Boot and shoe.....	32,738	Gibson, C. D. P. Storage battery plate.....	31,632
Fortin, J. Upper for shoes, etc.....	31,216	Gibson, D. H. Washing machine.....	31,492
Foster, J. B. Wind mill.....	31,932	Gibson, W. Ties for securing bags, bales, etc.....	31,980
Foster, John & Co. Scallop turner.....	32,669	Gifford, C., et al. Mop wringer.....	31,423
Foster, John M. Valve and governor.....	32,986	Gifford, Hiram H. Washing machine.....	32,331
Foster, M. H. Nail machine.....	31,840	Gilchrist Manufacturing Co. Hand fence machine....	30,678
Foster, R. F., et al. Playing card.....	31,847	Gilchrist, P. C. Manufacture of copper.....	31,503
Foulke, J. F. Machine for uprooting trees.....	31,273	Gillfillan, Adam W. High and low water alarm for steam boilers.....	32,598 32,885
Fournier, J. A. Fyle for papers.....	31,782	Gillett, George, et al. Tap.....	30,878
Fowler, G. Support for telegraph wires, etc.....	30,939	Gillett, W. R., et al. Saw set.....	31,286
Fowler, H. E. Machine for bending pipe.....	31,046	Gish, J. L. Rheostat.....	31,577
Fowler, H. H. Swing.....	32,059	Glaser, C., et al. Methods of converting insoluble phosphoric acid in mineral and petrified phos- phates into available phosphoric acid.....	31,114
Fowes, W. Machine for washing clothes.....	31,416	Glendale Elastic Fabric Co., et al. Loom for weaving narrow ware fabrics.....	32,903
Fox, C. Cut off and reversing gear for engines.....	31,675	Glover, George T. Traction engine.....	32,422
Fox, Frank A. Inter changeable car coupler.....	32,736	Glover, Robert E. Weighing scale.....	32,357
Fox, H. G. Ventilator.....	31,128	Godard, Eldridge J. Snow plow.....	33,227
Fox, Henry G., et al. Flower holder.....	33,148	Goddard, William. Gate.....	32,434
Francis, James. Metallic railway.....	32,962	Goddard, W., Gate brace and lock.....	31,792
Frank, Charles E. et al. Tap.....	32,885	Godin, J. Boot and shoe.....	31,660
Frank G. Fuel.....	30,986	Goehring, Charles L. Molding machine.....	33,240
Fraser, R. Feed heating and circulating apparatus...	31,680	Gold, Edward E. Pipe coupling for railroad cars.....	32,429
Fraser, William A., et al. Burial casket.....	32,267	Gold, Edward E. Heating apparatus.....	32,301
Fraser, W. A. Mouldings for caskets, etc.....	31,166	Goldie, William. Method of pointing spikes.....	33,152
Frederick, D. K. Bath tub seat.....	31,151	Goldie, W. Spike.....	31,181
Frederick, J. H. Cooking utensil.....	31,230	Goldie, William. Spike pointing machine.....	33,151
Free, Henry, et al. Tobacco pipe.....	32,374	Goll, H. A. Valve.....	30,566
Freed, J. B. Matter for making oil.....	31,160	Good, J. Steam boiler furnace.....	31,851
Freeland, J. R. Singletree.....	31,401	Goodman, B. Suspender.....	31,504
Freeman, George W. Bag holder.....	32,756		
Frees, C. A. Artificial leg.....	31,633		
French, J. F. Can opener.....	31,676		
French, J. W. Boot or shoe.....	31,357		
Freyer, Huger R. Potato planter.....	32,573		
Fritz, George J. Ironing machine.....	32,285		
Frontier Axle Co. Sand band for carriage and wag- gon axles.....	31,431		
Frost, E. J. Devices for regulating the quality of car- burated vapour or gas.....	31,326		

Goodnight, Isaac H., et al. Door bell.....	32,820	Hadley, C. W. Grain measuring machine.....	30,849
Goodrich, Joseph F. Vehicle seat.....	32,900	Hagan, E. J. Thill.....	31,700
Goodridge, Charles L. Process for relighting the flame of an injector burner.....	32,716	Hager, C. E. O. Art of reflecting pictures.....	31,033
Goodwin, J. Hinged and halved umbrella stand.....	30,557	Hagey, Henry G. Heating stove.....	33,150
Goodwin, G. A., et al. Nut lock.....	31,297	Haggenmacher, Carl. Apparatus for sifting and sorting meal flour, etc.....	32,868
Goodwin, John A. Toy.....	32,553	Haggenmacher, C. Middlings purifier.....	31,167
Goodyear, Charles. Sewing machine.....	33,080	Haggett, J. C. Universal metal joint.....	30,899
Gorbell, A. M. Brush.....	31,794	Haight, James R. Store service apparatus.....	32,935
Gordon, Alexander, et al. Machine for cutting tobacco.....	32,363	Haines, G. B. Lock for shut-off valves.....	31,890
Gordon, E. Railway switch.....	31,137	Hale, H. S. Spring seat.....	30,889
Goserud, T. Drill.....	31,542	Hall, A. D., et al. Screw propeller.....	31,173
Goss, W. H. Washing machine.....	31,817	Hall, Clark, et al. Sap evaporator.....	32,481
Gosselin, C. Automatic boiler feeder.....	30,632	Hall, C. M. Process of electrolyzing crude salts of aluminium.....	31,514
Goudron, P. Grate.....	31,355	Hall, C. M. Manufacture of aluminium alloys.....	31,516
Gould, Herbert T. Thill coupling.....	32,856	Hall, C. M. Process of electrolyzing fused salts of aluminium.....	31,517
Goulloud, L. Dust guard for car axle boxes.....	30,680	Hall, C. M. Process of reducing aluminium by electrolysis.....	31,512
Gowan M'Fg. Co. Bridle.....	32,451	Hall, C. M. Process of reducing aluminium from its fluoride salts by electrolysis.....	31,513
Gowing, D. H., et al. Fertilizer distributor.....	32,013	Hall, Edward J., et al. Clasp for bands for securing paper, envelopes, etc.....	32,228
Graburn, Kingsforth. Sash fastener.....	32,987	Hall, Hiram. Axe helve.....	32,310
Grady, H. B., et al. Corset.....	31,736	Hall, J. H. Cattle guard.....	30,697
Graepel, H. Machine for sifting or sorting grain or ground material.....	31,885	Hall, J. T. Railway cattle guard.....	31,251
Graf, M. T. Gear wheel.....	31,597	Hall, Marquis L. Device for holding the connecting bar of window blind slats.....	32,599
Graff, M. Manufacture of steel.....	30,762	Hall, Reuben S. Car coupling.....	32,372
Graham, Charles C. Attachment for vehicles.....	32,954	Hall, S. Brush holding cabinet.....	31,414
Graham, Cornelius W., et al. Pipe wrench.....	33,192	Hall, Sherwood, et al. Sleigh knee.....	32,574
Graham, James, et al. Railway signalling apparatus.....	32,767	Hall, W. Bit for dove tailing holes drilled in rock.....	31,402
Granger, Louis E. Opera chair.....	32,519	Hallett, B. Mechanism for controlling the motion and use of seats, doors, lids, etc.....	31,983
Grant, Philip. Machine for sprinkling lawns.....	32,896	Halliwell, S. Button hole attachment for sewing machines.....	30,626
Grant, Thomas B. Means for locking nuts, bolts and set screws.....	32,332	Halliwell, S. Embroidery attachment.....	30,766
Gray, E. Telegraphy.....	30,812	Halliwell, S. Mechanical movement.....	30,770
Gray, E. Telautograph.....	30,839	Halsey, J. T. Portable drilling machine.....	30,740
Gray, George A., et al. Slop pall.....	32,822	Halsey, J. T. Tapping attachment.....	30,985
Gray, J. Harness.....	30,887	Ham, Foster Norman et al. Barrel swing.....	33,035
Graydon, T. W., et al. Book binding.....	31,752	Hambuzer, E. Caster.....	31,367
Green, Joseph W. Loom for weaving narrow ware fabrics.....	32,903	Hamilton, Peter. Knotting mechanism for harvester binders.....	32,771
Greely, B. J. Garment.....	31,142	Hamlin, A. Dog power.....	30,829
Gregory, Edward G., et al. Brake shoe.....	32,904	Hamlin, Arthur D. Snow plate for horse shoes.....	32,520
Gregory, T. Self registering and checking apparatus for tram cars, etc.....	32,145	Hammel, L. Caster.....	31,367
Greening, B. Wire Co. Metallic lathing.....	32,823	Hammerslough, Louis, et al. Elbow rest for telephones.....	33,062
Greening, B. Wire Co. Wire rope.....	32,917	Hammerstein, O. Cigar rolling machine.....	30,918
Greening, F. Substitute for Ivory, etc.....	30,807	Hammond, W. B. Gasometer.....	31,274
Gresham, J. Vacuum brake.....	30,993	Hand Stitch Broom Sewing Machine Co. Broom sewing machine.....	32,012
Griffin, P. H. Expandible mandrel.....	31,785	Hand Stitch Broom Sewing Machine Co. Machine for assorting broom corn.....	31,482
Griffin, Patrick H. Measuring gage.....	32,957	Handel, R. Apparatus for stirring up fluids, powder, etc.....	32,061
Griffin, T. A. Foot guard.....	31,420	Handel, Reinhold. Boot cleaning machine.....	32,398
Griffin, T. A. Rail brace.....	31,147	Handel, Reinhold. Pen for drawing staffs.....	32,350
Griffin, William J. Churn and churn power.....	33,123	Hank, C. Cutter bar.....	32,156
Griffith, Amenzo, et al. Telephone call box.....	32,334	Hanley, Elijah. School desk, etc.....	32,433
Griffith, George F., et al. Paper bag holder.....	32,924	Hannah, G. O. Nut lock.....	31,162
Griffith, George F., et al. Roll wrapping paper holder, cutter and printer.....	32,905	Hannay, James B. Apparatus for the manufacture of sulphate of lead pigments.....	32,891
Grigg, A. T., et al. Bailway motor.....	31,424	Hansen, A. M. Facing for walls.....	31,457
Griggs, Albert C. Train signal.....	33,170	Hansen, H. M. Chimney cap.....	30,903
Grime, J. Valve gear for engines.....	32,084	Hanson, G. W., et al. Inhaler.....	32,069
Grimm, G. H. Evaporating pan.....	30,778	Hanson, J. M. Boot and shoe.....	30,925
Grindley, W. H. Rifle sight.....	31,169	Hardenberg, C. M. Dust catcher.....	32,086
Griswold, George W., et al. Horse collar.....	32,198	Harding, Silas H. Mariner's clock and watch dial.....	32,420
Groat, W. K. and W. C. Cross cut saw.....	31,298	Hardy, H. V., et al. Clothes stick.....	31,276
Grobb, S. H., et al. Fire extinguishers.....	31,335	Harland, J. T. Shipping can.....	31,199
Groos, Clemens. Matter for making hair grow on the human skin.....	32,910	Harman, W. Bridge.....	31,585
Gros, G., et al. Apparatus for sealing letters, etc.....	31,306	Harmer, Edward. Printers' copy holder.....	32,747
Gross, F. Saddle frame.....	32,079	Harper, H., et al. Sliding gate.....	30,980
Grosvenor, E. A., et al. Device for opening and closing valves to air brake hose couplings.....	30,717	Harper, William. Car coupling.....	33,237
Grupe, F., et al. Merry-go-round.....	31,168	Harrass, B. Artificial wood.....	30,896
Grozier, E. A., et al. Base ball bulletin board.....	31,343	Harrington, Herbert E. Water heater.....	33,054
Guest, G. Hydraulic engine.....	31,604	Harris Button Hole Attachment Co. Button hole attachment.....	31,366
Gullfoyle, T. Device for measuring cloth in rolls.....	31,030	Harris, Charles E., et al. Feed water heater.....	32,586
Guillaumin, P. Weighing bridge.....	30,734	Harris, G. Car coupling.....	31,227
Gunckel, Winfield O. Feed water regulator.....	33,130	Harris, Hugh M., et al. Wrench.....	32,794
Gunning, J. F. G. Manufacture of corsets.....	30,573	Harris, J. Beverage.....	31,159
Gurnee, E. M., et al. Nail driver and set.....	32,042	Harris, J. B. Rotary engine.....	32,159
Gurney Co., E and C. Joint.....	32,673	Harris, James, et al. Nut lock.....	32,857
Gurney, E. Hot water boiler.....	30,781 30,782		
Gurney, E. Hot water heater.....	31,891		
Gurney, E. Heater.....	32,098		
Gustin, Jonathan M. Method of opening and closing drive gates.....	32,502		
Guy, J. Horizontal steam engine.....	32,096		
Haberman, F. Slop jar.....	30,835		
Hackney, H. Steam boiler.....	30,640		

Harris, Milo, et al. Farm waggon.....	32,338	33,149	Hiber, G. A. Life saving garment.....	31,284
Harris Palatial Car Company. Railway coach.....	32,540	32,540	Hill, D., et al. Elevator.....	31,639
Harris, Philander A. Device for securing shapes, maps, etc.....	32,889	32,889	Hill, Edward A. Grain door for cars.....	33,018
Harris, William D. Culvert for the passage of water.....	32,981	32,981	Hill, J., et al. Signal apparatus for railw ays.....	1,410
Harrison, T. W. Bag lock.....	30,656	30,656	Hill, Nelson H. Road cart.....	32,591
Harry, Hugh W. Tank.....	33,161	33,161	Hill, Warren, et al. Mowing machine.....	3,040
Harshman, Jonathan S. Unloading attachment for cars.....	33,098	33,098	Hilton, John, et al. Furnaces and smiths' hearths and means for operating them.....	2,814
Harsen, W. N., et al. Saw set.....	30,878	30,878	Hime, Charles F., et al. Process for waterproofing and preserving materials.....	32,739
Hart, J. F., et al. Railroad frog.....	30,590	30,590	Hine, F. A. Eliminator.....	31,210
Hart, W. Hoisting machine.....	30,683	30,683	Hine, H. A., et al. Car axle lubricator.....	31,532
Harvey, H. A. Method of treating low steel.....	30,757	30,757	Hines, J. F. Rotary engine.....	32,007
Harvey, J. A. Grooving or routing machine.....	31,471	31,471	Hinson, James A. Car coupler.....	32,487
Harvie, G. A. Temporary binder.....	31,389	31,389	Hipkins, H. Sleeper or railway tie.....	31,581
Hasenclever, F. A. Motor engine.....	31,655	31,655	Hislop, A., et al. Ice creeper.....	30,650
Haskell, H. L. Boring machine.....	32,064	32,064	Hitt, J. W. Process of tanning.....	32,138
Haskin, S. E. Method of vulcanizing wood.....	31,916	31,916	Hobart, M. M., et al. Draw bridge gate.....	31,769
Haslam, Thomas J. Storage battery.....	32,596	32,596	Hobson, A. E., et al. Hydraulic shaping press.....	31,652
Hassman, W. Fire heating apparatus.....	31,510	31,510	Hodgkinson, J. Hot air drum.....	31,904
Hasson, George E. Clothes dryer.....	32,810	32,810	Hoelck, John, et al. Process of treating hides and skins.....	33,145
Hastie, John, et al. Bob sleigh.....	32,346	32,346	Hofele, F. W. Runner frame for sleighs, etc.....	31,468
Haughwout, J. W. Snow plough.....	31,670	31,670	Hoff, Bogdan. Rectifying chemical and apparatus therefor.....	32,265
Haughey, M. Device to prevent horses interfering.....	30,990	30,990	Hoffmann, A. W. Means for ornamenting watch case centres, etc.....	31,740
Haward, John W. Signalling lantern.....	32,414	32,414	Hoit, J. R. Sled brake.....	31,493
Hawes, E. Sheet metal working machine.....	32,155	32,155	Hoke, C. U. Electric belt.....	31,974
Hawley, W. D. Clamp.....	30,618	30,618	Holcomb, Fred A., et al. Telephone system.....	32,368
Hayden and Derby Manufacturing Co. Steam injector.....	32,425	32,425	Holder, George R. Elevator lock.....	33,204
Hayden, T. Axle bearing.....	31,032	31,032	Holland, J. N. Grain measure and tally.....	32,128
Haydon, W. Tension releasing device for sewing machines.....	31,087	31,087	Holland, William J. Vehicle wheel.....	33,174
Hayes, G. Fire proofing of buildings.....	30,611	30,611	Hollerith, H. Apparatus for compiling statistics.....	30,902
Hays, Charles C. Road cart.....	32,731	32,731	Holmes, Asher. Churn.....	32,454
Hays, Thomas E., et al. Journal box.....	32,474	32,474	Holmes, G. P. C. Racket holder and press.....	30,824
Haythorn, W. Straining device for steam traps.....	30,832	30,832	Honsser, Isaac W. Supporter for drawers.....	33,238
Hazard, Frederick J. H. Cash carrier.....	32,976	32,976	Hooper, Henry W. Horse shoe for roughing horses.....	32,707
Hazard, V. G. Paper machine.....	31,743	31,743	Hoosier Drill Co. Pawl and ratchet mechanism for seeding machine wheels.....	31,314
Heacock, H. P. Saw mill.....	31,136	31,136	Hoover, Ellis A., et al. Grain weigher.....	32,495
Headley, E., et al. Coin receptacle and register.....	31,677	31,677	Hope, J. Fare checking, indicating and advertising apparatus for omnibuses.....	30,996
Hearne, J. Gas meter.....	31,786	31,786	Hope, John H., et al. Head rest.....	32,953
Heath, Abel G. Reversible movement for oil lamps.....	32,813	32,813	Hopkins, C. H. Jack screw.....	31,012
Heddon, Thomas, et al. Wheel for vehicles.....	32,647	32,647	Horig, Otto. Sucking cushion.....	32,683
Hefferman, E. F. Watch case.....	31,537	31,537	Horner, Herbert. Potato digger and picker.....	32,462
Heffner, W. E. Car door fastener.....	30,705	30,705	Horsey, E. H. Embalming apparatus.....	31,329
Heffner, W. E. Car axle box.....	31,035	31,035	Horton, W. G., et al. Coin receptacle and register.....	31,677
Heighington, John B. and William. Handle for valves, etc.....	32,804	32,804	Horton, W. J. Window screen.....	31,884
Heighington, William and John B. Cricket bat.....	32,746	32,746	Hosack, S. G. Siding gauge.....	31,171
Heine, A. Grain cutter.....	30,877	30,877	Hosch, J. C. Photographic process for printing in colors.....	30,658
Heine Safety Boiler Co. Steam generator.....	31,964	31,964	Hosford, J. Wire cloth holder.....	31,246
Heinze, Hermann. Skate.....	30,053	30,053	Hough, J. D. Holdback for vehicles.....	31,484
Heitherslay, William. Reversible share for ploughs, scarifiers and cultivators.....	32,399	32,399	House, H. A. Door check.....	31,384
Heller, C. Toy picture.....	31,319	31,319	Houseman, T. R., et al. Apparatus for the dessication of materials.....	31,697
Hellesen, W. L. F. Dry battery.....	31,154	31,154	How, W. F., et al. Lock nut.....	31,297
Helm, Frank C., et al. Paper bag holder.....	32,924	32,924	Howard, Charles A. Car axle lubricator.....	32,951
Helm, Frank C., et al. Roll wrapping paper holder, cutter and printer.....	32,905	32,905	Howard, F. B. Apparatus for pressing pulp.....	31,629
Henderson, J. Freight handling apparatus.....	31,970	31,970	Howard H. Foot ball.....	31,135
Hendry, C. M., et al. Railroad frog.....	30,590	30,590	Howard, W. Boot and shoe.....	30,014
Henius, M. W. Corset clasp.....	30,719	30,719	Howatt, D. E., et al. Water heater.....	32,321
Henkle, Leonard, gas burner.....	32,816	32,816	Howell, W. E., et al. Shirt wrist band.....	31,220
Henry, G. C. Carbonated beverages.....	32,098	32,098	Howes, A. P. Faucet.....	30,662
Herbert, H. Store service apparatus.....	30,653	30,653	Howill, M. Laced rubber boots and shoes.....	30,616
Herby, John, et al. Farm waggon.....	32,338	33,149	Hubbard, Charles F. Baking oven.....	32,571
Herman, R. Couplings for gas and electric light fixture.....	30,911	30,911	Hudson, C. E. Metal band for uniting hose and couplings.....	30,988
Hernance, R. Lantern.....	31,463	31,463	Huggins, W. Cultivator scraper and roller.....	30,741
Hermite, E., et al. Apparatus for electrolyzing bleaching solutions.....	31,656	31,656	Hughes, F. J. Car coupler.....	30,809
Herr, C. K., et al. Car coupling.....	31,953	31,953	Hughes, G. A. Drag sawing machine.....	31,681
Herr ck, F. A. Rack for agricultural tools.....	31,235	31,235	Hughes, G., et al. Wood working machine.....	31,157
Hershey, M. E., et al. Steam boiler setting.....	30,731	30,731	Hughes, Martial L., et al. Hay fork.....	33,223
Hervieux, C., et al. Axle grease.....	30,548	30,548	Hughes, Smith E. Water closet and reservoir therefor.....	33,100
Herzog, C. Apparatus for carburetting air and enriching gas.....	30,882	30,882	Hugill, J. Head rest.....	31,197
Heslop, W. Construction of boats.....	32,148	32,148	Hull, Albert. Method of preparing hides for tanning.....	32,356
Hess, George. Electric clock.....	32,485	32,485	Hummel, D. Fluid separating machine.....	31,534
Hess, N. P., et al. Wind mill.....	31,099	31,099	Humphreys, D. Galvanic battery.....	30,532
Hewitt, J. Machine for setting saws.....	31,350	31,350	Humphreys, J. D. Rubber matting.....	30,938
Hibbard, J. O., et al. Horse power hoisting machine.....	31,705	31,705	Hunt, W. H., et al. Case for bottles, etc.....	31,972
Hibner, D., et al. Manufacture of chairs.....	30,530	30,530	Hunter, G. D. Machine for cutting and crimping cartridge shells.....	32,187
Hickey, L. J. Valve for steam engines.....	31,659	31,659	Hunter, John. Fence wire stretcher.....	32,724
Hicks, Hiram G. Welding compound.....	32,741	32,741	Hunter, J., et al. Shoe clasp.....	30,547
Hicks, Norman P., et al. Mowing machine.....	33,040	33,040	Hunter, W. B., et al. Flood fence.....	30,629
Hilborn, W., et al. Inside guard for electric light globes.....	30,916	30,916	Hurdle, R. Dress cutters' scales.....	30,801

Hurst, G. Lobster trap	31,328	Johnson, James M. Rall joint.....	32,787
Husnik, James. Preparation of watermarks and waterprints	32,443	Johnson, J. P. Copying press.....	30,810
Hutt, James W., et al. Machine for the manufacture of paper	32,245	Johnson, L. H. Motor.....	31,686
Hyatt, John W. Process of cleansing granular filter beds	33,047	Johnson, W. D. Tripod head for surveying instruments.....	31,635
Hyde, Francis H. Water tap.....	32,227	Johnson, W. P., et al. Street and station indicator...	31,881
Hyde, Robert N. Compound for cleaning carpets.....	32,963	Johnston, D. M. Clothes horse.....	30,871
Hydorn, George L. Trace holder	32,260	Johnston, L., et al. Process for producing lustre bronzes, etc.....	30,981
Hydraulic Elevator Co. Elevator.....	30,805	Johnson, Sylvester T. and Columbus. Plow and pulverizer	32,307
Hynds, G. A. Vehicle thills.....	31,944	Johnston, W. F. Bundle carrier for binders.....	31,687
Ide, F. B. Stamping device for cuff blank, hemfolding and cutting machines.....	30,654	Jones, Ahira. Device for wiring wood fences.....	32,809
Illgen, P. C. Apparatus for calculating multiplication sums	31,572	Jones, Arthur E. Fire escape	32,478
Ingalls, Borelli D., et al. Heating drum	32,708	Jones, Charles W., et al. Gas generator and burner.....	32,371
Ingells, J. Churn.....	30,875	Jones, C. W. Apparatus for driving spindles.....	31,427
Ingram, Nathan D., et al. Button.....	33,159	Jones, F. F., et al. Diaper.....	31,247
International Electric Co. Transfer system of electrical distribution	31,535	Jones, J. N. Adjustable chimney.....	30,843
International Postal Supply Co. Letter postmarking and cancelling	32,247	Jones, J. J. Wire screen.....	31,425
International Postal Supply Co. Machine for separating and feeding letters.....	32,248	Jones, J. J. Wire screen and means for securing wire gauze in screen frames.....	31,426
International Postal Supply Co. Stamp cancelling and post marking machine	32,367	Jones, John E. Weather strip.....	32,293
Irish, Joseph, et al. Embroidery machine.....	32,828	Jones, J. H. Washing machine.....	30,795
Irving, William. Connection of steam generators.....	32,788	Jones, R. J. Paddle wheel.....	32,102
Irwin, John P. Gate	33,198	Jones, J. Finish for plastered walls.....	31,494
Irwin, Giles G., et al. Washing machine.....	32,365	Jones, William J. Cap for oil cups and cans.....	32,608
Isbell Machine Co. Railway switch.....	31,139	Joneson, S. Method of supplying new milk to separating machines.....	31,732
Isbell, R. H. Railway switch.....	31,139	Jordan, Oswald F. Guard for railway bridges.....	33,168
Jackson, William H., and Co., et al. Process of treating metallic tubing to convert it into ornamental, spheroidal and analogous forms	32,335	Jordan, William H., et al. Telephone call box.....	32,334
Jackson, William H., and Co., et al. Die for impressing ornamental designs on tubes.....	32,214	Joslyn, William, et al. Fertilizer distributor... 32,018	32,508
Jackson and Company, W. H., et al. Wire screen.....	30,564	Joslyn, Don Carlos, et al. Composition for lining journal and axle boxes.....	33,181
Jackson, J. B., et al. Stopper for bottles and means for securing same	31,196	Jay, J. C. Steam radiator.....	30,886
Jackson, John B., et al. Double furrow plough.....	33,191	Judson Pneumatic Street Railway Co. Mechanical movement	32,169
Jackson, J. T. and T. Mowing and reaping machine	30,597	Judson Pneumatic Street Railway Co. Street railway.....	32,567
Jackson, W. M. Gas tip.....	31,205	Jull, O. Snow plow.....	31,679
Jackson, W. M. Marine propulsion.....	31,023	Jutson, Charles J., et al. Shoe for horses and other animals.....	32,231
Jacob, Alfred P. Gas burner	32,271	Kaiser, J. Hydrant.....	31,734
Jacob, F. Duplex telegraphy	30,732	Kaiser, William. Plough for furrows.....	32,394
Jacob, B., et al. Cork extractor	30,873	Kakas, W. F. Fishing reel.....	31,336
Jacobs, Gustav. Horse shoe.....	32,757	Karthauss, E. Main spring for watches, etc.....	30,636
Jacob, J. Illuminating tile.....	30,848	Kattentidt, M. Machine for casting photographic plates.....	31,292
Jacobs, J. W. Feed box	31,283	Keasey, Theron Depeu. Pulley.....	33,134
Jacobs, L. and S., et al. Apparatus for the prevention of fuel.....	32,133	Keehn, Francis. Type founding machine.....	32,644
Jacob, L. J., et al. Cork extractor.....	30,873	Keeler, Allison H., et al. Telephone transmitter.....	33,038
Jahn, William, et al. Film for use in photo-engraving.....	33,043	Keeler, Horatio, et al. Telephone transmitter... ..	33,083
James C., et al. Machine for making hollow ware pottery.....	30,780	Keeley, David H. Operation of long line telegraph circuits.....	33,008
James, R. E. R. and C. M. Manufacture of horse shoes.....	30,695	Keen, A. W. McL. Saddle tree and panel.....	30,820
James Smart Manufacturing Co. Hot air furnace.....	32,971	Keith, James. Hot water boiler.....	32,556
James, W. H., et al. Fence post.....	30,599	Kelzer, David A., et al. Machine for watering lands..	32,611
Jamison, John K., et al. Car coupling.....	32,745	Kelly, George. Method of making flat coiled springs.	33,246
Janes, H. Organ.....	31,742	Kelly, H. Tension weight for shuttles.....	32,166
Jaques, Francis M. Cough syrup.....	32,412	Kelly, H. E., et al. Chain link.....	30,541
Jaques, J. R. Lasting and upholstering tool.....	32,058	Kelly, James Paul. Die for making axes	32,688
Jardine & Co., A. B. Tube expander.....	30,575	Kelly, P. J. Radiator.....	30,589
Jardine, J. and P. Tube expander.....	30,575	Kelly, W. C. Axe	32,177
Jarvis, Samuel E. Steam engine.....	32,871	Kelly, William C. Die for making axes.....	32,689
Jenkins, C. Packing holder.....	31,721	Kelly, W. J. Railway switch.....	31,918
Jewell, H. L. Lantern.....	30,821	Kelsey, Frank N., et al. Railway signalling apparatus.....	32,767
Jewell, M. R. Suspension file box.....	31,608	Kelsey, H. O., et al. Washing machine.....	31,492
Jewett, C. G. Water heater.....	31,790	Kelsey, W. W. Steam and hot water boiler.....	31,626
Jewett, Charles G. Damper regulator.....	32,882	Kempton, A. F. Washing machine.....	31,122
Joel, Isaac. Coin feed photographic apparatus.....	33,144	Kennedy, E. S. T. Plate for drying steam.....	32,078
Johansson, C. A. Step bearings for shafts.....	31,243	Kennedy, J. P. Machine for closing the ends of metal tubes.....	31,832
Johnson, A., et al. Barrel hoop machine.....	31,341	Kennedy, O. S., et al. Seeding attachment for disk harrows.....	31,905
Johnson, A. J., et al. Steam and hot water radiator.....	30,700	Kennedy, P. J. Radiator.....	31,954
Johnson, A. W. Button hole attachment for sewing machines.....	30,626	Kenyon, Jacob G. Vehicle.....	32,898
Johnson, A. W. Embroidery attachment.....	30,766	Kepler, John M. Reel for fishing rods.....	32,931
Johnson, A. W. Mechanical movement.....	30,770	Kerr, Thomas B. Refractory composition.....	32,929
Johnson, D., et al. Ammunition and its manufacture.....	30,609	Kerr, Winslow. Coffin lid.....	32,848
Johnson, Edward D. Molding plane.....	32,930	Kester, J. F. Regulator for dynamo electric machines	31,242
Johnson, E. C. Steam pump.....	31,939	Kester, J. F., et al. Dynamo electric machine.....	31,265
		Keyling, L. Process and apparatus for producing slots or spheres of fragments of iron steel and metal.....	31,580
		Kibler, J. B., et al. Device for killing flies.....	31,479
		Kilgour Bros. Method of making striped paper bags.	32,336

Killani, M. Method and means of electrolysis of substances in a state of fusion..... 31,789

Killey, J. H. Injector..... 30,932

Kimball, A. D. Tobacco box..... 31,325

Kimball, Arden D. Combination tool..... 33,011

Kimball, Arden D. Tug holder..... 33,061

Kimball, James L., et al. Electric cut out..... 32,833

Kimball, S. S. Burglar alarm..... 30,681

Kindray, T., et al. Tug strap holder for looms..... 31,695

King, George R. Compound to restrain the setting of plaster, etc..... 32,450

King, J. La F. Suture needle case and wire carrier... 30,944

King, Phineas F. Screw door safe..... 33,157

King, Robert W. Radiator..... 32,629

King, W. Grate..... 31,279

King, Warden. Water heater..... 32,649

King, Willard P. Cure for dyspepsia, etc..... 32,720

King, William S. Lasting machine..... 32,685

Kingdon, James. Plow..... 32,296

Kingleyside, J. Clothes wringer..... 31,260

Kingleyside, John, et al. Wheel for vehicles..... 32,647

Kingsford, T. Cross head for steam engines..... 31,000

Kingsford, T. Cut-off for steam engines..... 30,716

Kingsley, George. Steam boiler..... 32,480

Kingsley, J. F. Die for making eye bars..... 31,450

Kinnard, W. M. Arm or hand rest..... 30,864

Kinnard, W. M. Book binding and book..... 30,834

Kinnard, W. M. Book leveler..... 30,831

Kinney, I. Metallic lathing..... 30,779

Kinney, J., et al. Commode..... 31,370

Kinsey, S. D. Machine for transmitting motion..... 31,910

Kirby, J. M., et al. Semaphore..... 31,529

Kirkwood, J. W. Syringe..... 32,066

Kirtley, S. B., et al. Envelope tablet..... 31,064

Kitchingham, E. L., et al. Waterproof and anti-corrosive composition..... 30,555

Kitson, Arthur. Method of producing fuel and illuminating gas and apparatus therefor..... 32,811

Klander, C. L. Dyeing or scouring machine..... 31,024

Klase, V. J., et al. Fire escape..... 31,550

Kline, J. P. Safety pole and shaft..... 31,995

Klinker, Wesley. Railroad car..... 32,541

Knade, Ferdinand. Attachment for penholders..... 32,623

Knade, J. K. F. Ruler..... 32,099

Knauber, Jacob. Pocket check book..... 33,242

Knapp, E. B. Winker fork..... 30,924

Knaus, Joseph H. Furniture drawer..... 32,226

Kneen, W. Lock and latch..... 31,892

Knight, G. H. Ring..... 31,557

Knight, Walter Nelson, et al. Railroad switch..... 32,530

Knoblanck, H. B. Awning..... 30,785

Knowles, Norman, et al. Circular brush..... 33,102

Knox, James W., et al. Suspender end..... 32,956

Koch, Christian Henry, et al. Composition for lining journal and axle boxes..... 33,181

Koenig, E., et al. Time index marker..... 31,988

Konigsberg, Gabriel. Ornamental structures for monuments..... 33,075

Kornblum, Joseph, et al. Eye piece for optical instruments..... 32,860

Koyl, C. H. Signal for railway and other purposes... 30,614

Koyl, Charles H., et al. Railway switch..... 32,323

Krake, John A., et al. Grain separator..... 32,565

Kranz, Frederick. Lime kiln..... 32,279

Krehbiel, John. Vestibule car..... 33,127

Kristoffovitch, Paul de. Manufacture of artificial granite..... 33,207

Krom, J. J. Door check..... 31,395

Kron, R. Apparatus for atomization of liquids and application thereof to fabrics, etc..... 31,104

Krueger, August C., et al. Process of treating hides and skins..... 33,145

Krutzsch, H. Brick machine..... 30,551

Kuhl, Albert F. Hand car..... 32,997

Kuhn, W. Treatment of beer and fermentable and effervescent liquids..... 31,175

Kursten, P. E. Control apparatus for counters..... 30,808

Kyle, Patrick. Carriage wrench..... 32,521

Lachman, M. Sewing machine..... 31,052

LaDow, Charles. Harrow..... 32,727

Laforge, F. H., et al. Steam engine..... 31,258

Lafrance, P. L. Slide valve..... 31,048

Laguire, William H. Tool and tool holder..... 32,312

Laidlaw, John. Centrifugal machine for separating cream from milk..... 32,969

Laing, Byron. Marginal index for bibles..... 32,379

Laliberté, E., et al. Mode of propulsion of ships..... 32,136

LaMarsh, A. Straw cutter..... 30,910

Lambert, John L., et al. Safety pin..... 32,830

Lamothe, Docité, et al. Hay press..... 32,821

Lampman, A. Sulky plough..... 30,685

Landan, F., et al. Apparatus for raising or lifting heavy weights..... 30,592

Lander, Z. I. Permutation lock..... 30,825

Lander, E. J. Permutation lock..... 30,825

Landis, F. F. Thrashing machine..... 31,991

Lane, E. F., et al. Toy..... 31,058

Lane, F. R. Horizontal sawing machinery..... 31,986

Lane, James R., et al. Journal bearing..... 32,764

Lane, W., et al. Baby walker..... 31,617

Langdon, A., et al. Washing machine..... 31,170

Langer, Carl, et al. Gas battery..... 32,870

Langfield, J. Apparatus for heating railway carriages, etc..... 31,207

Langlais, A., et al. Glass bevelling machine..... 30,651

Langlois, O. and H. Sofa bed..... 30,720

Lansberg Brake Co. Air brake..... 32,845

Lansberg Brake Co. Air brake..... 32,345

Lansell, G. Apparatus for equalizing the strain on winding gears..... 31,037

Langston, T. Art of forming justified lines of types... 30,581 30,582 30,583 30,584

Lanston Type Machine Co. Art of forming justified lines of types..... 30,581 30,582 30,583 30,584

Lapp John. Boiler..... 32,493

Lappin, J. J. Draw head for railway cars..... 31,733

Larkin, John. Ink stand..... 32,662

Larrabee, Philip J. Bench clamp..... 32,587

Lary, Morris. Sieve..... 33,097

Lash, Z. A. Letter file..... 31,527

Latimer, W. Process of making fibre from pine needles..... 31,146

Latulip, F. Tool head and handle..... 30,661

Laudick, J. M. Display rack..... 30,554

Laughlin, Joseph M. Machine for making nails for shoeing horses, etc..... 33,163

Laughlin, S. J. Saw set..... 31,249

Lanzier, F. Liquid measure..... 31,882

Lavery, R. Gearing for hoisting, etc..... 31,781

Lavolette, A. A. Sewing machine pedal..... 31,481

Lavoie, G., et al. Scavenging incinerator..... 31,390

Lawler, G. W., et al. Overflow check nozzle..... 30,768

Lawn, F. J. Motor..... 30,981

Lawrence, J. Device for stopping leakage in hose and pipes..... 30,947

Lawrie, W., et al. Hydro-carbon furnace..... 31,086

Leary, M., et al. Switch..... 30,920

Leavitt, William C. Handle for metallic vessels..... 32,942

Leblanc, O., et al. Composition for brick and artificial stone..... 31,539

Leblanc, O., et al. Composition for bricks and artificial stone..... 31,001

Leclercq, F. E. Manufacture of files, rasps, rimers, etc..... 31,831

Leduc, C., et al. Flexible pipe coupling for railway cars..... 31,441

Lee, F., et al. Mode of and apparatus for dyeing textile materials..... 30,818

Lee, George W., et al. Thill coupling..... 32,856

Lee, John McLain. Cart seat..... 32,607

Lee, J. P. Repeating fire-arm..... 31,938

Lee, J. T. Feed water heater and purifier..... 31,586

Lee, T. B. Fare collecting box..... 31,018

Leeds, A. R. Process and apparatus for purifying water..... 31,789

Leedy, J. K. Elevator..... 30,870

Leedy, J. K., et al. Pneumatic railway signal..... 31,280

Leeper, Alfred B. Band cutter platforms for thrashing machines..... 32,408

Lehman, S. S., et al. Car coupling..... 31,953

Leiblein, E. R. Trace buckle..... 32,011

Leinbrock, Ernest O. Device for closing and securing doors of railway passenger carriages..... 33,030

Leith, A. J., et al. Playing card..... 31,487

Leman, F. Watch mechanism, etc..... 31,646

Lemieux, I. W. Device for transmitting power..... 31,893

Lemieux, I. W. Hoisting machine..... 31,564

Lenderoth, W. Manufacture of flat blocks and slabs from clay mixture..... 31,667

Lenderoth, W. Method of dyeing porous hollow ware..... 31,665

Lenderoth, W. Porous earthenware building material..... 31,941

Lenderoth, W. Process for manufacturing porous earthenware building material..... 31,668

Lenderoth, W. Skew back..... 31,664

Lenoir, J. T. Well curb..... 32,149

Lentuer and Co., S. Automatic friction coupling..... 30,679

Leoffler, J. C. L. Submarine telegraphic cables.....	30,726	Macdougald, George D., et al. Manufacture of seed cake or cattle food from cotton seed.....	32,392
Leonard, Reuben W., et al. Coal conveyor.....	33,225	Mace, H. A., et al. Flood fence.....	30,629
Lepage, A. Fyle for papers.....	31,779	MacGregor, Gourlay & Co. Wood planing machine....	32,713
Lepage, H. T. Adjustable bag holder attached to fan mills.....	30,698	MacIvor, Ralph W. E. Production of white lead, etc.	32,524
Le Roy, Charles J., et al. Horse shoe.....	33,082	Mackay, C. D. Dress stay.....	31,778
Leslie, Edward. Bearing for car axles.....	32,859	Mackenzie, J., et al. Aerial cable railway.....	30,794
Leslie, J. Apparatus for grinding the cards of card- ing engines.....	31,630	MacKintosh, John W., et al. Process for making hollow glass ware.....	33,037
Lessard, Theophile, et al. Water pipe for eave troughs.....	32,395	Macklin, Athol B. Car seat.....	33,197
Lever Brothers. Oil extraction.....	33,183	Macmillan, D. F., et al. Coffee grinder.....	31,118
Lever Brothers. Tetrachloride of carbon.....	33,146	Macnee, D. Axle box for railway rolling stock.....	30,750
Lewis, P., et al. Field filtering water bottle.....	30,806	Macpherson, D. M. Hand truck.....	30,796
Lewis, Roderick H., et al. Slop pail.....	32,822	Macpherson, D. M. Milk purifier.....	30,930
Lewthwaite, J. Constructing breakwaters, groins, etc.	31,022	Macrea, H. E. Fence.....	32,119
Liddell, William, et al. Life boat.....	32,817	Mactear, J. Art or process of preparing fibrous material for obtaining fibre.....	31,735
Lidster, T. C. Roundabout.....	31,760	McAllister, James. Steam engine.....	32,302
Liebleh, M. A. O. L., et al. Lamp holder for music stand.....	30,622	McAnulty, J. A. Roller mill.....	30,631
Lilley, H. Pipe hook.....	30,956	McArdle, J., et al. Art of manufacturing gas.....	31,363
Lineoin, J. L. Clothes drier.....	31,272	McBride, A. B. Cultivator plow, etc.....	31,620
Lind, J. Tubular lantern.....	31,488	McBride, Thomas J. Straw burning cook stove.....	32,618
Lind, J., et al. Case for bottles, etc.....	31,972	McBride, Thomas J. Straw burning stove.....	32,562
Lindenthal, G. Cable for suspension bridges.....	30,963	McCarthy, C. A., et al. Railroad snow plow.....	32,564
Lindermann, Albert T. Lumber trimming and as- sorting machine.....	32,288	McCloud, S., et al. Machine for reducing rails.....	32,047
Lindgren, J. F., et al. Medicinal compound.....	31,683	McCombs, G. F. Broom sewing machine.....	31,116
Lindop, John C., et al. Governor for electric motors and dynamos.....	33,094	McConnell, Edward, et al. Safety pin.....	31,548
Lindop, John C., et al. Battery for the storage of electricity.....	32,459	McCady, C. H., et al. Heel counter and toe-tip.....	32,830
Lindop, J. C., et al. Primary batteries for producing electricity and solutions for charging the same....	32,017	McCrary, Charles H., et al. Heel counter.....	31,947
Lindsay, R. Household utensil.....	31,563	McCansland, W. J. Washing machine.....	33,045
Lindsay, W. H. Moulding coal dust or small coal into solid blocks and apparatus to be used for this purpose.....	30,676	McDonald, C. Horse power.....	30,830
Lipe, C. K. Machine for assorting broom corn.....	31,482	McDonald, D. S., et al. Fire proof gas machine.....	30,749
Lippy, David. Cash carrier.....	32,360	McDonald, N., et al. Window ventilation.....	31,059
Lipsett, J. T. Chimney cowl.....	30,854	McDonald, P. E., et al. Railway ticket.....	31,536
Little, Alexander W. Swing.....	32,378	McDonald, P. E., et al. Railway ticket.....	31,371
Little, Charles H. Device for conveying cars over temporary obstructions.....	32,446	McDonald, Thomas. Bottom for coal hods, etc.....	32,773
Livingston, C. L. Door bell.....	31,082	McDonell, D. Gate.....	32,176
Livingston, John. Means for insuring perfect com- bustion in furnaces, etc.....	33,210	McDonnell, Vincent John. Wrench.....	33,033
Lloyd, John W. Device for evaporating liquids.....	33,076	McDonough, J. J. Non-eccentric valve gear.....	31,643
Lloyd, M. B., et al. Coin operated race course.....	32,108	McDougall, Alexander. Tow boat.....	32,940
Lobdell, A. Process of manufacturing round reins, bridles, winker-braces, etc.....	31,400	McElroy, J. F. Circulating hot water apparatus.....	30,865
Locke, A. S. and R. P. Machinery for the manufac- ture of brick, tile and earthenware.....	31,346	McElroy, J. Machine for manufacturing rosettes, etc., in wood.....	31,225
Lockman, E. Axle thimble.....	32,139	McEntee, Patrick. Car coupling.....	33,115
Lochmann, Ernest, et al. Roll shutter list.....	32,701	McEvoy Car Heating Co. Pipe couplings.....	32,244
Loewenbach, Hugo. Shipping book.....	32,413	McEwen, M. G., et al. Stove drum.....	31,802
Lomont, Mary P. Road scraper.....	32,801	McEwen, D. Sheaf carrier and band cutter.....	31,039
Loney, W., et al. Cash till.....	30,713	McFarland, Thomas W. Sad iron heater.....	33,162
Long, D. B. Means for obtaining water power.....	31,768	McFarlane, Walter. Cant dog.....	32,785
Long, C. S. Base for fence posts.....	31,967	McGrath, Thomas, et al. Journal box.....	32,744
Long, J. A. Scaffold bracket.....	30,674	McIntyre, W. H. Pump.....	30,607
Longenecker, D., et al. Steam boiler setting.....	30,731	McKay, A. Panel door.....	30,841
Longwell, Harlitt. Boring machine.....	32,484	McKay, Thomas. Barrel stand.....	32,455
Lord, P., et al. Flexible pipe coupling for railway cars.	31,441	McKee, L. H. Head light.....	31,095
Loud, John J. Pen.....	32,643	McKenzie, J. Railway rail joint.....	31,193
Lougé, John A. Belt gearing.....	32,486	McKie, W. Boot.....	30,827
Love, Harry H. Posting and copying guide.....	32,835	McKemmie, John, et al. Drawing roll.....	32,960
Lovejoy, Fred E., et al. Oil tank.....	32,211	McKinnon, Lachlan, et al. Vehicle dash.....	32,776
Lovley, J. H. and E. Collar and cuff.....	30,959	McKinnon, Reuben, et al. Whistle.....	32,496
Lowe, W. Rivet set and header.....	31,407	McLachlan, J. C. Harvester.....	31,642
Lowe, W., et al. Rail joint unions.....	30,625	McLane, H. H. Drilling tools for wells.....	31,912
Lowenfeld, H. Beverage.....	31,159	McLaren, J. R. Snow shovel.....	32,082
Lowdon, J. C. Check punch.....	31,198	McLean, H. H. Bridle.....	31,378
Lozé, Auguste E. H. Means for securing corks and stoppers in bottles.....	32,622	McLean, W. Baling press.....	31,302
Luce, Letitia V. Sunshade for vehicles.....	32,560	McLennan, Euphemia A. Liniment for rheumatism, bruises, etc.....	33,009
Lucigen Light Co. Gas burner.....	32,829	McLennan, Euphemia A. Abdominal and spinal sup- porter.....	32,299
Ludlow, Samuel W. Steam generator.....	32,635	McLeod, A. G. Hame lock or fastener.....	31,907
Lugo, O. Electric motor, etc.....	31,762	McLeod, M. Medicinal compound.....	31,495
Luhrig, Carl, et al. Coal weighing and cleaning machinery.....	33,104	McMaster, Alonzo J. Camping vehicle.....	32,304
Luthy, Edward F., et al. Feed water heater.....	32,586	McMaster, J. Stove.....	31,641
Lyall, J. Twine and device for making the same.....	30,646	McMillan, J., et al. Hydro-carbon furnace.....	31,086
Lyon, F. C., et al. Oar lock.....	30,657	McMorris, James. Horse detacher.....	32,674
Mabby, J. T. Railroad crossing.....	31,449	McMurchy, J. B. Scoop shovel.....	31,009
Macdonald, E. A. Coach.....	31,614	McMurty, William James, et al. Method of combin- ing electricity with gas.....	32,998
Macdougald, G. D., et al. Apparatus for the removal of cotton fibre from cotton seed.....	30,859	McNaughton, Peter. Split pulley.....	33,142
		McNaughton, R. Steam engine.....	31,702
		McNeill, G. House sewerage system.....	31,333
		McPherson, J. Device for moistening tobacco.....	31,491
		McQueen, Alexander, et al. Machine for watering lands.....	32,611
		McVicker, James, et al. Embroidery machine.....	32,828
		McVicar, Emery M. Clevis.....	32,937
		Mahurin, Melville, B. Vehicle wheel.....	32,397
		Maire, A. Plough.....	30,962
		Major, Joseph. Washing machine.....	32,807

Malmberg, H. Two wheeled vehicle.....	31,977	Mersing, Dietrick P. A. Veneer saw.....	32,944
Manbré Beer Extract Co. Ale and beer.....	32,448	Mesner, L. J. Fire escape.....	31,081
Mandt, F. G. Running gear for vehicles.....	30,951	Messer, H. V. Shirt.....	30,552
Mandt, F. G. Whiffletree hook.....	30,885	Mey, F. H. C. Drive chain.....	30,837
Manier, Benjamin F. Car truck.....	32,476	Meyer, F. A. Plastic compound.....	30,686
Mann, J. F., et al. Switch.....	30,920	Meyer, M. O., et al. Oil feed for lamps.....	31,056
Manning, John. Machine for bevelling stereotype and electrotype plates.....	32,657	Meyer, Willis, A. Buckle.....	33,166
Manny, E. S. Boiler.....	31,354	Meyers, F. B. Hydro-carbon burner.....	32,104
Mansfield, E. Method of making ferrules for cant hooks.....	30,693	Meyers, J. G. Process of preserving dead bodies.....	30,828
Manypenny, M. B. Dress cutters scales.....	30,801	Michell, William. Extracting oil from and cleaning cotton waste.....	32,280
Marden, A. H. Car brake.....	30,869	Middleton, J. H., et al. Transplanting implement.....	31,267
Marden Car Brake Co. Car brake.....	30,869	Midgely, T. Method of manufacturing belting.....	31,576
Marfield, S. Axle and hub attaching device.....	32,067	Midgely, T., et al. Belting.....	31,717
Maria, P. Apparatus for the separation of glycerine and distillation of fatty matters.....	31,461	Midgely, T., et al. Hose or tubing.....	31,715
Markle, J. A. Doubletree.....	30,833	Midgely, T., et al. Wire body for hose.....	31,966
Marks, F. Apparatus for the prevention and con- sumption of smoke and consumption of fuel.....	32,133	Midgely, Thomas, et al. Belting.....	32,542
Marmont, Stephen. Process and means for preserv- ing fish, flesh and fowl.....	33,107	Midgely, Thomas, et al. Wire belting.....	32,762
Marquard, Frank. Composition adopted to electric insulators, etc.....	33,248	Milburn, J. H., et al. Scale.....	30,765
Marquard, Frank. Insulating composition.....	33,249	Miles, A. F. Sand band for carriage and waggon axles.....	31,431
Man, J. Sulky plough.....	30,708	Millar, P. J. Milk aerator and cooler.....	30,727
Marsh, E. A. Steam pump.....	30,730	Millen, James D., et al. Means for exterminating gophers, moles, etc.....	33,105
Marsh, J. W., et al. Conductor of electricity.....	32,146	Miller, Andrew. Gate.....	32,750
Marsh, Joseph W., et al. Device for protecting elec- tric conductors.....	32,460	Miller Brothers and Mitchell, et al. Water closet.....	32,197
Marshall, John B. Fruit picker.....	32,509	Miller Brothers and Toms, et al. Water closet flush. Miller, Charles H., et al. Closet cistern.....	32,452 33,099
Martel, Cyrille. Horse hay rake.....	32,294	Miller, George A., et al. Closet cistern.....	33,099
Martin, E. J., et al. Horse blanket fastener.....	30,714	Miller, G. N., et al. Chain link.....	30,541
Martin, H., et al. Whip, robe lock and line holder.....	31,755	Miller J. M. Fire extinguisher.....	30,964
Martin, J. G. Mode of binding grain and construction of grain binding harvesters.....	30,991	Miller, Lewis, et al. Thill couplings.....	32,512
Martin, J. F. Coating compound for iron, wood, can- vass, etc.....	31,374	Millard, Joseph. Means of heating schools, churches and halls from ordinary stoves or furnaces.....	32,535
Martin, S. Fence wire stretcher.....	31,092	Milligan, Henry C. Collar and cuff.....	32,939
Martin, W. Pipe or tube couplings.....	31,946	Milliken, Benjamin D. Apparatus for mixing liquid and powdered substances and for filling recepta- cles therewith.....	32,341
Martin, W. A. Churn.....	32,185	Milne, Alexander H. Hinge.....	32,895
Marx, Friedrich. Accumulation of electrical energy and apparatus therefor.....	32,732	Milne, Alexander H., et al. Nail.....	33,208
Mascotte Burner and Oil Co. Hydro-carbon burner.....	32,327	Milne, John. Apparatus for recording the vibrations of machinery and structures.....	32,354
Mason, Francis, et al. Barrel swing.....	33,035	Mingay, R. J. Gripper for platen printing presses.....	30,761
Mason, J. McG. Car coupling.....	31,076	Mitchell, Albert E., et al. Compensator for railway signals, etc.....	33,226
Mason, T. S. Reed organ.....	31,648	Mitchell, B. A. Door check.....	31,405
Massey Manufacturing Co. Bundle carrier for harves- ters.....	31,687	Mitchell, Charles C. Transom lifter.....	32,717
Massey Manufacturing Co. Harvester.....	31,642	Mitchell, Nathaniel C. Apparatus for washing and separating rubber.....	32,410
Matheson, G. N., et al. Tug strap holder for looms.....	31,695	Mitchell, Nathaniel C. Mill for grinding and sheet- ing rubber.....	32,409
Mathews, J. A., et al. Machine for subaqueous min- ing.....	31,445	Moffatt Electric Construction Co. Electro-magnetic separator.....	33,189
Matti, N., et al. Machine for moistening envelopes and stamps.....	31,002	Moffatt, John. Shoe pack.....	32,282
Maxim, Hudson. Method of producing high explo- sives.....	32,500	Mold, J. H., et al. Waggon brake.....	32,068
Maxon, D. M. Conveyor.....	31,821	Molin, C. G. Measuring apparatus for liquids.....	31,725
Mayer, A. Relief valve for steam engines or pumps.....	31,428	Mollison, James Smith, et al. Atmospheric thermo electric generator.....	33,087
Mayhew, T. Receptacle for poisons.....	31,637	Moncion, Michel. Latch and lock.....	33,244
Maynard, Edwin B., et al. Workman's time regis- ter.....	33,086	Mond, Ludwig, et al. Gas battery.....	32,870
Maynard, J. Combined latch and lock.....	30,608	Montague, G., et al. Saw.....	31,530
Mayne, William W. Carriage tongue support.....	32,624	Montague, R. H. D. S., et al. Bucket elevator for flouring mills.....	32,034
Mayo, Alice LaG. Presser foot hemmer.....	32,242	Montgomery, A. W. Hatchelling machine.....	31,827
Mayo, Alice LaG. Sewing machine attachment.....	32,243	Montgomery, H. C. Sewer gas trap.....	31,209
Meagher, J. D. Matter for making oil.....	31,160	Montgomery, J. Freight car door.....	31,595
Medrick, H. D. Water cock.....	30,687	Montgomery, Palmer A., et al. Sprinkler.....	32,325
Meek, D. E., et al. Sliding gate.....	30,980	Montgomery, Palmer A. Valve.....	32,853
Megrath, W. A. Railway ticket.....	31,085	Montgomery, R. N. Means for closing and locking or unlocking railway carriage doors.....	31,294
Meis, E. Seal lock.....	31,447	Montminy, C., et al. Machine for moistening envel- opes and stamps.....	31,002
Meister, W. Plane.....	31,372	Montross, L. H. Stove pipe.....	30,620
Melhado, Howard. Hotel night call indicator.....	32,761	Moody, Christopher. Door lock.....	33,124
Meloney, J. R. Truss.....	30,755	Moore, A. Grain scourer and cleaner.....	31,718
Mendel, Alfred. Substitute for collars for horses, etc. Mengel, E. C. C. Art or process of refining petrol- eum by distillation.....	32,734 32,174	Moore, Alexander W. M. Tool for breaking ice.....	32,597
Mengel, E. C. C. Process of refining oils.....	31,188	Moore, Andrew R. Fire escape.....	32,391
Mercer, A. J. Gate.....	31,489	Moore, D., Co. Stove.....	32,850
Mercer, F. C. Envelope and tag fastener.....	31,560	Moore, F. W. Compound for coating coffee.....	31,483
Mercer, Frederick D., et al. Harvester binder.....	32,537	Moore, H. W. Boiler.....	31,219
Mercer, John S., et al. Harvester binder.....	32,537	Moore, H., et al. Device for killing flies.....	31,479
Merriam, John E. Baking cabinet.....	32,377	Moore, James J. Shell.....	32,834
Merrill, G. W., et al. Hose coupling.....	31,744	Moore, R. L. Boiler.....	31,219
Merriman, Francis E. Animal drinking fountain.....	32,221	Moos, J. B. Cigar cutter.....	32,033
Merritt, Mortimer G. and Charles E. Type writing machine.....	32,634	Moran, J. P., et al. Railroad snow plough.....	32,047
Merritt, W. H., et al. Bag fastener.....	32,105	Moran, Thomas W. Metallic flexible joint couplings. Marck, August. Spectacle or eyeglass.....	32,921 32,785
		Morton, R. E. Machine for constructing fences.....	30,689

More, Wilson S. Hydro-carbon or crude petroleum burner.....	32,911	Newman, R. J. Cuff holder.....	30,563
Morehouse, Frederick H., et al. Screen for car windows, etc.....	32,330	Newsom, C. S., et al. Tug fastening for whiffletrees.....	31,305
Morgan, J. M. and J. T. Apparatus for holding horse shoes.....	30,702	Newton, H. R. Method of dealing with effluent of drains and sewers for its purification.....	31,636
Morgan, Thomas W. Ventilation of manholes for sewers.....	32,272	Ney, J. Machine for cutting peas.....	31,237
Morin, Alcidas E. Toy windmill.....	32,387	Nichols Harvester Co. Grain binding harvester.....	30,917
Morin, L. M. and O. N. Water wheel.....	31,013	Nichols, M. L. Grain binding harvester.....	30,917
Morley, J., et al. Gun.....	31,337	Nicholson, Benjamin, et al. Means for preventing the formation or development of injurious germs of animal or vegetable life.....	32,457
Morrill, W. T. Saw swage.....	30,952	Nicholson, Malcolm. Hot water furnace.....	32,751
Morris, A. W. Bag or sack.....	31,719	Nickloy, Alden C., et al. Railroad tie.....	32,322
Morris, C. N. Base ball bat.....	31,541	Nieschlag, F., et al. Merry-go-round.....	31,168
Morris, H. B. Machine for inserting diagonal strips into woven fabrics.....	31,520	Nippert, F. Rolls for converting old rails into angle iron.....	31,654
Morris, W. B. Wheel tire.....	31,591	Nirrnheim, Eugene, et al. Process of making alloys of chrome and manganese.....	32,217
Morris, W. D. Elevator skid.....	31,432	Noack, Carl A., et al. Electro regulator.....	33,085
Morrison, James, L. Black leaf check book.....	32,196	Noad, John H., et al. Process for water proofing and preserving materials.....	32,739
Morrison, James L. Manufacture of electrical dry elements.....	32,370	Nobel, A. Manufacture of explosives.....	30,707
Morrow, J., et al. Flat iron.....	31,935	Nogar, Russell H. Ditching plow.....	32,531
Morse, F. B. Ore concentrator.....	32,103	Nooney, James D. and John, et al. Flame fastener.....	33,203
Morse, Marcellus A. Apparatus for manufacturing gas.....	32,812	Norcross, E. R., et al. Musical instrument.....	31,476
Morse, O. M. Bolting reel.....	31,148	Norcross, O. W. Fastening for roof slates.....	31,555
Mortimer, C. G. Machine for ornamenting paper.....	31,551	Norcross, O. W., et al. Snow guard.....	32,015
Morton, Richard N., et al. Printing press.....	32,743	Norfolk, Edward N. Vehicle spring.....	33,048
Morton, Thomas M. Car heater.....	32,237	Norfolk, J. R. Fluid motor.....	31,598
Mosely, B. L., et al. Manufacture of artificial stone or marble.....	30,579	Norgate, Thomas C., et al. Flower holder.....	33,148
Moseley, C. and J. Card for carding cotton, wool, etc.	31,615	Norgate, Thomas C., et al. Nail.....	33,208
Moszezensky, A. Refractory crucible, pot, brick and lamp for furnaces.....	31,645	Norton, Frederick R. Manufacture of butter and apparatus therefor.....	32,585
Mouat, T. G. G., et al. Water heater.....	32,094	Norington, H. H. Hand stamp.....	30,948
Moulthrop, Irving S. Balling press.....	32,306	Norsworthy, Charles, et al. Battery for storage of electricity.....	32,459
Mower, Edward B. Rolled rye.....	32,775	Norsworthy, Charles, et al. Governor for electric motors and dynamos.....	33,094
Mower Knife Grinding Co. Machine for grinding mower knives.....	32,970	Norsworthy, C., et al. Primary battery for electricity and solutions for charging the same.....	32,017
Moyer, H. A. Spring vehicle.....	31,375	Northcott, Arthur, et al. Rein for riding and driving.	32,799
Moyer, J. H. Scarf protector.....	31,622	Northup, H. Davis. Cock and coupling for barrels.....	32,347
Mudge, Richard C., Paper Co. Paper garment.....	33,077	Norton, E. and O. W. Can cap soldering machine.....	32,134
Muhleisen, A., et al. Lightning rod.....	31,737	Norton, E. and O. W. Sheet metal.....	32,194
Muirhead, Alexander. Electric telegraph.....	33,029	Norton, Harrison T., et al. Clasp for bands for securing paper, envelopes, etc.....	32,228
Muller, Bernard. Smoke consuming device for boilers.....	32,309	Nunn, E. B. Pianoforte.....	30,758
Mullei Carl A., et al. Film for use in photo-engraving.....	33,043	Nusly, Vincent. Car coupling.....	32,758
Muller, E. F., et al. Merry-go-round.....	31,168	Oakley, Frederick. Toy.....	32,241
Mumford, Joseph A. Barrel head sawing machine.....	32,223	O'Brien, D. Augustus, et al. Journal box.....	32,744
Mumford, Joseph A. Steam engine.....	32,258	O'Brien, J. Fish weir.....	31,892
Munger, F., et al. Plow point sharpener.....	30,922	O'Brien, J. F. Station indicator.....	30,836
Munro, D., et al. Ice creeper.....	30,650	O'Brien, Joseph S. Toy.....	32,381
Munro, William P., et al. Car coupler.....	33,038	O'Brien, Lucius. Metallic sulphate in solution.....	32,532
Munz, Charles W., et al. Extension table.....	32,923	O'Connell, H., et al. Lubricating apparatus.....	31,055
Murby, Edward. Knitting machine.....	32,977	O'Connor, James Landrigan. Buckle and clasp.....	32,606
Murby, Edward. Looping attachment for knitting machines.....	32,978	O'Connor, T., et al. Fire escape.....	31,550
Murphy, J. B., et al. Alarm for grain elevators and analogous devices.....	30,576	O'Donnell, J. P., et al. Signal apparatus for railways.....	31,410
Murphy, J. B., et al. Elevator and separator for mills.....	30,605	Office Specialty Manufacturing Co. File box.....	31,608
Murphy, J. B., et al. Grain separator.....	32,109	O'Gara, T., et al. Snow guard.....	32,015
Murphy, J. B., et al. Roller mill.....	30,606	O'Hara, Hugh. Road scraper.....	32,936
Murphy, Mike. Rule holder.....	32,650	O'Kelly, J. M. Vending apparatus.....	31,607
Murphy, William. Mitering machine.....	33,025	Oldroyd, J. W. and J. Steam boiler and furnace.....	31,308
Murray, D., et al. Coating iron or steel with copper, etc.....	30,769	O'Leary, Michael J., et al. Dinner pall.....	32,820
Muskegon Chemical Fire Engine Co. Chemical engine	30,933	O'Leary, W. Apparatus for liquid purification.....	31,619
Nadean, Jean B. Apparatus for loading lumber on carts and wagons.....	32,561	Olmstead, A. P. Hub attaching device.....	30,624
Nadean, Jean B. Lumber lifting machine.....	32,802	Olsen, Bertel E., et al. Composition for the manufacture of sanitary and drain pipes.....	32,416
Nason, W. C. Wagon.....	31,091	Olsson, P. P. Knitting machine.....	32,158
National Automatic Device Company. Automatic race course.....	32,576	Olund, E., et al. Barrel hoop machine.....	31,341
National Gas Fuel Co. Air injector for boiler furnaces.	31,224	Oncken, G. A. Machinery for cutting, grooving and bevelling wood to form boards, staves, etc.....	31,231
National Heating Co. Cooking stove or range.....	30,982	Onderdonk, J. P. Paper bag.....	32,075
National Tramway Motor Co. Motor for cars, etc.....	30,872	Oneda Community. Animal trap.....	32,854
Nelson, C. B., et al. Lightning rod.....	31,737	Oneda Community. Chain fastener.....	31,611
Netto, Curt. Method of and apparatus for manufacturing aluminium.....	32,877	Oneda Community. Swivel.....	31,903
New, E. Cover for bricks.....	31,212	Oneda Community. Trace chain.....	32,806
Newcomb, L. Ore separator and amalgamor.....	30,736	O'Neil, J. J., et al. Washing machine.....	31,170
Newell, Augustus. Key board.....	32,630	O'Neil, James. Game bat.....	32,864
New Haven Watch Co. Watch.....	31,658	Opinion Manufacturing Co. Folding machinery for printing presses.....	32,906
Newland, George F. Game.....	32,880	Ormiston, D. Churn dog power.....	31,943
Newman, E. A. Electro-thermostatic anti-freezing apparatus.....	30,934	Orr, J. C. Siphon.....	31,187
		Osborne, Joseph D. Tongue depressing insufflator.....	32,730
		Osborne, R. S. Car coupling.....	30,929
		Osborn, W. and R. B., et al. Scale.....	30,765
		Otis Brothers & Co. Elevator.....	32,858
		Ouellet, David. Target.....	32,991

Quimette, R., et al. Scavenging incinator.....	31,903	Perkins, Jacob B., et al. Pneumatic hammer.....	32,589
Ovens, T. A. Pavement.....	30,967	Perkins, L. Refrigerating and freezing apparatus.....	30,711
Overbey, H. L. T. Belt puuch.....	31,669	Perry, J. B., et al. Aerial Cable Railway.....	30,794
Oxley, J. Head rest.....	31,197	Perry, T. O. Wind mill derrick	30,788
Oxley, T., et al. Tug fastening for whiffletrees.....	31,305	Perry, W. E. Egg beater	32,111
Packer, Willard N. Belt fastener.....	32,737	Perrin, William H. Contrivance for guarding cattle while pasturing	33,024
Packham, Frank R., et al. Grain drill.....	33,121	Peterson, H. Attachment for lawn mowers.....	31,672
Paddock, Gustavus A. Harrow.....	32,215	Pettengill, F. E., et al. Car truck	31,663
Page, William N., et al. Coal conveyor.....	33,225	Pettengill, B. C. Hatchet for shingling.....	31,575
Painter, Park, et al. Eye piece for optical instru- ments.....	32,860	Pettel, C. A. Straw cutter.....	30,876
Pallock, Joseph, et al. Brake shoe.....	32,904	Pfueger, E. F. Sweat pad.....	31,387
Palmedo, David P., et al. Process of making alloys of chrome, iron and manganese.....	32,217	Pfueger, E. F. Rosette for harnesses.....	31,886
Palmer, J. R., et al. Whip, robe lock and line holder.	31,755	Pfueger, E. F. Sweat pad fastener.....	31,034
Palmer, T. G. Point for switch rails.....	31,992	Phelps, Neil S., et al. Parallel ruler....	33,012
Palmer, Thomas, et al. Means for preventing the formation or development of injurious germs of animal or vegetable life.....	32,457	Phillip, G., et al. Belt fastener.....	30,553
Palmer, William H. Sickle bar for harvesters.....	33,050	Phillips, E. Cabinet file.....	31,204
Palmquist, P. J. Car coupler.....	32,135	Phillips, H., et al. Envelope tablet.....	31,064
Paquette, J. Cutter for making rosettes.....	31,392	Phillips, Henry L. Stopper for bottles, pots, jars, etc.	32,199
Paquette, Joseph. Malting hammer.....	32,690	Phillips, J. Grape harvester	30,642
Paramore, E. F. Detachable fastening for suspenders	31,293	Phillips, Josiah G. Car heater.....	32,793
Parcelle, A. L. Clock.....	31,714	Phillips, Thomas. Heating drum.....	32,876
Parish, J. Stencil drum	32,193	Phillipson, William, et al. Circular brush.....	33,102
Parker, George E., et al. Shoe nailing machine	32,768	Philp, John W. Cutter head for cutting and trim- ming the gores of barrel blanks.....	32,281
Parker, G. R. Self lubricating crank pin	31,238	Phonophore Syndicate. Apparatus for the employ- ment of vibratory electricity in telegraphy	31,115
Parker, J. O. Flushing tank	31,019	Pickett, Chancy J., et al. Coffee cleaner and separ- ator	32,827
Parkes, A. Extracting gold, silver, etc., from ores...	30,692	Pickard, Arthur. Construction of canals.....	32,349
Parkhurst, A. G. Curb and gutter.....	31,596	Pickett, Lynam B., et al. Sled.....	32,239
Parrie, J. B. Belt fastener	30,934	Pincus, Henry, et al. Mechanical movement.....	32,266
Parsons, H. A. and A. J. Railroad switch signal, etc.	30,747	Plette, L. Method of sorting disintegrated wood for the manufacture of cellulose and apparatus there- for	31,025
Parsons, H. F. Railway switch frog and signal.....	30,751	Pifferling, E. Cabinet show case.....	31,558
Passmore, Ellen P. Contrivance for fastening doors open	32,273	Pinkert, George. Tricycle.....	33,051
Paterson, E. J., et al. Apparatus for electrolyzing bleaching solutions.....	31,656	Pitcher, H. A., et al. Gun	31,337
Paterson, J. Target.....	31,101	Pitney, A. L. Syringe for hand fire engines.....	31,746
Paterson, J. Instrument for testing steam engine crank shafts	31,996	Pitrat, J. E. Weighing and price scales.....	32,025
Patmor, J. Finger shield and fountain attachment...	31,475	Pixley, C. S. Urethral powder applier.....	31,057
Patson, J. Appliance for hanging and exhibiting boot and shoe laces, etc.....	30,867	Planke, Fred, et al. Car coupler.....	32,318
Patric, Charles E. Grain drill.....	33,154	Plummer, F. H. Folding reclining chair	32,121
Patric, Charles E., et al. Grain drill.....	33,121	Pohlé, J. G., et al. Elevator.....	31,634
Patrick, Walter K. Edge turner for sheet metal roofing	32,679	Pollard, J. M., et al. Split pulley	31,993
Patrick, Walter K. Roofing tool.....	32,780	Pomphrey, G. G. Manufacture of woven gloves.....	30,701
Patten, B. R. Valve for steam pumps, etc.....	31,908	Poole, G. H. Automatically closing cans and bottles	30,596
Patten, J. Art of lasting boots and shoes.....	32,055	Porall, W. E. Motor for cars, etc.....	30,872
Patten, J. Nail driver.....	31,627	Porter, A. T., et al. Hub attaching device.....	30,624
Patterson and Brother Co. Seed drill.....	31,245	Porter, D. R. Pipe wrench.....	30,994
Patterson, John H. Cash register and indicator.....	32,621	Porter, J. H., et al. Device for opening and closing valve to air brake hose coupling	30,717
Patterson, J. W. Apparatus for renting opera glasses in theatres.....	31,940	Portmann, H. G. and W. W. Spring rocker, gear and centre bearing spring for rockers, etc	31,653
Pattison, H. Shears.....	30,771	Portmann, H. G. and W. W. Spring teeter gears for children's carriages.....	31,900
Pavyer, J. G. Printers' type.....	32,129	Post, William S., et al. Steam boiler and furnace....	32,952
Paxton, R., et al. Semaphore	31,529	Potter, A. H. Watch.....	31,658
Payne, A. W., et al. Punching device.....	31,368	Potter, C. J. Mill stone.....	31,559
Payne, E. W. Wood carrier.....	31,182	Potter, Henry H. Copy holder.....	32,230
Pearce, S. E., et al. Hose coupling.....	31,744	Potticary, Charles. Feed water heater and spark arrestor	32,315
Pearce, W., et al. Motor.....	31,686	Pottle, T. Fly catcher and exterminator.....	32,028
Peardon, Albert, et al. Umbrella stand and folding screen	32,698	Pottor Compton Electric Co. Electric battery	31,066
Peck, Joseph C., et al. Railway signalling apparatus	32,767	Potts, J. B. Iron pipe coupling	31,125
Peck, O. R. Substitute for ivory, etc.....	30,807	Potts, J. B. Lead pipe coupling.....	31,125
Pedersen, A. B., et al. Device for sharpening razors	31,478	Potts, R. Registering gauge for railway car brakes...	32,154
Peebles, Franklin E. Sand band and wheel retainer	32,489	Potts, T. W. T. Substitute for ivory, etc.....	30,807
Peirce, A. Le G., et al. Draw bridge gate.....	31,769	Potvin, Joseph. Wrench.....	32,376
Pell, H. W. Spring vehicle.....	31,889	Pouliot, C. Car coupling.....	31,413
Pell, Tom B., et al. Suspender end.....	32,956	Poupard, Frederick A., et al. Shoe for horses and other animals.....	32,231
Peltier, J. L. Boot and shoe.....	31,703	Poure, L. G., et al. Apparatus for sealing letters, etc.	31,306
Peltier, Jean L. Shoe vamp.....	33,021	Powell, Columbus L. Harrow.....	32,601
Pender, David Andrew, et al. Method of combining electricity with gas.....	32,998	Powell, Elizabeth C. Bottom for cooking utensils....	32,792
Pendergast, J. Harness pad.....	31,075	Powell, J. W., et al. Mop wringer.....	31,423
Pendleton, G., et al. Wrench.....	31,613	Power and Co. Radiator.....	32,366
Penley, Julia. Dress chart.....	33,106	Powers, Noel E., et al. Cape collar.....	32,328
Penman, J. Knitting machine.....	30,999	Powers, William E. Vehicle spring.....	32,678
Penman, John. Machine for cutting cloth.....	32,824	Powers, William P. Draft regulator for hot water boilers.....	32,543
Penny, Henry Lee, et al. Screen for car windows, etc.	32,330	Prall, W. E. Cooking stove or range.....	30,982
Pennycook, John T. Metallic glazing.....	32,582	Pratt, A. N. Grain scouring machine.....	31,583
Penrose, C. J. Bolt locking device.....	31,981	Pratt Electro Therapeutic Supply Company. Electric belt	30,544
Pentz, J. A., et al. Electric meter.....	30,541	Pratt, H. P. Electric belt.....	30,544
Perkins, Alice M. Looping and tufting attachment for sewing machines.....	32,550	Pratte, A. F. Composition of matter for cleaning and removing dandruff from the scalp, etc.....	30,738

Pressley, L. C. Air supply for propelling cars.....	31,640	Rhines, F. P., et al. Barley flakes and the process of producing the same.....	30,537
Price, Robert B. Oil feeder.....	32,922	Rhodes, Charles M., et al. Steam engine.....	32,925
Price, W. L. Method and apparatus for swaging forms of metal dies.....	32,151	Rhodes, J. B. Saw swaging machine.....	31,708
Pritchard, F. E. Electrical governor.....	31,178	Rhodes, Jay B. Loose pulley lubricator.....	33,092
Priestman, W. D., and S. Motor engine operated by hydro-carbon vapour.....	31,599	Rhodes, J., et al. Glass bottle.....	30,546
Prince, J. Danger signal for railways.....	30,799	Rhodes, John W. Press drill for planting grain.....	32,213
Prindle, G. S., et al. Split pulley.....	31,993	Rhodes, S., et al. Glass bottle.....	30,546
Pringle, J. N. Musical skipping rope handle.....	31,379	Rhule, J., et al. Car coupler.....	32,163
Prout, G., et al. Casting iron or steel with copper, etc.	30,769	Ribout, Lucie J. Method of preparing fire lighters....	33,171
Provan, J. W. Load lifting sling catch.....	31,036	Ricard, A. P. Vehicle wheel.....	30,588
Pruet, J. C. Horse power.....	31,815	Rice, Charles L. Device for detaching horses.....	33,114
Przibilla, Emanuel. Earth boring apparatus.....	33,023	Rice, E. W. Rheostat resistance for electric circuits..	30,677
Ptolemy, J. Car coupling link.....	31,582	Rice, E. W. System of electric distribution.....	31,063
Pullen, James. Water heater.....	32,968	Rice, Fred. Waggon brake.....	32,790
Pullman, G. M. Railway car.....	31,887	Rice, T. J. Wheel.....	31,443
Pullman Palace Car Co. Equipped for car vestibules..	31,644	Richards, Charles M. Plano action.....	33,232
Pullman Palace Car Co. Vestibule connection.....	31,965	Richards, F. H. Button setting instrument.....	30,860
Purbrick, F., et al. Means for locking nuts or bolts....	31,500	Richards, L. A. Disk harrow.....	31,945
Purdy, W. J., et al. Bucket elevator for flouring mills.....	32,034	Richardson, Joseph H. and Frank M. Thill coupling..	33,126
Purinton, Frank M. Machine for removing bark from logs.....	32,388	Richmond, J. Attachment to cutting bars of reapers and mowers.....	30,817
Pyle, John, et al. Washing machine.....	33,201	Ricker, Wentworth G. Hay sling.....	32,842
Quack, F. Motor engine.....	31,655	Riddell, Beriah. Truck jack.....	32,701
Quinan, A. B. Mail bag.....	31,021	Rideout, H. Ironing board.....	30,958
Rabbett, P. Portable derrick.....	30,725	Ridge, John J. Game and game board.....	33,089
Rafferty, T. Boom.....	31,909	Riebold, J. Land roller.....	32,089
Railsback, L. D. Machine for making ices, ice cream, etc.....	31,723	Riedle, Frank, et al. Hammock and camp chair.....	32,712
Railway Electric Car Lighting and Signal Co. Con- nector for the elements of electric batteries.....	32,461	Riesberry, W. C. Twine holder.....	31,435
Ramsay and Son, A., et al. Glass bevelling machine.	30,651	Rigby, A. Potato digger.....	31,602
Rand, C. N. Organ reel.....	30,868	Rigby, R. M. Indexing.....	31,277
Randall, C. A. Machine for punching checks, etc.....	30,767	Rigley, C. E., et al. Bureau.....	31,570 31,571
Randall, I. H. Advertising rack.....	31,546	Rigley, Charles E., et al. Drawer guide for bureaus..	32,805
Randleman, Martin C., et al. Hog pen.....	32,791	Rigley, C. E., et al. Furniture drawer.....	31,682
Randleman, Zouave S., et al. Hog pen.....	32,791	Riley, Luke. Saw gummer, shears and punch.....	32,883
Rankin, James E. Construction of buildings.....	32,405	Rime, H. Watch with transparent body.....	31,657
Rankin, W. B. Method of protecting the bottoms of ladies' skirts.....	32,057	Rippeter, Richard W. Nail extractor and box opener	32,684
Rasmussen, J. A. N. Punching machine.....	31,250	Ripson, Mary E., et al. Burial casket.....	32,267
Rastrick, R. J. H. Apparatus for issuing, recording and numbering tickets.....	31,588	Risch, V. M. Reed organ.....	31,648
Ratcliff, William H. Gate hinge.....	32,798	Rittenhouse, S. B. Hand seeder.....	31,982
Rawson, David. Wire working apparatus.....	32,204	Roake, John S. Cleaning apparatus for steam boilers.....	32,590
Ray, H. Inking ribbon spool.....	31,727	Robb, L. B. Dry closet.....	31,569
Raymond, C. Cabinet for sewing machines.....	30,737	Robbin, Frederick. Sled propeller.....	32,569
Raymond, C. Sewing machine shuttle.....	31,458	Robbins & Appleton. Means for ornamenting watch case centres, etc.....	31,740
Raymond, E. Rotary engine.....	30,556	Robbins and Appleton. Method of ornamenting watch case centres, etc.....	32,471
Raymond, Freeborn F. Nail feeding and distribut- ing machine.....	32,205	Robbins, Richard J., et al. Pipe wrench.....	33,192
Read, Albert J., et al. Journal box.....	32,474	Roberts, A. Medicinal compound.....	31,824
Read, J. A. Brush.....	31,020	Roberts, Cyrus. Potato digger.....	32,779
Read, R. H., et al. Electric signalling and alarm apparatus.....	31,531	Roberts, Ferdinand C. Game apparatus.....	32,240
Readman, James B. Process for obtaining phos- phorus.....	32,355	Roberts, George. Coal oil lamp.....	32,362
Reagan, Beverly. Pipe wrench.....	32,432	Roberts, G. Coal oil stove.....	31,915
Reckenzaun, A., et al. Electric meter.....	30,531	Roberts, George A. Freight car roof.....	32,784
Redemann, H. M., et al. Manufacture of steel.....	30,978	Roberts, Henry. Wire rod mill.....	32,913
Redfield, Jessie A., et al. Bottle stopper.....	32,697	Roberts, Henry. Rod mill.....	32,912
Redington, W. H. Bottle stopper.....	31,332	Roberts, J. W. Car coupling.....	31,949
Reed, John D. Process of preserving meats.....	32,291	Roberts, R. B., et al. Reclining and operating chair..	30,723
Reed, Willard & Co. Pipe wrench.....	30,994	Roberts, William de Lisle, et al. Atmospheric thermo-electric generator.....	33,087
Reiffuss, G. J. G. and M. O. Barrel making machine.	31,799	Robertson, J. Rake attachment.....	31,459
Rehnstrom, Albert W. Coffee surrogate.....	32,411	Robertson, W. Knife, fork, and spoon scourer.....	31,007
Reid, Oliver P., et al. Bucket bail and lid fastener...	32,640	Robertson, W. Letter and document file.....	30,746
Reid, T. J. Art of tiring wheels.....	30,863	Robertson, W. Solidified jelly.....	30,819
Reid, Thomas J. Vehicle hub.....	33,228	Robilliard, D. S., et al. Gas burner and heater.....	31,525
Reid, T. J. Vehicle hub.....	32,060	Robinson, B. E. Attachments to blacksmiths' anvils.	30,591
Reid, T. J. Tire truing machine.....	32,142	Robinson, Stillman W. Nailing machine for boots and shoes.....	33,202
Reiff, Gustavus N. Railroad signal apparatus.....	33,173	Robinson, William A. Slide valve.....	32,510
Reiff, Gustavus N., et al. Railway switch.....	32,323	Roblin, J. S. Caster.....	31,437
Reiff, Gustavus N. Semaphore signal.....	33,172	Rockefeller, John. Draft regulating device.....	33,120
Reihlew, F. A. Treating sparkling and effervescent beverages.....	30,912	Roe, C. C. Signal for steamboats.....	31,694
Reiling, August, et al. Pump.....	32,498	Rogers, C. D. Machine for rolling screws.....	30,729
Reilly, John C. Connecting device for electric cir- cuits.....	32,545	Rogers, C. D. Blank supporting device for screw threading machines.....	30,578
Reilly, John C., et al. Binding post and cut-out.....	32,966	Rogers, C. D. Pointing and cutting off dies.....	30,649
Reinhart, Christ. Mail box.....	33,135	Rogers, Elizabeth A. Rabbit and carpet tacker.....	32,224
Rettle, C. Door catch.....	31,192	Rogers, E. H. Time stamp.....	30,861
Revollier, J. B. Scythe.....	31,833	Rogers Fence Co. Harrow.....	31,364
Reynolds, Charles J. Wheel for velocipedes, etc.....	32,605	Rogers, F. T. Car coupling.....	31,952
Reynolds, E. Box and holding case.....	32,140	Rogers Iron Manufacturing Co. Boat launching car- riage.....	31,339
		Rogers, J. J., et al. Seed attachment for disk har- rows.....	31,905
		Rogers, N., et al. Gas engine.....	31,689
		Rogers, T. Harrow.....	31,364
		Rogers, T. B. Railway chock.....	31,820

Rome, G., et al. Police nipper.....	30,602	Schanschleff, A. Galvanic battery	30,881
Ronald, G. R. Book cover.....	30,800	Scharfberg, S., et al. Apparatus for raising or lifting heavy weights.....	30,592
Roney, William R. Steam boiler furnace.....	32,897	Schelker, Gaspard. Watch case.....	32,419
Rood, William C. Show case.....	33,938	Scherer, Joseph. Hand loom.....	33,247
Root, Howard C., et al. Binding posts and cut-out.....	32,966	Schild, P. J., F. L. and C. C. Horse boot.....	30,671
Roovers, A. W. Coin operated induction coil.....	31,523	Schimansky, O. Machine for cutting hoops.....	31,543
Rorison, B. D. D., et al. Garden hoe.....	31,430	Schimansky, O. Machine for pointing hoops.....	31,544
Rose, F. H. Samples of paint.....	31,616	Schmalz Cigar Co. Cigar bunch wrapping machine.....	33,042
Rose, G., et al. Lamp.....	32,019	Schmitt, A. Smoothing and sad iron heater.....	31,922
Rose, G., et al. Oil spray lamp.....	31,753	Schofield, J. Punch shears and saw gummer.....	31,352
Rose, H. C. Addition register for pencils, etc.....	31,287	Schreiber, G. Burglar alarm.....	30,992
Rose, H. C. Mouth piece for pipes, etc.....	31,288	Schreiner, H., et al. Safety oil burner.....	31,609
Rose, H. J. F. Washing and steaming machine.....	31,399	Schreyer, G. Furnace and stove.....	31,088
Rose, M. C. et al. Mechanical annunciator.....	32,179	Schroeder, E. Machine for pulling hairs from fur animals.....	31,692
Rose, R. A. Harrow.....	31,174	Schutz, E. Lantern.....	31,172
Roskilly, Jonas H., et al. Horse shoe.....	33,082	Shuman, F. Miners' pick.....	31,047
Ross, D. Car coupling.....	31,275	Schutt, M. E. Chair.....	31,674
Ross, D. A., et al. Wood working machine.....	31,157	Schutte, L. Ejector condenser.....	30,783
Ross, G. Railway coupon ticket racks.....	30,722	Schutte, L. Oil burner.....	30,683
Ross, George B. Brake shoe for railway cars.....	32,838	Scharz, M. Milk can.....	31,704
Ross, J. Wood planing machine.....	31,924	Scott, D. Cure for rheumatism.....	31,077
Ross, John H., et al. Oil lamp.....	32,672	Scott, G. Stool.....	31,373
Ross, R. N. Brick machine.....	32,044	Scott, J. W. Machine for multiplying power.....	31,610
Ross, W. Cylinder for hydraulic-motors.....	30,960	Scott, Robert D. Road cart.....	33,281
Ross, Walter T. Nut lock.....	32,311 32,314	Scott, W. G., et al. Wood working machine.....	31,157
Ross, W. T. Thill coupling.....	32,083	Scott, W. H., et al. Clothes stick.....	31,276
Rottermund, E.de. Process for extracting metals from refractory ores, etc.....	31,158	Scovel, C. W., et al. Car coupler.....	32,163
Rouette Cyrille. Shoe vamp.....	32,886	Scoville, E. W. Faucet.....	31,579
Rountree, H. W. Trunk.....	31,090	Scribner, J. M. Invalid bed.....	30,814
Rowen, N., et al. Railway rail joint fastener.....	31,486	Scurry, H. T., et al. Machine for subaqueous mining.....	31,445
Royal Electric Co. Lamp shade.....	30,997	Seely, J. A., et al. Telephone central station apparatus.....	31,747 31,748
Rubin, M. Clasp.....	31,496	Seely, J. A., et al. Telephone exchange signalling.....	31,720
Ruby, Joshua C. Machine for moulding confections.....	32,276	Seely, J. A., et al. Telephone sub-station apparatus.....	31,750
Ruffin, M. C. A. Process for purifying crude spirit and regenerating the purifying agent.....	31,698	Seifert, O. Rotary pump.....	31,898
Runge, A. Scoop for gas retorts.....	32,030	Selden, Charles. Telegraph receiver.....	32,689
Runnals, N. B. Mallet.....	31,784	Seldon, W. Red and cabinet.....	30,935
Rushforth, William H. Steam generator.....	32,722	Self, John W. Seed sower and clod crusher.....	32,636
Rusling, Joseph F., et al. Case for packing butter.....	33,209	Selle Gear Company. Anti-rattler for thill coupling.....	32,612
Russ, Cyrus. Sulky plough.....	32,547	Selleck, Oakley, et al. Mechanical movement.....	32,266
Russell, E. H. Treating the products of ores, etc.....	31,801	Sellers, William C. and Charles. Radiator coupling.....	32,468
Russell, E. H. Treating ores, etc.....	31,767	Selmen, J. P. B. Furniture.....	30,550
Russell, John B. Device for holding and dipping pills.....	32,868	Semple, H., et al. Machine for finishing necks of bottles.....	31,798
Russell, P. G., et al. Split pulley.....	31,993	Sergeant, Henry C. Air compressor.....	32,282
Russell, Robert F. Hame tug.....	32,687	Sergeant, Henry C. Valve for engines.....	32,206
Ruston, Samuel S., et al. Bottle stopper.....	32,697	Sergeant, H. C. Channelling machine.....	32,137
Rutherford, David, et al. Lubricator.....	32,208	Sergeant, H. C. Rock drill.....	30,888
Ryan, E. F. Head rest.....	31,263	Sergeant, William H., et al. Rein for riding and driving.....	32,799
Ryan, G. Feed regulator for spinners.....	31,065	Serson, J. Electric battery.....	31,066
Ryan, W. B. and P. Return vent protector for plumbers' traps.....	31,480	Sessions, H. H. Equalizer for car vestibules.....	31,644
Rylands, D. Axle boxes or bearings of carriages.....	30,627	Sewall, J. H. Car heating apparatus.....	32,092
Rylands, D. Machine for the manufacture of bottles.....	32,029	Seymour, Charles J. Elevator and conveyor.....	32,253
Sachs, Joseph, et al. Process of making alloys of chrome, iron and manganese.....	32,217	Shackell, W. Octave coupler for pianofortes.....	30,846
Sacket, Samuel F. Flue cleaner.....	33,039	Shansk, Henry K. Electrical spark producer.....	32,546
Sage, C. E. Urethral powder applicator.....	31,057	Sharkey, J. Locomotive boiler.....	31,803
Salter, George E. Construction of boot and shoe heels.....	32,523	Sharpe, J. Cash Register.....	31,976
Salzer, Henry. Preservation of food articles.....	32,385	Sharpneck, W. S. Anti-friction journal box.....	31,688
Samuel, E., et al. Stove pipe.....	30,620	Shatto, J. Neck yoke.....	30,790
Sanders, Alfred McPheeters. Stove.....	33,014	Shaver, George F. Telephone.....	33,211
Sands, R., et al. Apparatus for the prevention and consumption of smoke and consumption of fuel.....	32,133	Shaw, D. Kettle lid.....	31,987
Sandwell, W. D. Dynamo electric machine, etc.....	30,776	Shaw, Henry R. Machine for feeding grain to the rolls of roller grain mills.....	32,841
Sanford, Charles, et al. Latch and lock.....	32,527	Shaw, O. M., et al. Wrench.....	31,613
Sargent, W. H. Filtering faucet.....	30,923	Shaw, T. Apparatus for testing mine gases.....	31,699
Sauerland, G., et al. Merry-go-round.....	31,168	Shedlock, W. Washing machine.....	32,053
Saunders, John M. Hinge for folding seats.....	32,286	Sheffield, Henry N., et al. Car coupling.....	32,745
Saunders, W. L. Channelling and gadding machine.....	32,008	Shephard, C. G. and W. J. Ice cream freezer.....	32,018
Saunders, T., et al. Car axle lubricator.....	31,532	Shepherd, W. Stopping bottles, jars and other vessels.....	30,559
Saurer, Adolph, et al. Embroidering machine.....	32,818	Sherman, E. A. Ladder.....	31,830
Savage, R., et al. Railway rail joint fastener.....	31,486	Sherman, G. M. Vaporizer.....	30,811
Sawyer, Albert H. Sleigh and sled.....	33,206	Sherman, Ira E., et al. Plant protector.....	32,687
Sawyer, Edward De Wolf, et al. Steam boiler and furnace.....	32,952	Shimer, S. J. Machine for making metal washers.....	30,565
Sawyer, G. C. Fruit jar.....	31,222	Shipman, M. A. B. Lamp or gas boiler and heater.....	31,236
Sawyer, Lewis J. Bracket for supporting eave troughs.....	32,554	Shirreff, C. J. Chair and life buoy.....	31,780
Saxon, S. J., et al. Fence post.....	30,599	Shoemaker, Francis, et al. Heating drum.....	32,708
Sayer, Robert C. Filter.....	32,466	Shoemaker, Frank A., et al. Steam engine.....	32,444
Sayer, Robert Cooke. Water works.....	32,465	Shoemaker, Osman, et al. Heating drum.....	32,708
Sayers, H. R. Milk can.....	31,704	Short, S. H. Electric railway.....	31,997
Sayre, Daniel, et al. Sled.....	32,239	Shotwell, D. B., et al. Bank account book.....	31,393
Scarr, A. C. Foot fastening for seats, desks, etc.....	31,102	Shuman, A. D. Can.....	30,753
Schafer, C. and A. Compound for improving steel.....	30,745	Siard, G. B. Car brake and starter.....	32,000
		Sieghold, C., et al. Oil feed for lamps.....	31,056
		Siemens Brothers & Co. Duplex telegraphy.....	30,782

Siersdorfer, Michael. Siphon.....	32,490	Southworth, Lorenzo T. Paving block cutting machine.....	33,058
Silbermann, Oscar, et al. Substance consisting of a combination of wadding and gauze, etc.....	32,593	Sparrow, Frank M. Electric valve operating device...	33,200
Silver, H. Veneer.....	32,101	Spear, E. W., et al. Overflow check nozzle.....	30,768
Simmons, Robert O., et al. Smoke consumer.....	32,575	Speirs, J., et al. Audible signal.....	31,112
Simmons, Thomas L. Malter to be used in water cleansing and tanning.....	32,819	Spencer, George F. Boiler.....	32,348
Simonson, Flavel. Log lifting and turning machine..	32,945	Spencer, Martin Van B., et al. Pump.....	32,498
Stms, W. T. Rein support.....	32,115	Sperl, H. Steam heater.....	31,073
Sinclair, J., et al. Lamp.....	32,019	Sperry, Elmer A. Dynamo.....	33,022
Singer Manufacturing Co. Sewing machine..	30,585	Sperry, Elmer A. Dynamo regulator.....	33,143
Sise, C. F. Telephonic communication system.....	81,342	Spier, C. L., et al. Folding door lock.....	31,054
Sisum, William H. H. Car truck.....	32,518	Spoar, W. E. Sand paping machine.....	31,706
Skinner, J., et al. Car coupler.....	32,107	Spouseller, J. Combination tool or nippers for use of blacksmiths.....	31,301
Skinner, J., et al. Water tank.....	32,167	Spooner, Frederick B. Clasp.....	32,255
Shipworth, G. P. Weighing machine.....	32,002	Sporton, H. H., et al. Apparatus for registering the flow of water or other fluids.....	31,147
Slattery, M. M. M. System of electrical distribution.....	32,190	Sprague, H. M. Joint for boats.....	30,976
Sloan, G. B., et al. Screw propeller.....	31,173	Sprague, Samuel H., et al. Fire escape.....	32,290
Sloan, Joseph A. Device for securing hoisting chains to sunken vessels.....	33,013	Springsteen, W. E. Store service apparatus.....	30,760
Small, D. M. Device for applying heat to the body...	31,507	Sprong, J. W., et al. Rail joint.....	32,112
Small, Dexter M. Device for introducing a heated product into the cavity of a tooth.....	32,358	Sproul, Robert. Shaft attachment for vehicles.....	32,536
Small, Reid P. and James S. Sugar evaporator.....	33,140	Sprowles, C. B. M., et al. Apparatus for the desiccation of materials.....	31,697
Smead, Isaac D. Dry closet.....	33,250	Stacey, W. Letter sheet and envelope.....	30,754
Smidt, William H. Shoe lacing hooks.....	32,642	Stafford, A. Faucet for regulating the discharge of liquids from vats, tanks, cisterns, etc.....	30,604
Smillie, G. W. Car coupling.....	30,709	Stafford, John. Reed and flue pipe for organs.....	32,505
Smith A. Fifth wheel and friction plate.....	31,879	Stafford, Thomas H. Pencil sharpener.....	32,492
Smith, D. Plough.....	31,268	Stafford, W. Felt and felt cloth.....	31,533
Smith, E. Anatomical apparatus.....	30,936	Stairs, J. Filtz W. Machine for spinning hemp and other fibrous materials.....	32,150
Smith, E. and F. Device for producing sparkling effects.....	31,453	Stanwood, Frank H. Step or platform.....	32,236
Smith, E. and F. Means for producing sparkling effect for advertising, etc.....	31,600	Staub, A. Stove pipe thimble.....	31,382
Smith, Edward E. Ash sifter.....	33,049	St. Croix, W. Combined hot water and hot air heating furnace.....	30,670
Smith, Edward T., et al. Pipe wrench.....	33,192	St. Cyr, E., et al. Machine for making paper bags...	30,715
Smith Exhaust Pipe Co. Blast or exhaust apparatus.	33,182	Stearns, J. J. and Co. Hydraulic shaping press.....	31,652
Smith, F. E. Office tickler.....	30,756	Stearns, De Witte. Gas generator.....	32,950
Smith, Frederick H., et al. Car mover.....	32,473	Stebbins, H. W. Paper pulp digester.....	32,114
Smith, F. W., et al. Check punch.....	30,941	Stedman, John S. Dental plate.....	33,071
Smith, G. Elevator.....	30,870	Steele, James Reid, et al. Screen for car windows, etc.....	32,330
Smith, G., et al. Pneumatic railway signal.....	31,280	Steinberger, L. Buckle.....	31,129
Smith, H. D., et al. Traction engine.....	31,029	Steinberger, L. Clasp.....	31,131
Smith, Henry W. Piano.....	32,508	Steiner, David. Nut lock.....	33,007
Smith, Herbert. Wire drawing machine.....	33,110	Stephens, Harriet. Trunk lid.....	33,073
Smith, J. Cut-off for gas burners.....	32,130	Stetson, Joseph B. Tubular lantern.....	32,548
Smith, J., et al. Gas burner.....	32,051	Stevens, W. J. Oliver.....	30,793
Smith, J. A., et al. Apparatus for manufacturing gas.	31,362	Stevens, William N., et al. Compensator for railway signals, etc.....	33,216
Smith, J. A., et al. Art of manufacturing gas.....	31,363	Stevenson, A. C. Ventilating device.....	30,851
Smith, James J. Pulverizer.....	32,895	Stewart, D. Apparatus for drying sugar and granulated matters.....	30,946
Smith J. L., et al. Overflow check nozzle.....	30,768	Stewart, D. Saw set.....	30,816
Smith, J. M. Lifting jack.....	30,850	Stewart David A., et al. Bit brace and nut wrench..	32,800
Smith, J. R., et al. Metallic ladder.....	31,477	Stewart, G. W., et al. Diaper.....	31,247
Smith, J. T. Wax end needle.....	31,878	Stewart, John F., et al. Bit brace and nut wrench..	32,800
Smith, J. W. Churn.....	32,049	Stewart, W. Machine for manufacturing rosettes, etc., in wood.....	31,225
Smith, Loring M. Road cart.....	32,236	Stidham, J. Heat indicator.....	31,826
Smith, Loring M., et al. Road cart.....	32,625	Stiles, C., et al. Pocket knife.....	31,194
Smith, Melvin L. Spike socket.....	32,456	Stimpson, E. B. Suspender.....	31,452
Smith, R. C. Elevator.....	30,601	Stitzel, F., et al. Telegraph relay.....	31,067
Smith, R. E. Solar bath.....	32,170	Stitzel, F., et al. Device for securing wire to railroad rails.....	31,241
Smith, R. W. Spark arrester, smoke consumer, and fuel saving device.....	32,009	St. John, G. B. Plow.....	30,908
Smith, W. Curtain stretcher.....	30,874	St. John, Spencer H. Pinch bar.....	33,251
Smith, W., et al. Signal apparatus for railways.....	31,410	Stobenzwald, A. Casing of certain printing type and device for use therewith.....	32,038
Smith, William. Car for the conveyance of ships.....	33,118	Stocking, R. M. Fruit jar.....	31,222
Smith, W. A., et al. Wheel.....	31,152	Stockman, T. J. Dress outer's rule.....	31,761
Smith, William H., et al. Railroad switch.....	32,530	Stoddard, Oscar, et al. Lock case attachment.....	32,568
Smith, W. J., et al. Feed water purifier.....	30,915	Stoddard, O., et al. Door key.....	32,020
Smith, W. T., et al. Rubber shoe.....	30,901	Stoddard, O., et al. Lock case attachment.....	31,963
Smith, William W. Inhaler.....	32,719	Stokes, G. R., et al. Cash till.....	30,713
Snedekor, C. F. Water proofing compounds.....	30,612	Stokes, P. S. Rasp and rasp punching machine.....	31,307
Snedekor, Charles T. Letters for signs.....	33,212	Stoltze, H. Apparatus for raising quick sand.....	31,680
Snelling, J. H. Steering apparatus for vessels.....	31,454	Stone, O., et al. Car coupler.....	32,107
Snellingburg, Samuel. Propeller for vehicles.....	33,117	Stone, R. H., et al. Means for locking nuts or bolts...	31,500
Snyder, F. H. Projectile or shell.....	31,979	Storey, J. E. Electric drill.....	32,183
Snyder, William Lee. Artificial leg.....	32,555	Storie, James D. Feed mechanism for chain link machines.....	32,269
Société Armand Schweb & Freres. Watch with transparent body.....	31,657	Stout, G. P., et al. Yarn reel.....	32,070
Société des Générateurs à Vaporisation Instantée. Apparatus for generating steam.....	32,766	Stovel, J., et al. Card or ticket box.....	30,015
Sohn, Jacob A. Foot rest for steam radiators.....	33,113	Stowr, S. F. Cake or bread beater.....	30,667
Solenberger, N. W., et al. Pneumatic railway signal.	31,280	Strachan, David K. Tube cleaner.....	32,681
Solenberger, N. W. Elevator.....	30,870	Strange, S. Mall bag rack and distributing table.....	31,841
Somerville, William. Horse shoe.....	32,656		
Sommerfeld, H. Car coupler.....	31,203		
Sommerfeld, H. Car door opener.....	31,404		
Soper, R. W. Cash carrier.....	32,120		

Straton, J. Transmitter for telephones.....	31,340	Taylor, W. J. T. Art of firing furnaces and convert- ing solid fuel into gaseous fuel and apparatus for the conduct thereof	31,119
Straton, James, et al. Journal box.....	33,044	Tea, W. A. Wire cloth holder.....	31,246
Stratton, C. H. Jump seat vehicle.....	31,948	Teegarden, F. M. Saw table gauge	32,062
Stratton, T. A. Tree and plant setting machine.....	31,470	Tehnik, Anton. Buckle.....	33,220
Strawson, G. F. Pneumatic machine for distributing solid and liquid substances over land	81,259	Teldeman, G. Liquid meter.....	30,560
Street, J. W. Process for treating meat.....	30,774	Terp, O. Method of increasing the yield of oil wells..	31,106
Streeter, George D. Oil burning apparatus.....	33,027	Terry, S. M. Indicator and recorder for revolving shafts	81,984
Strickel, L. Brush.....	31,248	Thayer, David. Aerial apparatus for navigating the air and for towing.....	32,866
Strom, A. A. Clip for connecting tie bars with switch rails.....	31,807	Thérien, Zacharie, et al. Hay press.....	32,821
Strom, A. A. Clip for railway switch tie rods.....	31,803	Thissel, Arthur P., et al. Wash boiler.....	32,435
Strom, A. A. Lifting jack.....	31,818	Thoens, Burchard, et al. Feed water regulator.....	32,584
Strom, A. A. Rail brace.....	31,808	Thomas, E. G. Organ pedal.....	31,079
Strom, A. A. Railway frog.....	31,809	Thomas, Joseph A., et al. Car coupling.....	32,369
Strom, A. A. Switch rail chair.....	31,819	Thomas, John D. Sleigh.....	33,060
Strom, A. A. Switch stand.....	31,811	Thomas, John P. Grate.....	32,658
Strom, A. A. Tie rod for switch rails.....	31,806	Thomas, J. F. Side spring for vehicles.....	30,891
Strong, Horatio B. Mechanism for governing the feed of saw mills.....	32,781	Thompson and Shackell. Octave coupler for piano- fortes.....	30,846
Strong, J. N. Mechanism for opening gates.....	31,143	Thompson, C. H. Electrode for secondary batteries	30,533
Strong, P. W. Milk aerator.....	31,266	Thompson, C. H. Molds for casting cellular electrodes	30,538
Stuart, Sinclair. Separator for steam pipes.....	32,351	Thompson, Ephraim A. Attachment for coffee and tea pots	33,109
Stuart, W. G., et al. Car coupling.....	31,111	Thompson, G. W. Machine for ornamenting paper...	31,551
Stukes, John M., et al. Bucket ball and lid fastener..	32,640	Thompson, H. B. Swivel for flag halyards.....	30,995
Stump, J. E. Harrow.....	31,271	Thompson, J. V. Wagon jack.....	31,144
Sturdy, I. Machine for stretching carpets.....	31,594	Thompson, Robert, et al. Mechanism for operating railway semaphores.....	32,453
Sturges, Frank C. Steam boiler.....	32,578	Thompson, R. Band cutter.....	32,160
Sukora, E. Copy book.....	31,109	Thompson, Robert, et al. Operating mechanism for railway semaphores.....	32,760
Sullivan, C. Cutter head.....	31,936	Thompson, S. Octave coupler for pianofortes.....	30,846
Sullivan, John D., et al. Feed water heater, cleaner and mineral separator.....	32,709	Thompson, T. E., et al. Vestibule car.....	30,718
Sullivan, J. J., et al. Bookbinding.....	31,752	Thompson, W. Electrical switch.....	31,433
Sullivan, Warren R., et al. Axle cutter.....	32,872	Thompson, W. Microphone.....	32,117
Summer, E. W. Pawl and ratchet mechanism for seeding machine wheels	31,314	Thompson, W. Muffling attachment for violins.....	32,050
Summers, H. K., et al. Corset.....	31,736	Thompson, W. Railway signal.....	31,886
Suneman, J., et al. Bag fastener.....	32,105	Thompson, Walter, et al. Ocean signal.....	32,256
Sutcliffe, William W., et al. Feed water heater, cleaner and mineral separator.....	32,709	Thompson, Walter and Alan C. Electrical switch....	32,403
Sutcliffe, William W., et al. Steam engine gover- nor.....	32,967	Thomson, E. Armature for dynamos.....	31,485
Sutherland, A. J. Fire ladder.....	31,321	Thomson, E. Current dyna o.....	30,628
Sutherland, A. M. Process and apparatus for the manufacture of gas.....	30,665	Thomson, E. Dynamo electric motor.....	30,802
Svensson, Nels A. Safety water guage cock	32,595	Thomson, E. Electric meter.....	30,804
Swanson, J., et al. Horse release.....	31,062	Thomson, E. Electric meter.....	30,862
Sweeney, P. Dust guard for car axle boxes.....	31,005	Thomson, E. Electro-mechanical movement.....	30,803
Sweeney, T. J. Steam injector.....	30,906	Thomson, E. Induction coil, etc.....	31,771
Sweet, Martin L., et al. Sleigh knee.....	32,574	Thomson, E. Method of regulating current or poten- tial in secondary of transformers.....	31,770
Sweittsch, J. Refrigerator	31,772	Thomson, E. Transfer system for electrical distri- bution	31,535
Swigart, Isaac R., et al. Fire escape.....	32,290	Thomson, E., et al. Incandescent lamp and socket....	31,051
Symonds, Frederick M. Cuff adjuster.....	32,116	Thomson Houston International Electric Co. Arma- ture for dynamos	31,485
Sypher, A. J. Rock drills and analogous machines..	32,192	Thomson Houston International Electric Co. Dyna- mo electric motor.....	30,802
Syracuse Speciality Manufacturing Co. Buckle.....	33,079	Thomson Houston International Electric Co. Cur- rent dynamo.....	30,628
Syracuse Speciality Manufacturing Co. Clasp plate....	32,855	Thomson Houston International Electric Co. Electric measuring instrument.....	32,268
Taggart, W. H., et al. Invalid bedstead.....	32,118	Thomson Houston International Electric Co. Electric meter.....	30,804
Tainter, C. S. Graphophone.....	32,106	Thomson Houston International Electric Co. Electric motor.....	32,469
Tainter, C. S. Tablet for graphophones.....	31,409	Thomson Houston International Electric Co. Electro- mechanical movement	30,803
Tainter, C. S. Machine for making paper tubes.....	31,722	Thomson Houston International Electric Light Co. Incandescent lamp and socket	31,051
Tainter, C. S. Tablet for receiving sound re- cords.....	31,397	Thomson Houston International Electric Co. In- duction coil, etc.....	31,771
Tainter, Charles S. Sound recording tablet.....	32,892	Thomson Houston International Electric Co. Method of making connection with carbons.....	32,467
Talbott, S. J. Book rack.....	31,213	Thomson-Houston International Electric Co. Method of regulating current or potential in secondary of transformers.....	31,770
Talcott, R. H. L., et al., and E. Mounted photo- graphs, pictures, etc.....	31,097	Thomson-Houston International Electric Co. Rheo- stat resistance for electric circuits.....	30,677
Tappen, S., et al. Rail joint unions.....	30,625	Thomson-Houston International Electric Co. System of electric distribution.....	31,063
Tarbox, Fred O. Bracket for lamps.....	33,133	Thomson, J. Railway.....	31,934
Tasker, S. P. M. Roller mandrel.....	31,783	Thomson, J. L., et al. Shoe clasp.....	30,547
Taylor, A. Method and machine for making garment stays	30,970	Thomson, R. F. Car coupling.....	30,792
Taylor, A. Protective shield for garments.....	30,969	Thomson, W., et al. Bank account book	31,393
Taylor, Brownlee W., et al. Fare collector.....	32,852	Thorn, J. O., et al. Stove pipe.....	30,620
Taylor, Charles M. Ballot box.....	32,203	Thorp, Elliott G. Type writer	32,251
Taylor, E. Saw set.....	32,124		
Taylor, F. D. Stove.....	31,933		
Taylor, F. D. Mould for castings.....	31,254		
Taylor, F. D., et al. Type writing machine.....	32,032		
Taylor, F. T. Letter box.....	32,045		
Taylor Gas Producer Co. Art of firing furnaces and converting solid fuel into gaseous fuel and appar- atus for conduct thereof	31,119		
Taylor, George H. Steam generator.....	32,579		
Taylor, H. H. Machine for assembling radiator loops	30,610		
Taylor, H. H. Reaming machine.....	31,088		
Taylor, H. H. Screw threading machine.....	30,356		
Taylor, H. H. Serew tapping machine.....	31,123		
Taylor, W. Handle for canes, umbrellas, etc.....	31,108		

Thorpe, E. E. Eye glass polisher.....	32,063	Van Depoele, Charles J. Carbon contact or commu- tator brush.....	32,901
Thum, Hugo. Press copying device.....	32,692	Van Depoele, Charles J. Contact arm for electric railway motor cars.....	33,196
Thurston, Isaac Daniel. Boot upper.....	32,726	Van Depoele, Charles J. Contact for overhead con- ductors.....	33,066
Thowless, O. M. Process of obtaining manganese alloys.....	31,406	Van Depoele, Charles J. Crossing and switch for overhead conductors.....	32,999
Thyng, Culver G. Vehicle.....	32,927	Van Depoele, Charles J. Double suspended conductor system for electric railways.....	33,002
Thyng, C. G. Road cart.....	31,843	Van Depoele, Charles J. Duplex upward pressure contact.....	33,067
Tibbitts, S. F. Wood working machine.....	30,672	Van Depoele, Charles J. Electric motor.....	33,003
Tilden, B. E. Car and locomotive replacing frog.....	31,417	Van Depoele, Charles J. Electric railway.....	33,234
Tilford, R. J. Manufacture of steel.....	30,978 30,974	Van Depoele, Charles J. Electro dynamic motor.....	33,005
Tilton, F. G. Type writer.....	31,361	Van Depoele, Charles J. Hooked suspender for elec- tric railway conductors.....	33,069
Timmis, J. A. Apparatus for electrically lighting railway trains.....	31,547	Van Depoele, Charles J. Multiple motor electric locomotive.....	33,006
Tinkham, George T., et al. Smoke consumer.....	32,575	Van Depoele, Charles J. Overhead conductor.....	33,064
Tinning, E. T. Compound for roofing.....	31,049	Van Depoele, Charles J. Overhead contact and switch.....	33,000
Tisdale, C. D. Railway signal.....	31,950	Van Depoele, Charles J. Standing contact arm.....	33,194
Titus, G., et al. Yarn reel.....	32,070	Van Depoele, Charles J. Suspended switch and travel- ling contact devices for electric railways.....	33,063
Tode, Adolphe. Sled.....	32,200	Van Depoele, Charles J. Suspension device for elec- tric railway conductors.....	33,070
Toiton, A. Steam engine valve.....	30,862	Van Depoele, Charles J. Switch for suspended elec- tric conductors.....	33,001
Tomkins, A. S. Cooking apparatus.....	31,006	Van Depoele, Charles J. System of suspending elec- tric conductors.....	33,068
Tomkins, S., et al. Charcoal.....	31,651	Vandermissche, Charles. Means for dyeing wool and other fibrous materials.....	32,843
Tomkin, J. J. Cut-off for steam engines.....	30,716	Van Duzer, George. Suspender belt.....	33,158
Tooke, B., et al. Lamp holder for music stands.....	30,622	Van Gordon, E. K. Runner.....	31,800
Touts, John B., et al. Grain weigher.....	32,495	Van Horne, Herman E. Rubber tooth brush.....	33,169
Topham, George W. Apparatus for lining journal boxes.....	32,308	Vannier, V. B. C. Composition for lining walls, roof- ing, etc.....	31,754
Topping, John. Currycomb and brush.....	32,602	Vansant, Joseph A., et al. Regulator for electric cur- rents.....	33,093
Totman, G. W. and P. C. Electric belt.....	30,759	Van Tuyl, B. S., et al. Thrashing machine.....	31,926
Townsend, Frederick J. Wire stretcher.....	33,205	Van Valkenburg, Randall T. Chemical engine.....	30,983
Townsend, I. Swivel for flag halyards.....	30,995	Van Valkenburg, E. M., et al. Vehicle spring.....	31,398
Townsend, J. H., et al. Window ventilation.....	31,536	Van Zile, E. S. Base ball bulletin board.....	31,343
Toye, Smith. Portable center for constructing con- tinuous archways.....	32,274	Vaughan, A. Rolls for converting old rails into angle iron.....	31,654
Trainer, Patrick J., et al. Dinner pail.....	32,820	Verdun, U. S. Anvil shears for cutting metal.....	32,076
Trant, J. A. Box handle.....	30,775	Vernon, A. A. Folding bed, stretcher and dooley.....	31,812
Traver, Alva H. Corset.....	32,538	Vernon, J. Horse shoe nail.....	31,448
Traut, J. A. Bottle stopper.....	32,143	Vincent, J. Snow plow.....	31,888
Trapp, E. A. Optical device.....	31,446	Vogt, Edward A. Hair dye, etc.....	32,941
Treat, John E. Caster.....	33,055	Vogtaberger, Emil. Harness saddle.....	32,846
Tresidder, J. J. Coal oil stove.....	32,162	Voigt, Ferdinand F. Machine for screw threading sheet metal pipes.....	33,160
Triggerson, G. A. Harness pad hook.....	31,394	Vose, Clifton. Means for propelling vessels.....	32,424
Triphagan, C. H. Corner irons and tightening devices for wire mattresses.....	31,709	Voss, Adolph. Windlass.....	32,430
Troost, O., et al. Saw.....	31,685	Vovels, Joseph. Potato scoop.....	32,964
Trott, S. Conduit for electric railways.....	31,774	Wach, Joseph. Heat expanding block, etc.....	32,638
Trotter, C. W. Refrigerator.....	31,068	Waddell, J. M. Coffee mill.....	31,707
Trotter Refrigerator Co. Refrigerator.....	31,068	Waddell, W. H. Electric railway signal.....	31,455
Tuckwood, C. H. and W. Balanced gearing for wind mills.....	30,593	Waddington, H. H. Vulcanization of waterproof fabrics, etc.....	31,623
Turnbull, H. E. Water motor.....	30,664	Wade, George W. Rocking horse.....	32,526
Turnbull, Brisbane M. Ventilator.....	32,988	Wad-El-Ward, J., et al. Fuse and taper lighter.....	30,966
Turnbull, G. H. Lime tray for purifying gas.....	30,615	Waeber, G. A. Metal can box, etc.....	31,466
Turner, John. Draw bar.....	32,631	Waeber, A. Sprinkler.....	31,567
Turner, W. P. Car coupling.....	32,039	Wahlin, Adolph. Butter extractor.....	33,217
Turney, John P., et al. Car coupling.....	32,369	Wait, J. H. Grate.....	31,017
Tvedten, T. Boiler and barrel heater.....	31,347	Waite, H. E. Time piece.....	30,813
Ulrich, John, et al. Screen and storm door.....	32,778	Wakefield, C. H. Foot guard for frogs, switches, etc.....	32,091
Underwood, C. M. Name or sign plate.....	31,338	Wakeham, J., et al. Grate.....	31,098
Unger, Robert D., et al. Telephone transmitter.....	33,083	Waldron, Philetus A. Snap hook.....	33,119
Union Bearing and Lubricator Co. Dust guard for car axle boxes.....	30,680	Walker, F. M., et al. Traction engine.....	31,029
United Electric Improvement Co. Devices for con- necting the plates of electric batteries and switch boards.....	32,849	Walker, L. Plow colter.....	31,678
United Electric Improvement Co. Electric cut-out.....	32,375	Walker, W. T. Purification of gas.....	31,140
United Electric Improvement Co. Frame for sup- porting the plates or elements of a secondary bat- tery.....	32,646	Wallwork, R. et al. Apparatus for illuminating and heating.....	31,156
United Electric Improvement Co. Insulator for elec- tric batteries.....	32,528	Wanless, T. G. Regulating device for distributing pipes of hot air furnaces.....	30,787
Universal Cigar Rolling Machine Co. Cigar rolling machine.....	30,918	Wanner, Martin. Process for obtaining aluminium... Ward, A. F. Machine for pointing and lapping hoops.....	33,103
Universal Water Power Co. Water wheel.....	32,252	Ward, G. S., et al. Process for producing lustre bronze.....	30,981
Urbahn, Alwill. Loom.....	33,187	Ward, S. Churn.....	31,601
Vacuum Brake Co. Vacuum brake.....	30,993	Ward, Whitfield. Cooking vessel.....	33,128
Vagner, J. A. Petroleum oil stove.....	30,894	Wardon, M. M. Case for containing and displaying reams of sheet paper.....	30,798
Vall, T. N., et al. Telephone central station appar- atus.....	31,747 31,748		
Vall, T. N., et al. Telephone exchange signalling.....	31,720		
Vall, T. N., et al. Telephone sub-station appar- atus.....	31,750		
Valentine & Grigg Motor Co. Railway motor.....	31,424		
Valentine, J. R. et al. Railway motor.....	31,424		
Valentine & Co. Samples of paint.....	31,616		
Van Brunt, Willard A. Seeding machine.....	32,847		
Van Camp, G. and W. N. Breast yoke.....	32,074		
Van Depoele, Charles J. Arched suspender for over- head electric conductors.....	33,065		

Ware, Edmund R. Heating apparatus.....	32,705	White, F. Arrow.....	31,053
Ware, Edmund R. Device for controlling food supply.....	32,869	White, G. Grain scourer.....	32,024
Waring, George H. Shingle binding loop.....	32,980	White, G. Machine for thrashing and separating grain.....	30,858
Warner, J. F. Fence wire stretcher.....	30,815	White, G. and R. A. A. Polychromatic printing.....	30,943
Warner, Ira De Ver. Stiffening blade.....	32,359	White, G. W. Fire log.....	31,184
Warren, G. P. Railway car.....	30,852	White, J. Apparatus for burning oil and tar by hydraulic pressure.....	31,084
Warren, H. H. Scythe.....	31,647	White, J. A., et al. Type writing machine.....	32,032
Warren, L. Spring seats for vehicles and in spring foot rests or spring bottoms for such vehicles.....	30,669	White, J. W., et al. Car coupling.....	31,239
Washington, S. Moulds for glass bottles.....	31,330	White, William A., et al. Water heater.....	32,321
Washington, Samuel. Manufacture of glass bottles, etc.....	33,243	White, W. M. Hay loader.....	31,180
Waterhouse, A. G. Dynamo electric machine.....	30,937	White, W. P. Carpet cleaner.....	30,879
Watkins, H., et al. Fertilizer distributor.....	32,013	Whitehead, H. L. Collapsible chair.....	31,883
Watkins, Harry, et al. Fertilizer distributor.....	32,508	Whitehill, Robert. Valve gear.....	33,184
Watrons, Henry N., et al. Coffee cleaner and separator.....	32,827	Whitely, William N., Co. Grain harvesting and binding machine.....	32,983
Watson, F. W. Tree transporting waggon.....	31,223	Whitely, William N., Co. Grass harvesting machine.....	32,982
Watson, L. Machine for warming, scalding and refrigerating liquids.....	31,777	Whiting, H. W. Refuse furnace.....	32,157
Watson, S., et al. Rail chair and coupling.....	31,124	Whiting, Joseph E. Saw set.....	32,603
Watt, H. Apparatus for checking or arresting feed of arc lamps.....	31,316	Whitman, Charles E. and Henry L. Baling press.....	33,090
Weatherby, Charles, P. N. Fire-arm.....	32,887	Whitney, B. F. Boot.....	30,907
Webber, W. O., et al. Circular weaving machine.....	31,422	Whitney, Christopher F. Culinary utensil.....	32,583
Webster, A. B. Draft for vehicles.....	31,473	Whitney, H. M. Feed gate for roller mills.....	31,506
Webster, W. Treatment of sewage, etc.....	31,730	Whitney, J. H. Treadle.....	30,987
Weed, W. A. Tablet for indelible ink marking.....	31,691	Whittaker, Henry, et al. Appliances for water closet cisterns.....	32,711
Wegner, Frederick A. Carriage wrench.....	32,581	Wicks, R. C. and F. Bed clothes holder.....	30,844
Wehrle, A. and H. Wine machine.....	32,577	Widdows, H., et al. Water tank.....	32,167
Weight, L. Apparatus for healing throat and lung complaints.....	30,975	Wiesendanger, John, et al. Screen and storm door.....	32,778
Weinadel, C., et al. Device for securing wire to railroad rails.....	31,241	Wilbur, Miller and Wilbur, et al. Cape collar.....	32,328
Weinadel, C., et al. Telegraph relay.....	31,067	Wilcomb, F. Knitted drawers.....	30,580
Weir, James L. Washing machine.....	32,383	Wilcomb, F. Knitted undervest.....	30,574
Weirich, J. Ores auriferous auriferous waste.....	30,529	Wilcomb Manufacturing Co. Knitted undervest.....	30,574
Weiss, Julius. System of fastening tool handles.....	32,648	Wilcomb Manufacturing Co. Knitted drawers.....	30,580
Welch, M. J. Saw sharpener and gummer.....	31,561	Wild, J., et al. Stopper for bottles and means for securing same.....	31,196
Welch, M. J., et al. Non-eccentric valve gear.....	31,643	Wile, Sol. Machine for corking bottles and wiring the corks.....	32,825
Welch, T., et al. Inhaler.....	32,069	Wiles, J. H. Road scraper.....	31,028
Weldon, Leonard. Machine for dyeing cotton, etc.....	33,215	Wiley, E. A. Catamenial sack.....	31,043
Weldon, Leonard. Yarn dyeing.....	33,193	Wilkin, Alexander. Potato digger.....	32,259
Wellens, R. and J., et al. Steam valve.....	30,914	Willey, J. H. Whiffletree.....	31,795
Wellman, W. F. Machine for cutting rubber soles, etc.....	31,050	Williams, Flora. Steam engine.....	32,458
Wells, A. C., et al. Apparatus for illuminating and heating.....	31,156	Williams, G. Composition for cleansing fabric, metals, etc.....	32,065
Wells, A. J. Suspensories.....	32,006	Williams, H., et al. Apparatus for the manufacture of salt.....	31,356
Wells, Harlan P. Vehicle seat.....	33,178	Williams, H. A. Machine for cold rolling wire.....	31,776
Wells, William H. Churn.....	32,696	Williams, H. F. Vaporizing apparatus.....	31,592
Werner, L. C., et al. Tension regulator for spinning machines.....	31,278	Williams, H. J. Button hole attachment.....	31,866
Wescott, Earl A., et al. Car brake.....	32,262	Williams, Joseph, et al. Wrench.....	32,794
Wesemann, D. Wire screen.....	31,425	Williams, J. A. Vending apparatus.....	31,955
Wesemann, D. Wire screen and means for securing wire gauze in screen frames.....	31,426	Williams, John T. Electro magnetic dispatch apparatus.....	32,839
Wesson, Miley B. Slat fastener.....	32,238	Williams, J. T. Electro magnetic transmitter.....	31,439
Wesson, M. B. Medicine dial.....	30,950	Williams, Lorenzo D. Railway signal.....	32,808
West, J., et al. Pipe wrench.....	31,132	Williams, O. Snow plough.....	31,883
West, R. S. Disinfecting apparatus.....	31,138	Williams, P. G., et al. Coin operated induction coil.....	31,523
West, M. E. Thread holder and cutter.....	32,054	Williams, Warren et al. Extension table.....	32,923
Westbrook, F. A. Fire escape.....	31,438	Williams, W. W. Appliances for skidding saw logs.....	31,906
Westergard, C., et al. Wind mill.....	31,099	Williams, W. P., et al. Street and station indicator.....	31,881
Westervelt, George C. Signal lantern.....	32,993	Williams, William C. Poultry fattening machine.....	32,777
Westervelt, R., et al. Electric motor.....	31,349	Williamson, C. A. Corset.....	31,498
Westervelt, R., et al. Electric temperature regulator.....	30,895	Williamson, C. E., et al. Water current motor.....	32,071
Westervelt, R., et al. Electric thermostat.....	30,890	Williamson, S. S., et al. Check punch.....	30,941
Westervelt, R., et al. Fire alarm telegraph system.....	30,989	Williamson, William H. Dress stay.....	32,209
Westervelt, R., et al. Thermostat.....	30,897	Willis, G. W., et al. Toy.....	31,058
Westervelt, R., et al. Valve controller.....	30,898	Willmott, Henry C., et al. Tap.....	32,885
Westervelt, R., et al. Watchman's time detector.....	31,044	Willoughby, Walter. Root cutter.....	33,116
Weston, George H. Toy gun.....	33,122	Willmot, C., et al. Mechanical annunciator.....	32,179
Westman, G. M. Process of reducing iron ores.....	31,776	Wilson, A. H., et al. Brake.....	31,901
Westman, G. M. Process of reducing zinc.....	32,188	Wilson, C. C. and F. E. Locking mechanism for safes or strong rooms.....	31,150
Weston, George H. Rotary engine.....	32,958	Wilson, David. Manufacture of posts, poles and rollers.....	32,729
Weston, J. A. Wheel.....	31,152	Wilson, Della, et al. Method of combining in electricity with gas.....	32,998
Wetmore, C. W. Tunnel.....	30,826	Wilson, G. T. Hold back for vehicles.....	31,484
Whalen, R. F., et al. Railway brake shoe.....	31,612	Wilson, G. T. Whiffletree hook.....	30,721
Wharry, J. A. Gas engine.....	31,689	Wilson, George T. Vehicle pole tip.....	32,594
Wheeler, B. J. Garment stay.....	30,542	Wilson, J. Truck and bag holder.....	31,289
Wheeler, F. T. Anti-friction journal box.....	31,688	Wilson, John et al. Mechanism for operating railway semaphores.....	32,453
Wheeler, George E. Evaporator.....	32,959	Wilson, John, et al. Operating mechanism for railway semaphores.....	32,760
Wheeler, T. N. Paoking and binding wood.....	30,619	Wilson, M. Plough.....	31,268
Whipps, J. Harrow.....	31,256	Wilson, Malcolm, et al. Double furrow plough.....	33,191
White, C. O., et al. Coin operated race course.....	32,108		
White, E., et al. Apparatus for registering the flow of water or other fluids.....	31,147		

Wilson, R. System and apparatus for heating railway trains.....	32,088	Woodyatt, Augustus R. Barn door hanger.....	32,447
Wilson, W. T. Saw.....	31,925	Woolley, L. G. Electric motor.....	32,027
Wilzin, A., et al. Pocket knife.....	31,194	Worden, W. S. Drawing apparatus.....	31,825
Winby, F. C. Fish joint and fish joint chair for rails.....	32,090	Worthen, W. C., et al. Wrench.....	31,613
Winkler, Alois. Sheet metal sign.....	32,881	Wortman and Ward Manufacturing Co. Barrel churn.....	32,073
Winkler, Ehregott T. Refrigerating machine.....	32,933	Wright, A., et al. Machine for laying electric wires underground.....	31,060
Winn, A. H. Dental drill.....	31,377	Wright, Edward. Lock or fastening for doors.....	32,426
Winnett, E. S. Steam boiler.....	31,071	Wright, G. E. Gas fire place.....	31,937
Winship, Thomas J. Cigar.....	32,440	Wright, G. W., et al. Safety oil burner.....	31,609
Winslow, Sidney W. Buffer.....	32,442	Wright, Henry, et al. Sap evaporator.....	32,481
Winslow, Sidney W. Buffer covering.....	32,439	Wright, J. Car coupler.....	31,176
Winter, A. T. Snow shoe strap.....	31,107	Wright, James, et al. Mechanism for operating railway semaphores.....	32,453
Winter, D. T. Egg beater.....	30,735	Wright, James, et al. Operating mechanism for railway semaphores.....	32,760
Wirt, Herbert C., et al. Electric cut-out.....	32,833	Wright, Maurice L., et al. Thill coupling.....	32,512
Wirths, Maurice. Process for producing color printing.....	32,289	Wright, M. S. Reed organ.....	31,648
Wisdon, Clayton. Animal catcher.....	32,836	Wright, S. Manufacture of casks or barrels, box barrels or packages.....	31,668
Wissemann, H., et al. Time index marker.....	31,988	Wright, S. S. Coffee or tea pot.....	31,229
Wiswell, J. C. Bath or solution for separating metals from their ores.....	31,522	Wright, T. H. Car axle.....	31,369
Witter, Ezra E. Machine for making picket fences.....	32,733	Wright, W. B. Fluid feeder.....	31,923
Wolfcott, Anson. Radiator.....	33,129	Wright, W. B. Fluid fuel smelting furnace.....	31,836
Wolf, Julius J., et al. Elbow rest for telephones.....	33,062	Wright, W. H. Vehicle axle.....	31,816
Wolfhard, T. G. Bed spring.....	30,739	Wright, W. H. Vehicle axle.....	31,568
Wollheim, H. Treatment of sewage, etc.....	31,508	Wunnenberg, Eberhardt. Flute.....	32,600
Wolseley, F. Y. Apparatus for shearing and clipping sheep, horses, etc.....	32,116	Wyant Manufacturing Co. Roller shade holder.....	32,926
Wolseley, Frederick Y. Flexible driving shaft.....	32,212	Wyckoff, Arcalons and Ernest L. Pipe casing and conduit.....	32,300
Wonscott, J. R., et al. Flood fence.....	30,629	Wyeth, D. G. Sleigh runner attachment for wheeled vehicles.....	31,899
Wood, A., et al. Lamp burner.....	31,553	Wynkoop, M. T. Rubber boot.....	31,403
Wood, Edwin L. Method of packing antiseptic textile surgical dressings.....	32,691	Wynne, F. Application of electricity to vehicles on trains and railways.....	32,026
Wood, F. L., et al. Vehicle spring.....	31,398	Himenes, I. L. Stringed instrument.....	31,999
Wood, Hazen. Fire escape.....	32,989	Yarrington, P., et al. Fireproof gas machine.....	31,059
Wood, John. Water tube boiler.....	32,694	Yarson, H. T. Vacuum evaporating apparatus.....	32,189
Wood, J. F. and J. F. Extensible car step.....	31,930	Young, C. H. Knitting machine.....	30,999
Wood, S. J. Anti-rattler and nut lock for thill couplings.....	31,003	Young, H. Machine for cutting stone, etc.....	31,094
Wood, W. E. Valve.....	31,822	Young, J. Letter and document file.....	30,567
Wood, W. G., et al. Apparatus for manufacturing gas.....	31,362	Young, John H. Skate.....	32,728
Wood, W. G., et al. Art of manufacturing gas.....	31,363	Young, McClintock. Mechanism for boring brush bodies.....	33,214
Woodford, W. W. Bolt.....	30,772	Zimmerling, Augustus F., et al. Oil heating stove.....	32,246
Woodruff, Edmond W. Document and letter file.....	32,837	Zinn, J. W. Heating attachment for lamps.....	31,911
Woodruff, W. L. Lawn mower.....	32,125	Zoellner, Heinrich A. Matter for the manufacture of pills.....	33,229
Woods, H. I. Boat launching carriage.....	31,339	Zuroher, Max A. Frame for railway cars.....	32,534
Woodsford, B. Pocket fastener.....	31,565	Zalm, W. Tanning.....	31,312
Woodward, Alvin N. Potato digger.....	32,491		
Woodward, Philip A. Padlock.....	32,861		

The Canadian Patent Office

RECORD

Vol. XVII.—No. 1.

JANUARY, 1889.

{ Price in Canada \$2.50 per An.
United States - \$2.50 "

INVENTIONS PATENTED.

NOTE—Patents are granted for 15 years. The term of years for which the fee has been paid, is given after the date of the patent.

No. 30,528. Snow Shoe Attachment.

(*Ligature de raquette.*)

Benjamin C. Woodbury, Patten, Me., U.S., 31st December, 1888; 5 years.

Claim.—1st. The combination, with a snowshoe, of a toe-and-heel shoe-like attachment for the foot hinged at its toe portion to the snowshoe, substantially as specified. 2nd. The combination, with a snowshoe, of the toe-piece B, of a foot attachment having side wings *d, d,* and the hinges D, D, by which said toe-piece is united with the snowshoe, substantially as specified. 3rd. The combination, with the snowshoe A, of the open-ended toe-piece B, having upper cross-straps F, F, and side wings *d, d,* and hinges D, D, uniting said toe-piece with the snowshoe, the separate heel-piece C, and the adjusting side straps *b, b,* connecting the toe and heel pieces, substantially as specified.

No. 30,529. Treatment of Auriferous and Auroargentiferous Ores and Wastes. (*Traitement des minerais aurifères et auroargentifères et résidus aurifères et auroargentifères.*)

Jules Weirich, Béziers, France, 2nd January, 1889; 5 years.

Résumé.—1o. Le procédé ci-dessus décrit de préparation des minerais aurifères et auroargentifères qui consiste, premièrement, à griller le minerai, deuxièmement, à le mélanger avec du carbonate de soude et du charbon, ou du carbonate de soude, et carbonate de chaux et du charbon, et troisièmement, à le soumettre à une chaleur suffisante pour former des silicates composés, ainsi que je l'ai substantiellement décrit dans la présente spécification. 2o. Le procédé ci-dessus décrit de préparation des minerais aurifères et auroargentifères qui consiste, premièrement, à griller le minerai, deuxièmement à le mélanger avec du carbonate de soude et du charbon, ou du carbonate de soude, et carbonate de chaux et du charbon, et dans les deux cas avec du quartz si le minerai n'en renferme pas assez, et troisièmement, à le soumettre à une chaleur suffisante pour former des silicates composés, ainsi que je l'ai substantiellement décrit dans la présente spécification. 3o. Le procédé ci-dessus décrit de préparation des minerais aurifères et auroargentifères pour l'amalgame qui consiste, premièrement, à griller le minerai, ensuite à mêler avec le minerai un ou des carbonates alcalins et du charbon, et du quartz si cela est nécessaire, puis à fondre le mélange pour former des silicates composés, et enfin à réduire la masse à l'état de poudre pour l'amalgame, ainsi que j'ai substantiellement décrit dans la présente spécification.

No. 30,530. Manufacture of Chairs.

(*Fabrication des chaises.*)

Daniel Hibner and Solon L. Doolittle, Berlin, Ont., 7th January, 1889; 5 years.

Claim.—1st. The combination of the rocker *b,* the post *f,* the brace C, the lap *j,* and the bolts or screws *g, h, l* and *p,* substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the stretchers *m, m, k k,* and the slats *q,* substantially as and for the purpose hereinbefore set forth.

No. 30,531. Electric Meter. (*Electromètre.*)

Anthony Reckenzaan London, Eng., and James A. Pentz, Philadelphia, Penn., U.S., 9th January, 1889; 5 years.

Claim.—1st. In an electric meter, the combination of a register or indicator, a shaft for transmitting motion thereto, a constant speed motor, a wheel driving a constant speed movement therefrom, a

sleeve mounted on said shaft to rotate therewith and slide thereon, and to gravitate downward, a variable speed friction wheel or roller connected with said sleeve, and bearing against the face of said constant speed wheel, to derive rotative movement from it, a core connected with said sleeve, and a solenoid energized from the main current and influencing said core to change the point of contact of said variable speed wheel with the constant speed wheel to vary the speed of the former in proportion to the energy consumed, substantially as described. 2nd. In an electric meter, the combination, of the rotating shaft G, provided with worm H at one end, to transmit motion to a registering mechanism, a sleeve F mounted on said shaft to slide thereon and turn the same, and carrying a friction wheel E and core J turning therewith, a constant speed worm wheel D against the face of which said friction wheel bears, a worm C meshing with said worm wheel, a constant speed motor for revolving said worm, and the solenoid actuated by the energy to be measured for changing the bearing point of said roller on the face of said worm wheel to vary the speed of said roller, substantially as described.

No. 30,532. Galvanic Battery.

(*Batterie galvanique.*)

David Humphreys, New York, N. Y., U.S., 9th January, 1889; 5 years.

Claim.—1st. In a galvanic battery, the combination, with the positive and negative electrodes, of an aerating device provided with openings opposite the negative surface, and a blower for forcing air through said openings. 2nd. In a galvanic battery, the combination, with the positive and negative electrodes, of an aerating device provided with openings opposite the negative surface, a blower for forcing air through said openings, and means for shifting said openings over the carbon surface, whereby the air may be discharged successively against different parts of said surface. 3rd. In a galvanic battery, the combination, with the positive and negative electrodes, of an aerating device close to the negative surface, a blower for forcing air upon said negative surface, and a motor for reciprocating said device so as to discharge the air against the entire negative surface. 4th. In a galvanic battery, the combination, with the positive and negative electrodes, of an aerating device provided with openings opposite said electrodes, a blower for forcing air through the openings, and means for reciprocating the aerating device so as to discharge the air toward the electrodes at different vertical elevations. 5th. In a galvanic battery, the combination, with the positive and negative electrodes, and an exciting and depolarizing solution, of an aerating device, a mechanical agitator in said solution, and a motor for operating said agitator. 6th. In a galvanic battery, the combination, with the positive and negative electrodes, and an exciting and depolarizing solution, of a mechanical agitator, a blower for forcing a gas into the solution, and a motor for operating both the agitator and the blower. 7th. The combination of a galvanic battery, a reciprocating depolarizing device in operative relation to the negative surface of said battery, a motor for bringing said depolarizer alternately into the air and the excitant, whereby the excitant is agitated and air is brought into contact with the negative surface. 8th. In a galvanic battery, the combination of the positive and negative electrodes, the latter opposing both faces of the former, an agitator between the opposing faces, and means for reciprocating said agitator. 9th. The combination, with a galvanic battery, of a depolarizer and agitator consisting of a rod provided with air recesses, and a motor for reciprocating the rod and bringing said recesses alternately into and out of the excitant. 10th. In a galvanic battery, the combination of the positive and negative electrodes, a mechanical depolarizer provided with cross arms, and means for reciprocating said agitator and alternately shifting it into and out of the solution either partially or wholly, for the purposes set forth.

No. 30,533. Electrode for Secondary Batteries. (*Electrode pour batteries secondaires.*)

Charles H. Thompson, Detroit, Mich., U.S., 9th January, 1889; 5 years.

Claim.—1st. A blank consisting of a piece of foraminous or open-work metal, or other appropriate substance or material, in suitable shape when bent up to present a support for an electrode in the na-

ture of a receptacle or basket, the portions of the blank to be the sides of the receptacle having projections on respectively opposite edges, and the portions to be the ends having openings in respectively opposite edges, the projections on the sides fitting into the corresponding openings in the ends, there being a terminal integral with the structure, substantially as described. 2nd. An electrode for a secondary battery consisting of the foraminous or open-work receptacle, of perforated metal wire-work, or other appropriate substance, having the integral terminal and filled with active material, substantially as described. 3rd. An electrode for a secondary battery, consisting of a foraminous or open-work receptacle of perforated metal wire-work or other appropriate substance, containing active material, substantially as described.

No. 30,534. Electrode for Secondary Batteries. (*Electrode pour batteries secondaires.*)

Charles H. Thompson, Detroit, Mich., U.S., 9th January, 1889; 5 years.

Claim.—1st. The method of producing a support for an electrode for a secondary battery, by casting or moulding a suitable metallic substance in contact with a body or mass of such form that the metal in casting will penetrate the body or mass, the mould being heated to keep the metallic substance fluent for the purposes, and the body or mass afterward to be removed leaving the metallic substance in a highly porous condition throughout, with cells communicating one with another forming tortuous ducts throughout, substantially as set forth and described. 2nd. The method of producing a suitable support by casting or moulding a suitable metallic substance, in contact with a body or mass of such form that the substance in casting or moulding will penetrate the body or mass, the body or mass afterward to be removed, and either before or after such removal, the substance to be cut or sawed into slabs or plates of suitable size, substantially as shown and described. 3rd. The method of producing a suitable support with a proper projection to serve as a terminal for electrical connection, by a casting one support in cellular form, and at the same time casting a solid projection integral therewith, substantially as set forth. 4th. The method of producing an electrode for a secondary battery, which consists in casting or moulding highly porous or cellular support with a solid terminal integral with the body thereof, then coating the support with active material, or passing it into the pores or cells thereof, substantially as described.

No. 30,535. Electrode for Secondary Batteries. (*Electrode pour batteries secondaires.*)

Charles H. Thompson, Detroit, Mich., U.S., 9th January, 1889; 5 years.

Claim.—1st. A support for an electrode, consisting of a body having tortuous ducts throughout, forming a porous mass, and a solid terminal integral with the body, substantially as described. 2nd. A support for an electrode, consisting of a highly porous metallic substance in a single piece, with cells communicating one with another forming tortuous ducts throughout, the said support having applied upon it, or pressed into its pores or cells, suitable active material, substantially as shown and described. 3rd. A support for an electrode consisting of a highly porous metallic substance in a single piece, with cells communicating one with another forming tortuous ducts throughout, and with a solid projection proper for a terminal made integral with the structure, the said support having applied upon it, or pressed into its pores or cells, suitable active material, substantially as set forth. 4th. An electrode for a secondary battery, consisting of highly porous metallic substance in a single piece, with cells communicating one with another forming tortuous ducts throughout, and with a projection for a terminal made integral with the structure, the said substance having applied upon it, or pressed into its pores or cells, suitable active material, and the same being formed, all substantially as and for the purpose described.

No. 30,536. Screw-Threading Machine.
(*Machine à fileter les vis.*)

Harrison H. Taylor, Detroit, Mich., U.S., 12th January, 1889; 5 years.

Claim.—1st. In a screw-threading machine, the combination, with a support of sliding beds engaged therewith, rotatable cutters journaled in said beds and adapted to move with the beds, substantially as set forth. 2nd. In a screw-threading machine, the combination, with a support of cutters, means to rotate and reciprocate said cutters, and an expandible chuck adapted to engage the work from the interior and hold it between said cutters, substantially as set forth. 3rd. In a screw-threading machine, the combination, with a support, of sliding beds engaged therewith, rotatable multiple cutters journaled therein and adapted to move with said bed, means to reciprocate said beds and a chuck to hold the work, substantially as set forth. 4th. In a screw-threading machine, the combination, with a support, of rotatable reciprocatory cutter, spindles located end to end, and a rotatable laterally movable chuck to hold the work adjacent to the cutters, substantially as set forth. 5th. In a screw-threading machine, the combination, with a support, of cutter spindles, each having a rotatable and reciprocatory movement in said support and located end to end, a rotatable chuck to hold the work adjacent to the cutters, and mechanism to simultaneously reciprocate and rotate the spindles, substantially as set forth. 6th. In a screw-threading machine, the combination, with a support, of rotatable cutter spindles located end to end, and provided each with a multiple cutter, a rotatable chuck to hold the work, and means to feed the cutters apart when in engagement with the work, substantially as set forth. 7th. In a screw-threading machine, the combination, with a support, of sliding beds A₁, A₂, connected with a feed-screw having a right and left-hand screw-threaded engagement with said beds respectively, and mechanism to rotate said feed screw to reciprocate said beds, said beds provided each with a cutter spindle, substantially as set forth. 8th. In a screw-threading machine, the

combination, with a support, of sliding beds A₁, A₂, cutter spindles journaled in said beds, a rotatable chuck to engage the work, and mechanism to simultaneously reciprocate said beds and rotate said spindles, substantially as set forth. 9th. In a screw-threading machine, the combination, with a support, of sliding beds A₁, A₂, rotatable cutter spindles journaled in said beds, a feed screw having a right and left-hand engagement with said beds, a chuck to hold the work and mechanism to rotate said feed screw and said chuck, substantially as set forth. 10th. In a screw-threading machine, the combination, with a support, of a rotatable chuck to engage the work, sliding beds connected with a feed screw, having a right and left-hand screw tapped engagement therewith, cutter spindles journaled in said beds, worm gear to rotate said feed screw, and mechanism to rotate said worm gear, substantially as set forth. 11th. In a screw-threading machine, the combination, with a support, of sliding beds A₁, A₂, a feed screw having a right and left-hand screw tapped engagement with said beds, a worm gear loosely mounted upon the feed screw, a handle having a screw tapped engagement with said screw, whereby the gear may be tightened thereupon and a worm meshing with said gear, substantially as set forth.

No. 30,537. Barley Flake and Process of Producing the same. (*Flocon d'orge et procédé de production de cet article.*)

Frederick R. Farwell and Foster P. Rhines, Watertown, N.Y., U.S., 12th January, 1889; 5 years.

Claim.—1st. As a new article of manufacture, the hearts of barley kernels in their natural dry condition freed from irritants and pressed into flakes, substantially as described. 2nd. The herein described process of forming barley flakes, consisting in grinding or removing the outer coating of the kernels without crushing the same, and then subjecting the heart in its pure condition to the action of rolls or presses, whereby they are formed into flakes, substantially as described. 3rd. The herein described process of forming barley flakes, consisting in cleaning the grain, then subjecting it to the action of grinders to remove the outer coating or shell of the kernels, then separating the same by a suitable blast, and finally forming the hearts of the kernels in their pure condition into flakes by the action of rolls or presses, substantially as described.

No. 30,538. Mould for Casting Cellular Electrodes. (*Moule pour couler les électrodes cellulaires.*)

Charles H. Thompson, Detroit, Mich., U.S., 12th January, 1889; 5 years.

Claim.—A mould for casting a support for an electrode, consisting of the body A filled with pulverized refractory material, and having the hollow projection at its lower end, substantially as described.

No. 30,539. Raisin Seeder. (*Vide raisin.*)

Thomas Dalby, Watertown, Warren Boyd, Walpole, and James E. Gammon, Watertown (assignees of Joseph W. Calef, North Easton), Mass., U.S., 14th January, 1889; 5 years.

Claim.—1st. A raisin seeder, composed of a series of elastic ribs placed side by side, and a holder therefor, as set forth. 2nd. A raisin seeder, composed of a spiral wire, and a holder or handle therefor, as set forth. 3rd. A holder or handle provided with a shield or cover *d*, and a series of wire ribs, as set forth.

No. 30,540. Electric Meter. (*Electromètre.*)

Anthony Reckenzaun, London, Eng., and James A. Pentz, Philadelphia, Penn., U.S., 14th January, 1889; 5 years.

Claim.—1st. In an electric meter, the combination, with a variable speed gear, of means for periodically releasing contact between parts of said speed gear, substantially as and for the purposes set forth. 2nd. The combination, with the wheel having a friction roller changing its point of contact with said wheel with the change in the consumption of energy, of means for periodically releasing contact between said friction roller and wheel, substantially as described. 3rd. The combination, with the wheel having a friction roller changing its point of contact with said wheel, with the change in the consumption of energy, of a solenoid energized from the main current, and moving said friction wheel, and a second solenoid in circuit with the first solenoid, and connected with a part of said friction wheel, moving mechanism to counterpoise or compensate for the varying attractive force of one solenoid on its core, and thus establish an equilibrium, substantially as and for the purposes set forth. 4th. In an electric meter, the combination, with the two solenoids in circuits with each other, of the constant speed wheel, the variable speed roller, the shaft connecting with the registering mechanism, and having motion transmitted to it from said variable speed roller, and the lever intermediate of said solenoids, and having connection with parts of the two solenoids, substantially as and for the purpose set forth. 5th. In an electric meter, the combination, with a solenoid energized from the main current, of a second solenoid in circuit with the first solenoid and connected with said solenoid to compensate for the varying attractive force of one solenoid, substantially as and for the purpose described.

No. 30,541. Chain Link. (*Chânon de chaîne.*)

Harry E. Kelley and George N. Miller, Niagara Falls, N.Y., U.S., 14th January, 1889; 5 years.

Claim.—1st. A flat chain link A, stamped or cut out of sheet metal, one end having a hole at *a*, for the reception of the next link A at that end, the other end having the link opening at *a*, and slot *d*, continuing therefrom and adapted to receive the next link, and to be closed edgewise against the edge of the link itself, making a cold shut, substantially as specified. 2nd. As a new article of manufacture, the flat chain link A made from sheet metal, and having an open end or ends *a*, *d*, the side or end *c* adapted to be shut against the edge of the link A, substantially as set forth.

No. 30,542. Garment Stay. (*Busc de corset.*)

The Detroit Stay Company (assignee of Benjamin F. Wheeler), Detroit, Mich., U.S., 14th January, 1889; 5 years.

Claim.—1st. A universally flexible stay, consisting of a crimped wire bent at its ends, and interposed with a sheet of gutta-percha tissue between two surfaces of fabric, the whole pressed together, whereby the fabrics are caused to adhere, both at the edges and in the spaces between the crimps, substantially as and for the purpose described. 2nd. A universally flexible stay, consisting of a crimped wire, interposed with an adhesive substance between two sheets of the fabric, one of said fabrics with the adhesive substance folded over one or both ends of the stay onto the other fabric, and the whole united by pressure, substantially as described. 3rd. A garment stay, consisting of a crimped strand of spring wire, in combination with two embracing surfaces of fabric, and an interposed adhesive material, the whole united and made integral with pressure, said fabric brought together between the crimps and beyond its edges, and constituting a stiffening web to stiffen the stay against too great lateral flexibility, substantially as described.

No. 30,543. Electric Meter. (*Electromètre.*)

The Thomson Houston International Electric Company, Boston, (assignee of Elihu Thomson, Lynn), Mass., U.S., 14th January, 1889; 5 years.

Claim.—The combination, with an electric meter, of a current controller governing the flow of current to the same, and a controller magnet or other electro-responsive device, adjusted as described, to permit an increase in the flow of current to the meter, when the current to be measured falls below that to which the meter responds normally, as and for the purpose described.

No. 30,544. Electric Belt. (*Ceinture électrique.*)

The Pratt Electro Therapeutic Supply Company, (assignee of Harry P. Pratt), Chicago, Ill., U.S., 14th January, 1889; 5 years.

Claim.—1st. In an electric belt, the combination of a girdle portion A, a longitudinally expandible and transversely compressible battery B comprising cells C flexibly connected together, and electrodes connected by suitable conductors with the opposite poles of the battery, substantially as described. 2nd. In an electric belt, the combination of a girdle portion A, a longitudinally expandible and transversely compressible battery B, comprising cells C flexibly connected together, clasps m attached to the opposite poles of the battery, buckles n on the girdle portion, elastic bands l connecting the clasps m, and buckles and electrodes connected by suitable conductors with the clasps m, substantially as described. 3rd. In an electric belt, the battery B comprising, in combination cells C composed each of an element r surrounded by absorbent material q to contain the exciting liquid, and an element p of substantially the oval form shown and provided, with the extension o, links n connecting the cells from opposite elements, and end links n having eyes n², substantially as described. 4th. In an electric belt, the battery B comprising in combination, cells C composed each of an element r surrounded by absorbent material q to contain the exciting liquid, and an element p of substantially the oval form shown, and provided with the extension o, links n connecting the cells from opposite elements, rings n¹ on some or all of the links, and end-links n having eyes n², substantially as described. 5th. In an electric belt, the combination, with the girdle portion A, of a battery B inclosed in a moisture-proof case, and having its terminals projecting from opposite ends of the said case, and connected with the girdle portion, a shifting case E on the girdle portion disconnected from the said moisture-proof case whereby the case E may be shifted to cover or uncover the case containing the battery, and electrodes connected by suitable conductors with the opposite poles of the battery, substantially as described. 6th. In an electric belt, the combination, with the battery, of a mechanically operated circuit breaker or interrupter, with the battery, of a circuit breaker or interrupter H comprising a housing f containing loosely conducting material g, and contact e extending into the housing, substantially as described. 7th. In an electric belt, the combination, with the battery, of a circuit breaker or interrupter H comprising a housing f, containing loosely conducting material g, and contacts e extending into the housing and provided with eyes e¹, substantially as described. 8th. In an electric belt, or the like, the combination, with the battery, of a conductor to which an electrode is connected, and a clamp F at one end of the conductor formed with spring arms i having hooks i² at their extremities extending outwardly in opposite directions, substantially as described. 9th. In an electric belt, or the like, the combination, with the battery, of a conductor to which an electrode is connected, and a clamp F at one end of the conductor formed with a coil z, and spring-arms i having hooks i² at their extremities extending outwardly in opposite direction, substantially as described. 10th. In an electric belt, or the like, the combination, with the battery, of an electrode G connected with a pole of the battery by a suitable conductor, and self-supporting on the part of the body to which it is applied, substantially as described. 11th. In an electric belt, or the like, the combination, with the battery, of an adhesive electrode G connected with a pole of the battery by a suitable conductor, substantially as described. 12th. In an electric belt, or the like, the combination, with the battery, of an adhesive electrode G comprising a plaster having a metallic plate on its adhesive surface, and an eye g¹ extending from the said plate through the plaster, and a conductor connected at one end with a pole of the battery, and carrying at its opposite end a clamp F formed with spring-arms i terminating in hooks i² inserted into the eye g¹, substantially as described.

No. 30,545. Electric Meter. (*Electromètre.*)

The Thomson-Houston International Electric Company, Boston, (assignee of Elihu Thomson, Lynn), Mass., U.S., 14th January, 1889; 5 years.

Claim.—1st. In an electric meter, a resistance or heating coil traversed by the current, or a portion of the current, or by a current

induced from the current to be measured or metered, a fluid subject to the heating effect of the resistance or coil, whereby a movement of such fluid is set up, a means of resisting the said movement of the fluid, and a registry dial or apparatus for recording the amount of such fluid movement occurring in any given time. 2nd. In an electric meter, a heating coil or resistance immersed in a vaporizable liquid like alcohol, a closed receptacle for said liquid connected with a second receptacle by a narrow tube, and registry apparatus for indicating the amount of transfer of liquid from one receptacle to the other during any given time. 3rd. In an electric meter, a suspended or oscillatory structure consisting of two or more receptacles connected together at their lower portions by a narrow tube or set of narrow passages, and containing alcohol, or other vaporizable fluid, a resistance or heating coil for each receptacle, and switch devices, whereby upon each oscillation an alteration of electric connection from one heating coil to the other is made, substantially as described. 4th. In an electric meter, in combination with an oscillatory device containing vaporizable liquid, as described, and with a heating coil, or coils, or resistance, an induction-coil, one coil of which is traversed by the currents to be metered or measured, and the other coil of which is connected in circuit with the heating or evaporating coil, as described. 5th. In an electric meter, an induction-coil, one coil being in the circuit to the translating devices, and the other in the circuit to the meter apparatus proper, as described. 6th. In an electric meter, a receptacle for a vaporizable liquid in vacuo, said receptacle consisting of two chambers connected at the bottom with a restricted tube or passage, or series of passages, and each chamber having a heating conductor, substantially as described. 7th. In an electric meter, a pivoted receptacle of two parts connected by a tube of narrow bore, each part containing a heating conductor switch device for changing the current from one heating conductor to the other, as described, and means for counting or indicating the movements of the pivoted receptacle.

No. 30,546. Manufacture of Glass Bottles.

(*Fabrication des bouteilles de verre.*)

William Ambler, Jeremiah Rhodes and Samuel Rhodes, Bradford, Eng., 14th January, 1889; 5 years.

Claim.—1st. The method of manufacturing glass bottles, consisting in moulding molten glass by centrifugal force in a mould of the required form, to which rotary motion is imparted around its axis, and to which a circular motion in a direction in which its axis will radiate is simultaneously imparted. 2nd. As a new article of manufacture, a glass bottle moulded by centrifugal force from molten glass, in a mould to which rotary motion is imparted around its axis, and to which a circular motion in a direction in which its axis will radiate is simultaneously imparted. 3rd. In apparatus for moulding glass bottles from molten glass by centrifugal force, in combination, an opening and closing mould, means for automatically opening, closing, clamping and stopping the mould, means for automatically rotating the mould about its axis, and means for automatically rotating the mould in a path in which its axis will radiate. 4th. In apparatus for moulding glass bottles from molten glass by centrifugal force, in combination, an opening and closing mould, and means for automatically opening, closing, clamping and stopping the mould. 5th. In apparatus for moulding glass bottles from molten glass by centrifugal force, a mould constructed and operating substantially as set forth. 6th. In combination, with the hinged parts 5 of the mould, the links 9, collar 10, clutch 43, rod 44, spring 45, slide bar 46, guide plate 14, pin 47, and grooved cam plates 48, 50, operating to open and close the mould, as set forth. 7th. In combination with the hinged parts 5 of the mould, the clamping ring 52, arm 51, pin 53, pinion 54, racked slide bar 55, pin 56, slotted bracket 57, slide bar 46, guide plate 14, pin 47, and grooved cam plate 48, 50, operating to clamp and release the mould, as set forth. 8th. In combination with the hinged parts 5 of the mould, the plug 7, arm 51*, pin 53*, pinion 54*, racked slide bar 55*, pin 56*, slotted bracket 57*, slide bar 46*, guide plate 14, pin 47*, and grooved cam plate 48*, 50* operating to close the mouth of the mould, as set forth. 9th. In combination with the mould 4, the supported spindle 11, friction wheel 19, friction disc 20, shaft 21, friction disc 24, friction wheel 23, lever 27, and cam 29 operating to put the friction disc 24 and wheel 23 intermittently into and out of frictional contact, lever 59, and eccentric pin 63 operating to cause disc 24 to receive a differential speed of rotation from the wheel 23, the whole operating to intermittently rotate the mould around its axis, as set forth. 10th. In combination with the mould 4, the spindle 11, bracket 12, plate 14, head 15, shaft 16, gearing 33, 37, with the locking rim 49, lock plate 40, projecting teeth 41, operating to intermittently carry around the rotating mould in a direction in which its axis will radiate, as set forth. 11th. In combination, the shaft 16, head 15, pawl 72, cam 74, 50, pawl 69, and gearing 67, 68, operating to intermittently rotate the cam plate. 12th. The ladles 80, in combination with the removable or opening bottoms or lower parts 75, and with the spring 79 automatically tending to keep the ladles normally closed.

No. 30,547. Shoe Clasp. (*Agrafe de soulier.*)

Judson L. Thomson, Syracuse, and John Hunter, Sterling Valley, (assignees of Jacob J. Unbehend, Syracuse), N.Y., U.S., 14th January, 1889; 5 years.

Claim.—1st. In a spring clasp, the combination of a base-plate having its side edges bent at right angles to the main portion of the plate, and the bent parts provided with notches or indentations for the reception of the tongue pivots, with the tongue having cam-shaped pivots seated in the indentations or notches in the angular edges of the base-plate, and a supporting spring-plate connected to the base-plate and retaining the tongue in the sockets on the base-plate, substantially as and for the purpose set forth. 2nd. In a spring clasp, the combination, of two sheet-metal plates a, b secured together at one end, the plates a bifurcated at its opposite end, and provided with sidewise extension bent at right angles to the plate, and having notches n, n therein forming bearings for the tongue pivots, the other plate b having its free end terminating in extensions

c which are adapted to rest against the base of the tongue or holding-lever, and confine the tongue-pivots in their bearings in the plate *a*, the hook-shaped tongue-lever *t*, its hook-shaped end constructed with laterally-projecting flat pivots *p* corresponding to the notches *n* in the bent edges of the plate *a*, substantially as and for the purpose set forth.

No. 30,548. Axle Grease. (*Graisse à essieux.*)

Georges Hervieux and Victor Bédard, Quebec, Que., 14th January, 1889; 5 years.

Claim.—An axle grease composed of twenty-four parts of codfish-oil, sixteen parts of beef-tallow, two parts of soft soap, and one part of resin, or thereabouts, substantially as set forth.

No. 30,549. Seam for Sheet Metal. (*Couture de métal en feuille.*)

Edward J. Dolan, Philadelphia, Penn., U.S., 15th January, 1889; 5 years.

Claim.—The herein described seam for sheet metal, the same consisting of the two adjacent S, shaped folds B and B' interlocked as described, and provided with a covering or coating of solder upon one of the faces of the seam, substantially as described.

No. 30,550. Furniture. (*Meuble.*)

Joseph T. B. Solman, Orillia, Ont., 15th January, 1889; 5 years.

Claim.—A combination table and box, consisting of the castings *a, a, a*, the hinges *b, b*, the latches *c, c*, the box *d*, the lock or fastening *e*, the removable legs or knobs *f, f, f*, the thumb screws *g*, the pivots-bolts *h*, the projection *i*, the folding legs *j, j, j*, and the two sections of the frame *k, k*, all arranged and combined substantially as and for the purpose hereinbefore set forth.

No. 30,551. Brick Machine. (*Machine à brique.*)

Herman Krutzsch, St. Louis, Mo., U.S., 15th January, 1889; 5 years.

Claim.—1st. In a brick machine, the combination, with the mould plungers, the cam-wheels 18 and the cross-head 43 for imparting motion to the mould plungers, of studs on said cam-wheels projecting in opposite directions, and the cross-head 50 connected to cross-head 43, and having cam-grooves in which said studs engage, substantially as set forth. 2nd. In a brick machine, the combination, with the cam-wheels 18, the mould plungers having actuating levers, a cross-head 43, and toggle-links connecting said cross-head to said levers, of the cross-head 50 connected to cross-head 43, and having a separate cam-groove on each side, a portion of each of which grooves is concentric with said cam-wheels, and pins or studs on said cam-wheels projecting toward each other and engaging in said cam-grooves, as set forth. 3rd. In a brick machine, the combination, with the mould plungers, the cam-wheels 18 and the cross-head 43 for imparting motion to said plungers, of studs on the inner sides of said wheels projecting toward each other, the cross-head 50 connected to cross-head 43, and having its opposite sides provided with coincident cam-grooves, in which said studs engage, and the web 51a between the ends of said studs, substantially as set forth. 4th. In a brick machine, the combination, with the wheels 18 and the cross-head 43, of the cam-slotted cross-head 50 connected to cross-head 43, studs on said wheels engaging said cam-slotted cross-head, a guide-way and a stud or roller 56 on cross-head 50 engaging in said guide-way 57, as set forth. 5th. The combination in a brick machine, of a lower mould-plunger 23, vertically-adjustable blocks 26 with spring-blocks 29 beneath the plunger, and supporting screws turning in the blocks 26, substantially as and for the purpose set forth. 6th. The combination in a brick machine, of the lower mould-plunger 23, vertically-adjustable blocks 26, with spring-blocks 29, supporting screws working in screw sockets of the blocks, and having extensions passing axially through miter wheels, and having spline connection therewith, and miter wheels traversed by the extension of the supporting screw, substantially as and for the purpose set forth. 7th. The combination, in a brick machine, of a lower mould plunger 23, spring block 29 supported on block 26, screw 30 sustaining the block 26, and having collar resting on spring block 32, and having extension 34 passing through the spring block 32, and through the support 33 and axially into the mitre-wheel, and having spline connection therewith, substantially as and for the purpose set forth.

No. 30,552. Shirt. (*Chemise.*)

Horace W. Messer, Berlin, Ont., 15th January, 1889; 5 years.

Claim.—A shirt, having an under yoke C attached to the back D, and provided with a back-band D to form a continuation of the neck-band A, substantially as and for the purpose specified.

No. 30,553. Belt Fastener. (*Agrafe de courroie.*)

Gruchy Phillip and Alfred Coté, Hull, Que., 15th January, 1889; 5 years.

Claim.—A belt fastener B of wire, bent to form a shank *c*, and cross-heads *b, b*, at the ends, as set forth.

No. 30,554. Display Rack. (*Râtelier-montre.*)

John M. Laudick, Delphos, Ohio, U.S., 15th January, 1889; 5 years.

Claim.—1st. A frame for holding hosiery, being of approximately the form of a leg, the said frame having a spring coil at one end and hooks for holding the same in an expanded position to receive the upper ends of the hose, and a similar coil at its opposite end or toe portion, also having a hook or stud to hold the coils open or expanded, substantially as specified. 2nd. A hosiery display frame, comprising an upright and a lateral frame of wire, a suspension hook on the lateral frame, a horizontal guide loop and a coil of wire secured at one end to the main frame, and the whole adapted to be

guided by the said loop, substantially as specified. 3rd. A hosiery frame, comprising an upper and lower section adjustably connected by a socket, and each respective section carrying a horizontally disposed spiral coil of wire, to receive the tops and toes of hose between the said coil, substantially as specified. 4th. A hosiery frame, comprising a vertical and horizontal section connected at right angles, a horizontal guide loop, a coil of wire secured at one end to the main frame and passing through the guide-loop and hooks on the horizontal section of the frame, whereby the outer coil may be engaged thereby when drawn out, substantially as specified.

No. 30,555. Water-proof and Anti-Corrosive Compound. (*Composition imperméable à l'eau et anti-corrosive.*)

Edwin L. Kitchingman, Collingwood, Victoria, and Arthur Andrews, Albury, N.S.W., 15th January, 1889; 5 years.

Claim.—As a composition of matter, the combination of tar, oxide of iron, resin, sugar of lead, soft soap and shellac varnish, in the proportions described for the purpose set forth.

No. 30,556. Rotary Engine. (*Machine rotatoire.*)

Elie Raymond, Montreal (assignee of Joseph E. Beauchemin, Sorel), Que., 15th January, 1889; 5 years.

Claim.—1st. In a rotary engine, the combination, with a hub forming a valve-seat having parts, and an exhaust chamber, of a valve held on the said seat and operating over the said ports, a series of cylinders secured radially on the said hub and into which lead the said ports, pistons having central openings operating in the said cylinders, and a wheel held eccentrically to the said hub, and on the rim of which the said pistons operate, substantially as shown and described. 2nd. In a rotary engine, the combination, with a hub forming a valve-seat having parts and an exhaust chamber, of a valve held on the said seat and operating over the said ports, cylinders secured radially on the said hub, and into which lead the said ports, pistons operating in the said cylinders, a plate secured to the outer end of each piston, and a wheel provided with slots in which operate said plates, said wheel being held eccentrically to the said hub, substantially as shown and described. 3rd. In a rotary engine, the combination, with a hub forming a valve-seat, having parts and an exhaust chamber, of a fixed valve held on the said seat and operating over the said ports in the valve-seat, cylinders secured radially on the said hub and into which lead said ports, pistons operating in the said cylinders, plates secured to the outer ends of the said pistons, a wheel provided with slots in which said plates travel, said wheel being held eccentrically to the said hub, and a casing made in two parts forming bearings for the said hub and the said wheel, and also serving as an exhaust chest connected with the said exhaust chamber, substantially as shown and described. 4th. In a rotary engine, the combination, with a hub forming a valve-seat having parts, and an exhaust chamber of an inlet valve held on the said valve-seat and provided with an inlet port and an outlet port operating over the said ports in the valve-seat, an inlet-pipe supporting said valve, an offset formed on the said valve and provided with radial openings connected with the said pipe, a governor valve consisting of a cap held to slide on the said offset over the said openings, and an annular inclined flange secured to the said cap, and weighted slides having inclined slots engaging the said annular flange of the governor valve, so as to move the latter forward or backward in its bearings to open and close the said openings in the valve, substantially as shown and described. 5th. In a rotary engine, the combination, with a hub, having a valve-seat and having a rotary motion, of a valve held on the said valve-seat and operating on the ports of the said valve-seat, an inlet pipe carrying said valve and discharging into openings formed in an offset on the said valve, a cap held to slide on the said offset to open and close the openings in said offset, an annular inclined flange formed on the said cap, weighted slides having inclined slots engaging the said inclined flange, said weighted slides being mounted to slide radially on the said hub and springs pressing against said weighted slides, substantially as shown and described. 6th. In a rotary engine, the combination, with a hub having a valve-seat and having a rotary motion, of a valve held on the said valve-seat and operating on the ports of the said valve-seat, an inlet pipe carrying said valve and discharging into openings formed in an offset on the said valve, a cap held to slide on the said offset to open and close said openings in it, an annular inclined flange formed on the said cap, weighted slides having inclined slots engaging the said inclined flange, said weighted slides being mounted to slide radially in the said hub, springs pressing against the said weighted slides, and set-screws for regulating the tension of the said springs, substantially as shown and described.

No. 30,557. Combination Hinged and Halved Umbrella Stand. (*Porte-parapluie brisé.*)

James Goodwin, London, Eng., 15th January, 1889; 5 years.

Claim.—1st. An umbrella stand, composed essentially of one or more of three parts, such as A, E and Er, any one of which with its adjuncts constitutes a distinct stand, each having a lower portion, such as A1 or E2, pivoted to it as by a pivot B, and arranged to intercalate the one with the other, in order that the under edge of A, E, or Er shall rest on the floor or other supporting surface, substantially as and for the purpose herein described and illustrated in the accompanying drawings. 2nd. In an umbrella stand, the combination, with two parts, such as A and A1, or E or E1 and E2, of a pivot, such as B, for connecting together the said two parts and permitting them to be moved independently of and intercalate the one with the other, substantially as herein described and illustrated in the accompanying drawings. 3rd. In an umbrella stand, such as described, the combination, with the pivot B, of one or more bolts or catches C, substantially as herein described and illustrated in the accompanying drawings. 4th. In an umbrella stand, the combination, with the parts, such as A, E, or Er, of divided hinges, such as D and D1, sub-

stantially in the manner described and illustrated in the accompanying drawings. 5th. In an umbrella stand, such as described, the combination, with the part A, A', of the part E, E₂ or E', E₂, substantially as described and illustrated in the accompanying drawings. 6th. In an umbrella stand, the combination, with the part E, E₂, of the part E', E₂, substantially as described.

No. 30,558. Road Cart or Two-Wheeled Vehicle. (*Désobligeante ou voiture à deux roues.*)

William B. Altick, Lancaster, Penn., U.S., 15th January, 1889; 5 years.

Claim.—1st. In a two-wheeled vehicle, the combination, with the thills, of a spring secured to said thills, bearing bars extending from the spring to the seat, and side-bars hinged to the splinter bar and curving backward over and to the rear of the axle and thence upward to the seat, so that upon the giving way of the spring the said axle may catch and uphold said side bars, substantially as and for the purpose specified. 2nd. In a two-wheeled vehicle, the combination, with the thills, of a spring attached thereto, and bearing bars having one end fastened to the foot-board and extending to and connected with the spring, and thence passing to the seat, substantially as and for the purpose specified. 3rd. In a two-wheeled vehicle, the combination, with the thills, a spring connecting said thills, and bearing bars extending from the spring to the seat of side bars, of the foot board hinged to the splinter bar and extending backward beneath said spring to the seat, as and for the purpose specified.

No. 30,559. Stoppering Bottles, Jars, etc. (*Bouchage des bouteilles, cruches, etc.*)

William Shephard, London, Eng., 15th January, 1889; 5 years.

Claim.—1st. In stoppers for bottles, the valve or plug *a*, combined with the screw cap *b*, arranged and constructed substantially in the manner and for the purposes hereinbefore described and illustrated in the drawings hereto annexed. 2nd. The improved bottle stopper, constructed, arranged and combined substantially in the manner and for the purposes hereinbefore described and represented by the drawings hereto annexed.

No. 30,560. Liquid Meter. (*Compteur à liquide.*)

George Teideman, London, Eng., 15th January, 1889; 5 years.

Claim.—1st. In a liquid meter, the combination, substantially as described, consisting of a main measuring chamber with a piston or diaphragm working within it, an auxiliary or smaller chamber also with a piston or diaphragm, valves in connection with these chambers, controlling the passage of liquid into and from the chambers, valve gear connecting the piston or diaphragm of one chamber with the valve of the other chamber, and locking apparatus restraining the piston or diaphragm of the auxiliary or smaller chamber, so that it can only commence to move when the piston or diaphragm of the main chamber is at one end or other of its stroke. 2nd. In a liquid meter, the combination, substantially as described, consisting of the main measuring chamber A with its piston or diaphragm, the auxiliary chamber D with its piston or diaphragm, the valves G and H, and the gear actuating the same, the locking projection C on the head of the rod of the main piston or diaphragm, and the corresponding projection F on the head of the rod of the auxiliary piston or diaphragm.

No. 30,561. Heating Apparatus. (*Calorifère.*)

George A. Barnard, East Orange, N.J., U.S., 15th January, 1889; 5 years.

Claim.—1st. In a steam heating apparatus, in combination with a source of steam supply, a supply-pipe, the radiators, the return-pipes, the closed tank and the closed condensing apparatus located at the end of the system, whereby a vacuum is produced and maintained at the end of the circulatory system, all substantially as described. 2nd. In a steam-heating apparatus, in combination, with a source of steam supply, the steam supply pipe P, the reservoir C, the riser D, the radiators E, the return pipes F, the closed tank G, the pipe J connecting said tank with the closed condenser H, the closed condenser H, and the reducing valve M located in the pipe J, all substantially as described. 3rd. In combination with a source of steam supply, the steam-pipe B, the reservoir C, the supply-pipe D, the radiators E, the return-pipes F, the receiver G into which the return pipes lead, the vacuum-pipe J, the condenser H, the pipe K connecting the reservoir, and the receiver, and the several steam valves in the pipes D, K, and J, all substantially as described. 4th. In combination with a steam boiler, the steam reservoir C, the connecting-pipe P having therein a reducing valve P₁, the steam-supply pipes, the radiators, and the return pipes, the receiver G into which the return pipes lead, the condenser H, the vacuum pipes J, the pipe K₁ connecting the boiler and the receiver, and the reducing valve M in the vacuum pipe, all substantially as described.

No. 30,562. Powder Dusting Machine.

(*Machine à distribuer la poudre.*)

Earl A. Dodgson, Batavia, N.Y., U.S., 15th January, 1889; 5 years.

Claim.—1st. The perforated drum, the drum-carrying shaft, the drum supporting-frame, the opening for placing the feed within the drum and the cone to the opening, in combination with the drum-operating mechanism, arranged substantially as described and for the purpose hereinbefore set forth. 2nd. The drum-head having the hub attached thereto, the set-screw in the hub, the hub-carrying shaft, the perforated shell, the drum-head made adjustable upon the shaft, and the drum-supporting frame, in combination with the operating mechanism, arranged substantially as described and for the purpose hereinbefore set forth. 3rd. The perforated drum, the drum shaft, the drum-supporting frame, and the feed agitator, in combi-

nation with the drum-operating mechanism arranged substantially as described and for the purpose hereinbefore set forth. 4th. The perforated drum, the longitudinal feed slides adjustably secured upon the periphery of the drum, the drum-shaft, and the drum-supporting frame, in combination with the operating mechanism, arranged substantially as described and for the purpose hereinbefore set forth. 5th. The perforated drum, the shaft carrying the same, and having the sprocket wheel mounted thereupon, the carrying and operating wheels, and the revolving wheel axle having the sprocket wheel and clutch mounted thereupon, in combination with the raising lowering mechanism, arranged and operating substantially as described and for the purposes hereinbefore set forth.

No. 30,563. Cuff-Holder. (*Bouton de manchette.*)

Richard J. Newman, Norwich, Kan., U.S., 15th January, 1889; 5 years.

Claim.—1st. In a cuff holder, the plate F, button H, and the slotted arm G, substantially as specified. 2nd. The herein described cuff-holder comprising the main plate F provided with a notch *f*, and the arm G which is provided with slot *g*, and the loose button H, substantially as specified.

No. 30,564. Wire Screen. (*Tamis en fil de fer.*)

John Burkhardt and William H. Jackson and Company, New York, N.Y., U.S., 15th January, 1889; 5 years.

Claim.—1st. The above described method of forming wire screens, and similar articles, which consists in inserting longitudinal wire through a hollow perforated body or joint cover, then producing a bend of said wire within the interior of said body, and then passing the transverse wire through other perforations of the body, and through the bend, or its equivalent, in the longitudinal wire therein, as set forth. 2nd. The wire screen consisting of a series of straight wires or rods, and a transverse series of bent wires, in combination with the covers A, each of which includes a single joint or intersection of a straight and bent wire at the bend thereof, substantially as and for the purpose set forth.

No. 30,565. Machine for Making Metal Washers. (*Machine à faire les rondelles métalliques.*)

Samuel J. Shimer, Milton, Penn., U.S., 16th January, 1889; 5 years.

Claim.—1st. The combination of the punch, the die, the centre-punch, and the centering-pin, substantially as described. 2nd. The combination of the punch, the spring-supported die-bed, the die, the centre-punch, and the centering-pin, substantially as described. 3rd. The combination of the bed-piece with seats to receive springs, and the walls of which seats constitute guiding surfaces for the die-bed, and provided with an adjustable centering pin, elastic cushions arranged in said seats, the die-bed having guide-flanges to engage the sides of the seats on the bed-piece, a die arranged in the die-bed, the centre-punch, and the punch, substantially as described. 4th. The combination, with the punch, the die, and the centering-pin having a convex upper end, of the centre-punch formed with a tapering lower end, and concave bottom, substantially as described and for the purpose stated. 5th. The combination, with the punch, of the die formed with a flaring lower portion, the centre-punch having a tapering lower end, and the centering-pin, substantially as described. 6th. The combination, with the punch, the die, and the centre-punch, of the carrying-belts, arranged to receive and carry the discharged washers from the die, substantially as described. 7th. The combination, with the bed-piece formed with belt-channels in its upper face, and the die, of the carrying-belts arranged to travel in the channels of the bed-piece, and receive the discharged washers from the die, substantially as described. 8th. In combination, a die filled with washers, a centre-punch held in cutting position by the impacted washers in the die, and a movable punch to cut and push the washers through the die and off the centre punch in the direction of the cutting-stroke of the moving-punch, substantially as described. 9th. A moving or cutting-punch, in combination, with a die filled with washers, and a centre-punch supported by the washers in the die, whereby the descent of every washer cut by the punch discharges a washer at the opposite end of the die, substantially as specified. 10th. The combination, with the spring-supported die-bed, and die arranged therein, of a centre-punch held in the die by the washers impacted therein, and a reciprocating punch to cut the washers and press them through the die at the opposite end from their entrance thereto, substantially as specified. 11th. The combination, with the die-bed, and centre-punch arranged therein, and supported by a series of cut washers in the die, of the centre-punch pin formed with a central-bore, substantially as described and for the purpose specified. 12th. The combination, with the die-bed, of a centre-punch formed with a central-bore extending partially through it, and the centering punch-pin formed with a centre-bore, substantially as described and for the purpose specified.

No. 30,566. Valve. (*Souape.*)

Henry V. Goll, Chicago, Ill., U.S., 16th January, 1889; 5 years.

Claim.—1st. For circular cylinder pipes or passages, the swinging oval angular seated valve, the valve being oval angular, automatic, hung diametrically in a circular cylinder pipe or passage fitting the pipe or passage, and having the wings H and A of unequal length, shape, size, weight and area, substantially as described and for the purpose as specified. 2nd. For circular cylinder pipes or passages, the swinging oval angular valve, the valve having bevelled oval angular seat or seats M, G, K and L, G, O, the swinging bearing G, the cross-bearing G of the two oval angular seats, substantially as described and for the purpose as specified. 3rd. The combination of the swinging oval angular seated valve, constructed and arranged as herein described, with the circular cylinder part of pipe B, the axis R, and the passages controlled by the valve, substantially as described and for the purposes set forth in the specification.

No. 30,567. Letter and Document File.*(Serre-papier.)*

John Young, Mount Forest, Ont., 16th January, 1889; 5 years.

Claim.—The combination of the circular vertical revolving case A and stand T, and the file drawer *z*, with the combination of the locking spring B, and file spring *f, f*, and locking bar C in connection with wire pull D, and the slides *g, g*, and stay bar *i*, with pivots G₁, and spring fastening block *e*, and finger knob H, substantially as and for the purpose hereinbefore set forth.

No. 30,568. Dumping Car. (Char-tombereau)

Joseph Duff, Lansing, Ont., 16th January, 1889; 5 years.

Claim.—1st. A dumping car consisting of a main frame, and a tilting body or box journalled therein, a compressed-air cylinder carried by said frame, the piston of which causes said body or box to tilt, and means for locking the latter in position, substantially as set forth and described. 2nd. In a dumping car, the combination, with a main frame or platform, and a tilting box journalled therein, of a compressed air cylinder, the piston of which causes the box to tilt, a second cylinder having a sliding valve operated from an ordinary compressor, and adapted to automatically supply the tilting cylinder, and suitable connecting pipes, substantially as described. 3rd. In a dumping car, the combination, with a main frame or platform, and a tilting box journalled therein, of a compressed air cylinder, the piston of which causes the box to tilt, a second cylinder having a sliding valve, and a reservoir, said second cylinder and reservoir being supplied with air from an ordinary compressor, and both being also in connection with the tilting cylinder, and having pipes leading to a second car, substantially as and for the purpose specified. 4th. In a dumping car, the combination, with a main frame or platform, and a tilting box journalled therein, of a compressed air cylinder, the piston of which causes the box to tilt, a cylinder having a sliding valve, and a reservoir, both supplied with air from an ordinary compressor, pipes connecting same together, and with the tilting cylinder, and an extra cylinder having a sliding valve, a handle for moving same in one direction, and a spring for retaining it, said extra cylinder being also connected to the tilting cylinder whereby one particular car may be dumped, substantially as described. 5th. In a dumping car, the combination, with the frame, and tilting box journalled therein, of the compressed air cylinder E having piston *e*, rod *er*, and cross-head *e*, and lever *dx* pivoted to said cross-head, and adapted to operate the tilting box, substantially as described. 6th. The combination, with the frame and tilting box, and with the tilting cylinder, and means whereby said box is caused to tilt by the operation of its piston, of the frame H carrying a locking pin, said frame and pin being drawn backward by the upward movement of the piston, the locking bar J pivoted to the box, and a spring for causing said locking pin to engage with said locking bar, substantially as and for the purpose specified. 7th. The combination, with the frame A, box B, and tilting cylinder E, the piston rod of which has cross-head *e* having inclines *e*₃, of the frame H having locking pin *h*, and roller G impinged upon by said inclines, so as to force back said frame and pin, springs *k*, and the locking bar J, all arranged and operated substantially as and for the purpose specified. 8th. The combination, with the frame A, of the tilting box B having swinging door B₁, and a system of levers connected to said door, and to the frame and box, in such manner that the tilting of the box will cause said levers to operate said door, substantially as shown and described. 9th. The combination, with the cylinder M having an air pipe connected thereto, operating ports *kt, m* and *wt*, and waste ports 1, 2, of the sliding piston valve P having passage O, and waste openings *m*₃, *m*₄, and a spring for moving said piston valve in one direction, substantially as described.

No. 30,569. Dumping Car. (Char-tombereau.)

Joseph Duff, Lansing, Ont., 16th January, 1889; 5 years.

Claim.—1st. A dumping car, consisting of a main platform, and a box or bucket carried thereby, and adapted to be tilted in either direction, levers connected with said box or bucket, a sliding bar actuating such levers, and a compressed-air cylinder for operating such sliding bar, substantially as set forth and described. 2nd. In a dumping car, the combination, with a main platform, and a box or bucket carried thereby, and capable of being tilted in either direction, and with levers connected with said box or bucket, of a sliding bar actuating such levers, a compressed-air cylinder carried by such platform, and having cross-heads in connection with its piston rod operating said sliding frame, and adapted to move the latter in either direction longitudinally, an air-cylinder having a sliding valve and supplied from an ordinary compressor, and connected to both ends of said operating cylinder, substantially as and for the purpose described. 3rd. In a dumping car, the combination, with the platform, and a bucket adapted to be tilted in either direction, of a segmental gear C connected with said box or bucket, sliding rack D having slots *d, dx*, sliding bar E having pin *e* fitting into one of said slots, and compressed-air cylinder G, the piston rod of which has cross-heads in connection with said sliding bar, substantially as and for the purpose specified. 4th. The combination, with the segmental gear C having projection C₂, and with the sliding bar E, of the rollers P, P₁, vertical bars P₂, P₃ carrying said rollers, cross-heads or cranks Q, Q₁ hung from the platform, and connected with the lower ends of said bars, the locking bars R, R₁ adapted to lock the segmental gear, and suitable tension springs, and substantially as and for the purpose specified. 5th. The combination, with the sliding bar E, and cylinder G having chambers *g* and *g*₁, a single piston, and a piston rod, with cross-heads G₃ and G₄ on its ends, of the air pipe *g*₄ connected to the chambers of said operating cylinder, and to the air cylinders K₁ and M, and air pipes K and L, all arranged substantially as and for the purpose specified.

No. 30,570. Clam Extract and Process of Making the same. (Extrait de clam et procédé de préparation de cet extrait.)

Arthur H. Bailey, Newton, Mass., U.S., 16th January, 1889; 5 years.

Claim.—1st, The improved liquid clam extract, consisting of clam

juice liberated from uncooked clams by steam, and subsequently filtered and boiled, as set forth. 2nd. The improved process of making clam juice, or extract, herein described, the same consisting in subjecting uncooked clams to live steam in closed air-tight or steam-tight retorts or tanks, thereby liberating and thoroughly cooking the juice therein, filtering the collected juices or liquid, and finally boiling and condensing the same, as set forth.

No. 30,571. Oyster Knife. (Couteau d'écaillère.)

Charles B. De Lamarre, Biloxi, Miss., U.S., 16th January, 1889; 5 years.

Claim.—1st. An oyster knife comprising a handle A, a rigid blade B, a guard block F, substantially as described. 2nd. In an oyster the combination, with the hollow handle A, the screw plug C having the piece of rubber attached thereto, substantially as specified. 3rd. In an oyster knife, the combination, with the guard block F, the spring E, and the side bars G, of the detent H, substantially as specified.

No. 30,572. Mechanism for Detachably Connecting Wheel Hubs and Axles. (Appareil à clé pour assembler les moyeux et les essieux.)

Adolph F. C. Garben, Minneapolis, Minn., U. S., 16th January, 1889; 5 years.

Claim.—1st. In a device for attaching wheels to vehicles, a spindle, in combination with a loosely mounted rotating washer, and suitable automatically operating spring jaws, adapted to engage the washer and rotate the same by frictional contact, substantially as herein described. 2nd. The combination, with a spindle, having a rigid collar *h*, of a loosely mounted washer, rotated by frictional contact with automatically operating jaws, substantially as described. 3rd. In a device for attachment of wheels to vehicles, a hub, having automatically operating spring jaws, in combination with a spindle having a loose washer, whereby the spindle may be inserted within the hub, and be held by means of the jaws rigidly engaging the washer, substantially as herein described. 4th. An improved means for attaching hubs of wheeled vehicles to their spindles, consisting in a spindle having an immovable collar and a loosely-revolving washer J, in combination with a hub, having the automatically operating jaws E, and an actuating bolt F having projections which engage the jaws, substantially as described. 5th. The spindle H, having rigid collar *h* and the loosely-revolving washer J, in combination with the hub A, the cap C having the pins *d*, the automatically-operating curved jaws E, provided with catches, the bolt F, having projections which engage the slotted upper ends of the jaws, a spring G and a disk D, substantially as herein described. 6th. In combination for detachably connecting wheels to vehicles, the spindle H, provided with rigid collar *h*, the hub A, the cap C, having the fulcrum-pins *d*, the automatically-operating curved jaws E, fulcrumed on said pins *d* and provided with the catches *e*, the actuating bolt F, having projections engaging the slotted upper ends of the jaws E, and a spring G for holding the jaws in their locking position, substantially as and for the purpose described. 7th. In combination, the spindle H, provided with the rigid collar *h*, the hub A, the cap C having fulcrum pins *d*, the curved jaws L, provided with catches *e* on their lower extremities, and having transverse slots in their upper extremities, the actuating bolt F, having projections *g* engaging said slots, a spring G for holding the jaws in their locking position and the shielding disk D, substantially as and for the purpose set forth.

No. 30,573. Manufacture of Corsets. (Fabrication des corsets.)

James F. J. Gunning, Toronto, Ont., 16th January, 1889; 5 years.

Claim.—1st. I claim in a corset, a wire or rod formed with loops or loops and hooks, or hooks alone, to which a lacing cord may be attached, and forms at same time a part of the stiffening material in the corset, substantially as described and for the purpose specified. 2nd. I claim, making folds in the cloth, so as completely to cover the eyelets, loops, or hooks, and prevent their coming in contact with other garments, substantially as described, and for the purpose set forth. 3rd. I claim the closed back or front for a corset, formed by having a wide and a narrow fold or lapel of cloth on each side, and projecting beyond the loops or hooks or eyelets, so that a wide lapel is opposite to a narrow one, and when adjusted by the lacing cord a closed back or front is formed, substantially as described and for the purpose specified. 4th. I claim the interlining piece of cloth, with the slots cut at right angles to those cut in the outside cloth, substantially as described and the purpose specified. 5th. I claim the combination of the wire, with loops or hooks with the interlining piece, and the narrow and wide lapels forming or closed back or front in a corset, substantially as described and for the purpose set forth. 6th. I claim as a stiffening material for a section of a corset, the use of split bamboo or cane, with the ends folded over and stitched into the section, substantially as described and for the purpose set forth. 7th. I claim using split bamboo or cane, having the ends folded over and inserted into pockets, so that the cuticle side of the bamboo or cane is towards the body of the wearer, substantially as described and for the purpose set forth. 8th. I claim as a stiffening material, inserting split bamboo or cane, with the ends folded into pockets sewn in a corset, substantially as described and for the purposes set forth. 9th. I claim folding the ends of pieces of split bamboo or cane, as a means of drawing them into pockets in the section of a corset, substantially as described and for the purpose set forth. 10th. I claim, drawing the pieces into the pockets by means of wire tongs, substantially as described and for the purpose set forth. 11th. I claim, as a stiffening material in a corset, split bamboo or cane folded at one end only, the fold being towards the split side of the bamboo or cane, and inserted in pockets, as herein described and for the purposes set forth. 12th. I claim the wire tongs, made of one piece, having the ends bent over, substantially as described and for the purpose set forth.

No. 30,574. Knitted Undervest.*(Gilet tricoté.)*

The Wilcomb Manufacturing Company, San Francisco, Cal., (assignee of Frank Wilcomb, Providence, R.I.), U.S., 16th January, 1889; 5 years.

Claim—As a new article of manufacture, an under shirt or vest, the body of which is formed of fashioned seamless knitted fabric, terminating at its upper part in front and rear flaps stitched on their upper edges, a neck-opening, and sleeves formed of fashioned seamless knitted fabric secured to the edges of the arm holes, as set forth.

No. 30,575. Tube Expander.*(Expanseur de tube.)*

A. B. Jardine & Co., (assignees of John Jardine and Peter Jardine), Hespeler, Ont., 16th January, 1889; 5 years.

Claim—1st. The combination, with the tapering mandrel A, of a surrounding body or stock having a flange a, and provided with longitudinal slots, carrying rollers C, one or more of said rollers rotating obliquely to the axis of the mandril, whereby the mandril is automatically fed into the stock to effect expansion of the tube, as set forth. 2nd. In a tube expander, the combination, with the tapering mandril A, of radially separating sections B, B₁, B₂, provided with a slot carrying a roller C, one or more of said rollers rotating obliquely to the axis of the mandrel, as and for the purpose set forth, and connected by equiangular arranged bars D, D₁, D₂, as described. 3rd. A tube expander comprising a mandril A, surrounded by a body or stock composed of three or more radial converging longitudinal sections B, B₁, B₂, each provided with a roller C, and connected by equiangular arranged bars D, D₁, D₂, substantially as set forth.

No. 30,576. Alarm for Grain Elevators, etc.*(Indicateur pour éleveurs à grains, etc.)*

John R. Beynon and James B. Murphy, Watertown, Wis., U.S., 16th January, 1889; 5 years.

Claim—1st. The combination, with a grain elevator, or analogous device, having one of its sides provided with an opening, of a valve arranged to normally close said opening, and an alarm-mechanism connected to the valve to signal the opening of the latter, substantially as set forth. 2nd. The combination, with an elevator or analogous device for handling grain, or other loose material, of a discharge chute, a valve normally closed against the upper end of the chute, and arranged to be actuated by an accumulation of the material, another valve also normally closed against said chute at or near the mouth of the same, and an alarm-mechanism connected to the latter valve to signal the opening thereof, substantially as set forth. 3rd. The combination, with an elevator or analogous device, for handling grain or other loose material, of a discharge chute, a return chute arranged adjacent to the discharge chute and communicating therewith, a valve normally closed against said discharge chute, and arranged to be actuated by an accumulation of the material, a cut-off valve normally closed against the return chute, another valve also normally closed against said discharge chute, and an alarm-mechanism connected to the latter valve to signal the opening thereof, substantially as set forth. 4th. The combination, with an elevator or analogous device for handling grain, or other loose material, of the casing D provided with the deflector plates E, I, and communicating chutes G, L, the valves F, N, K, pivoted to the sides of the casing, and individually provided with an angular-extension or counterpoise, the arm P secured to the pivot of valve N, the pivoted arm Q arranged to be actuated by arm P, and an alarm-mechanism connected to said arm Q, substantially as set forth.

No. 30,577. Mechanical Accountant.*(Calculateur mécanique.)*

The American Arithmometer Company, (assignee of William S. Burroughs), St. Louis, Mo., U.S., 16th January, 1889; 5 years.

Claim—1st. The combination, with the register and register-actuating devices of a calculator, of a key-board capable of the movement and provided with a series of adjustable keys, and movably supported upon the frame of the machine, to bring the keys that have been set into operative connection with the register-actuating devices upon the movement of the board, after such setting of the keys, substantially as described. 2nd. The combination, in a calculating machine, of a series of register wheels, wheel actuating devices, a frame supporting the same, a movable key-board secured to have a limited movement on the frame, and a series of adjustable keys carried by said key-board, whereby such keys as are set by hand are brought into connection with the wheel actuating devices on the movement of the key-board after such setting of the keys, substantially as described. 3rd. The combination of the register actuating levers F and stops limiting the movements of said levers, with a movable key-board carrying series of adjustable keys and connections between each stop, and one of the keys arranged to be operated by such key after it is set and upon the movement of the board, substantially as described. 4th. The combination of the register, the retainers, the operating levers, and the regulators thereof, with a movable key-board carrying series of keys, and connections between each series of keys, and one of the retainers and connections between each key, and a stop of the corresponding regulator, the latter connections arranged in position to be actuated only by the keys that are set and on the movement of the board, substantially as described. 5th. The combination, with the register and the actuating mechanism of a calculating machine, of a movable key-board carrying series of adjustable operating-keys, substantially as and for the purpose set forth. 6th. The combination of the register-actuating levers F, and a retainer of each lever, with a movable key-board, series of keys carried thereby, movable studs arranged to contact with such keys as have been set, and a connection between the studs of each series of keys, and the retainer of the co-operating lever F,

substantially as described. 7th. The combination, with the register-actuating devices, of a movable key-board and series of keys adjustably carried thereby, to contact with said devices upon the movement of the board after the adjustment of the keys, substantially as described. 8th. The combination, with the frame of the machine register and register-actuating devices, of a key-board sliding on said frame, and series of keys adjustably mounted upon said board, and adjustable into and out of operative relation to said devices, substantially as described. 9th. The combination, in a calculating machine, with the register, and actuating devices, of the sliding key-board, series of keys, and a locking-slide to each series, to hold the keys after being set in operative relation to the register-actuating devices, substantially as described. 10th. The combination, with a series of keys, each having a bearing shoulder, of a locking slide arranged to be moved by the setting of any of the keys, and adapted to engage all of said shoulders to hold any key after it is set, and until moved by the setting of another key, substantially as described. 11th. The combination of a series of spring-actuated keys, a locking-slide, and spring for moving the same, and a shoulder and an incline on each key, the incline arranged to bear on and force back the slide as a key is depressed until said slide engages with the shoulder and locks the key, substantially as described. 12th. The combination of the movable key-board, series of keys, locking devices for holding the keys in position after they are set, and an automatic unlocking device for placing the keys as the key-board is restored to its normal position, substantially as described. 13th. The combination, with the rack-levers having bearings, of a series of pinions having studs, a swinging frame carrying said pinions, a pawl with two shoulders, one engaging with a stud on one of the pinions, a spring-actuated lever L with which the other shoulder engages, and detents M engaging with the bearings on the rack-levers, and in position to contact with the levers L, substantially as described. 14th. The combination, with the rack-levers and detents affording bearing therefor, of striking-levers L, pawls for holding said striking-levers out of contact with the detents, and a series of pinions gearing with the rack-levers, and each provided with a stop arranged to contact with the adjacent pawl, substantially as described. 15th. The combination, with the rack-levers, actuating automatic motors and detents, and keys, and register of a mechanical calculator, of spring-actuated striking-levers for operating said detents, substantially as described. 16th. The combination, in a mechanical calculator, having a rack-lever, keys and a register, and with a detent for restraining the movement of the rack-lever, of a striking-lever, a detent for holding it back, and releasing mechanism, substantially as described. 17th. The combination with the rack-levers, and the carrying pinions, of detents affording bearings for said levers, striking-levers and actuating springs, pawls for normally holding the striking-levers out of contact with said detents, and studs on the pinions arranged to contact with the pawls, substantially as described. 18th. The combination, with the detents, the striking-levers, spring and pawls for holding the levers away from the detents, of studded pinions for moving the pawls to release the striking levers, and a movable resetting bar arranged to contact with all of said levers, substantially as described. 19th. The combination, in a calculating machine, having register wheels, of levers F, each consisting of two sections jointed to permit a limited play of one in respect to the other, the rear section in gear with the wheels of the register, a spring tending to maintain a bearing of one section against a bearing of the other, a movable bar for swinging the rear sections to carry the bearings out of contact, and a lifter provided with motor springs for operating the forward sections of the levers, substantially as described. 20th. The combination, with the register and jointed rack-operating levers F of a calculating machine, of pivoted side arms carrying a cross-bar 45, for elevating the front ends of the lever, and also carrying a cross-bar 110, for depressing the rear sections of the levers, substantially as described. 21st. The combination, with a mechanical calculator, having a movable key-board, and with an operating driver T, of a detent for holding the driver in an inoperative position, and connections between the detent and the movable key-board, whereby the detent is displaced as the key-board is moved after setting its keys, substantially as set forth. 22nd. The combination, with the registers, pinions 60, frame K and reciprocating cam A, of a rod 162, a lever A pivoted thereto, and a spring for holding it in its normal position, a movable arm Q, and the arm 171 provided with lugs 170, 200, adapted to be brought respectively below and above one end of the lever, according to the position of said arm, substantially as set forth. 23rd. The combination, with the keys, register wheels, and rack-levers F, of a movable frame carrying a series of pinions 60, intermediate frame, adjusting devices, and a lever Q₂ connected with the adjusting devices of said frame to regulate the position of the frame, substantially as set forth. 24th. The combination, in a calculating machine, and with the register, operating devices, keys, and movable key-board carrying said keys, of a lock holding said key-board in place, and connections between the lock and a movable part of the machine for holding the lock in place until all parts of the machine are in their normal position, substantially as set forth. 25th. The combination, with a calculating machine, its actuating lever, driver, and parts carried therewith, of a pawl bearing on one of the moving parts, to permit a return movement after a movement is begun in either direction, and devices, substantially as described, for reversing the pawl and throwing it out of retaining action at the limit of each movement, substantially as described. 26th. The combination, with a calculating machine having keys, and a register, and intermediate connections of a driver, a reciprocating rack connected with the driver, and having shallow teeth or notches along its length, and deeper notches at the ends, and a reversible pawl adapted to said rack, substantially as set forth. 27th. The combination, with keys, registers, intermediate connections, and the operating driver of a calculating machine, of a spring connected to move the driver in one direction, a treadle to move the driver in the opposite direction, and intermediate yielding spring-connections between the treadle and driver, substantially as set forth. 28th. The combination, with the calculating machine having keys, a register, connections, and an operating treadle and motor, of a detent for locking the treadle in its position after the power is stored in the motor, and detent-releasing devices, whereby the detent is withdrawn when the motor power is required, substantially as set forth.

No. 30,578. Blank Supporting Device for Screw Threading Machines.
(*Porte-ébauche de machine à fileter les vis.*)

The American Screw Company, (assignee of Charles D. Rogers), Providence, R.I., U.S., 17th January, 1889; 15 years.

Claim.—1st. In a screw-threading machine, the combination of holding-jaws for guiding the blanks laterally and presenting them to the threading mechanism, a series of thread-forming dies and combined blank-supporting and guiding plates mounted in advance of said dies, all arranged and operating substantially as hereinbefore described. 2nd. In a screw-threading machine, the combination, with the threading dies, of bars or ribs mounted in advance of the dies, and travelling in unison therewith, said bars or ribs being separated and adapted to receive the point portion of the blanks, substantially as described and for the purpose set forth. 3rd. In a screw-threading machine, the combination, with actuated blank-holding jaws, constructed to support the blank laterally, of oppositely mounted and actuated threading dies, and bars, as *a*, mounted in advance of, and moving in unison with the dies, and having the upper edges of the bars separated and arranged to receive the sides of the point of the blank, so as to support the blank and properly introduce it to the dies, substantially as set forth. 4th. In a screw-threading machine, the combination, with threading-dies, and holding-jaws, of two parallel adjustably mounted and actuated bars, as *a*, bevelled at their upper adjacent edges to receive the cone-shaped point of a screw blank, thereby assisting to support the blank in position to properly engage the threading dies, substantially as hereinbefore described. 5th. The combination, with two oppositely mounted threading-dies and holding-jaws, of duplicate supporting bars arranged side by side but reversed in their movement, and connected each with the forward end of a threading die, so as to support a blank at its point and properly present it to the dies, substantially as set forth. 6th. The improvement hereinbefore described, for guiding and supporting the points of screw-blanks by means of which they are accurately and uniformly brought into engagement with the thread-forming dies, the same consisting of supporting bars mounted in advance of, and arranged to travel in unison with the said thread-forming dies, the bar being separated to receive the points of the blank, but not admitting the cylindrical portion of the blanks between them, substantially as described.

No. 30,579. Manufacture of Artificial Stone or Marble.
(*Fabrication de la pierre ou du marbre artificiels.*)

Benjamin L. Mosely and Crompton Chambers, Hastings (assignees of Archibald C. Ponton, Parkstone), Eng., 17th January, 1889; 5 years.

Claim.—1st. An artificial stone of tridymite crystallization, substantially as described. 2nd. The manufacture of artificial stone by the combination of pulverulent, granular or coarse material, with a silicious cement, the mixing and moulding of the same in a plastic mass, and the exposure of the said mass to red or white heat in a kiln until tridymite crystallization has taken place, substantially as described. 3rd. The combination of tridymite crystals of silica in the form of small aggregates or powder, with other aggregates or powdered material in the manufacture of artificial stone, substantially as described. 4th. The manufacture of pulverulent, granular or coarse particles of matter into a stone like mass, by the conversion into tridymite crystals of the silicious cement used for binding the said particles together, substantially as described. 5th. The manufacture of artificial stone by the mixing of pulverulent, granular or coarse particles of matter, with a silicious cement into a plastic mass, the moulding of the said mass, a subsequent treatment thereof in a silicious bath to increase its density, and a final exposure of the mass to kiln heat, until tridymite crystallization has taken place, substantially as described. 6th. An artificial or imitation marble of tridymite crystallization capable of being moulded into blocks during its process of manufacture, and of withstanding the effect of acids and white heat in a kiln without distortion, substantially as described.

No. 30,580. Knitted Drawer. (*Caleçon tricoté.*)

The Wilcomb Manufacturing Company, San Francisco, Cal. (assignee of Frank Wilcomb, Providence, R.I.), U.S., 17th January, 1889; 5 years.

Claim.—A pair of drawers, formed of two parts, consisting of a leg of knitted seamless fabric, fashioned, having continuous there-with a part *a* of flat knitted fabric, closed at one side and open at the other, forming one-half of the body, the rear edges of the flat part of each half being united to the corresponding edges of the other leg, or half to form the complete garment, as described.

No. 30,581. Art of Forming Justified Lines of Types. (*Mode de formation des lignes de caractères justifiées.*)

The Lanston Type Machine Company (assignee of Tolbert Lanston), Washington, D.C., U.S., 17th January, 1889; 5 years.

Claim.—The hereinbefore described improvement in the art of forming justified lines of type, consisting in, first, ascertaining the amount of space required to be filled up by justification, if types of normal or standard size were used, and then forming successively the types that are to compose the line, the printing types of normal width and the space types of a width varying in proportion to the ascertained amount of space required to be filled out or absorbed by justification.

No. 30,582. Art of Forming Justified Lines of Types. (*Mode de formation des lignes de caractères justifiées.*)

The Lanston Type Machine Company (assignee of Tolbert Lanston), Washington, D.C., U.S., 17th January, 1889; 5 years.

Claim.—1st. The herein described improvement in the art of producing justified lines of type, which consists in ascertaining the space in a line required to be filled by justification, if types of a normal or standard size were used, and then making in succession the types for the proposed line, the bodies of the desired number of said types being varied from normal as to width an amount equal in the aggregate to the ascertained space required to be filled by justification, whereby each line is formed by a continuous process from beginning to end of succession of types specially made for it, which just fill it out and which require no manipulation or disturbance whatever to effect the justification of said line. 2nd. The herein described improvement in the art of forming justified lines of type, consisting in first ascertaining the space which would be required to be filled by justification, if types of normal size were employed, secondly, forming a series of types for the designated line, each of said types being made of a width varying from the normal in proportion to the space which would otherwise be filled by justification, and, finally, assembling the said types to form a line, substantially as described.

No. 30,583. Art of Forming Justified Lines of Types. (*Mode de formation des lignes de caractères justifiées.*)

The Lanston Type Machine Company (assignee of Tolbert Lanston), Washington, D.C., U.S., 17th January, 1889; 5 years.

Claim.—A form from which to print or stereotype, composed of a series of lines of matter, each consisting of a succession of separate types, the bodies of a predetermined number, of which are varied as to width from the normal and from types representing the same characters or spaces in other lines in the form, thereby rendering each line self-justifying, substantially as described.

No. 30,584. Art of Forming Justified Lines of Types. (*Mode de formation des lignes de caractères justifiées.*)

The Lanston Type Machine Company (assignee of Tolbert Lanston), Washington, D.C., U.S., 17th January, 1889; 5 years.

Claim.—The herein described improvement in the art of producing justified lines of type, consisting in forming the types for a given line of a width varying from the width of normal or standard type, a percentage equal to the percentage of variation required in an unjustified line of normal or standard characters to just fill out the line, substantially as described.

No. 30,585. Sewing Machine.

(*Machine à coudre.*)

The Singer Manufacturing Company, New York, N. Y. (assignee of Philip Diehl, Elizabeth, N.J.), U.S., 17th January, 1889; 5 years.

Claim.—1st. In a sewing machine, the following instrumentalities, viz: a rock-shaft D, its attached carrier, a shuttle therein having a beak, and a loop-discharger extended in the direction of, but longer than the said beak, and pointed toward the periphery of the bobbin-case, the bobbin, the bobbin-case, a central stud to support it, and form a centre for it about which the bobbin may rotate, a bobbin-case holder to hold the bobbin-case while the shuttle oscillates in one and then in an opposite direction about it, a needle-bar to carry an eye-pointed needle, a rotating shaft to actuate the needle-bar, and mechanism intermediate the said rotating shaft, and the rock-shaft to which the carrier is attached, to turn the said rock-shaft and cause the beak of the shuttle to travel at each oscillation through an arc of more than one hundred and eighty degrees, the combination being and operating substantially as described. 2nd. The shaft D and its attached shuttle-carrier, having arms or prongs *h2*, *h3*, *h4*, *h5*, and *h6*, and the attached carrier-face or segmental finger combined with a shuttle, a bobbin-case and bobbin, and means to restrain the bobbin-case from rotating with the bobbin, substantially as described. 3rd. The rock-shaft D, its attached carrier, having arms to engage and carry a shuttle, a shuttle having a post in line with the centre of oscillation of the said rock-shaft, and having a beak *b1* and loop-discharger *b3*, combined with a bobbin-case, means to restrain its rotation, and a bobbin, the latter having as its centre of rotation the centre of the said rock-shaft, substantially as described. 4th. The combination, in a sewing machine, of the following instrumentalities, viz: a needle-bar to carry an eye-pointed needle, a rotating shaft to actuate it, a shuttle-carrier, rock-shaft D, means intermediate it and the said rotating shaft to oscillate the rock-shaft for more than one hundred and eighty degrees, a carrier having a series of arms or prongs to sustain and carry a shuttle, a shuttle having a heel, a beak, a loop-discharger and a post 5, and a bobbin and bobbin-case, the loop-discharger discharging the loop of needle-thread upon the bobbin case at a point beyond a vertical line drawn through the centre of the rock-shaft and bobbin-case, substantially as described. 5th. In a sewing machine, a rock-shaft, an attached carrier having arms to hold a shuttle, a shuttle having a heel, a beak *b1*, and a forwardly extended loop discharger, the point of which extends beyond the said beak, a bobbin-case and bobbin, and a carrier face attached to the carrier and extended back from the beak of the shuttle to act upon the outer face of the shuttle between its ends, the combination being and operating substantially as described. 6th. In a sewing machine, a rock-shaft, an attached carrier having arms to hold a shuttle, a shuttle having a heel, a beak *b1* and a forwardly extended loop-discharger, the point of which extends beyond the said beak, a bobbin case and bobbin, and a carrier-face attached to the carrier and extended back from the beak of the shuttle, to act upon the outer face of the shuttle between its ends, and with a spring to act against the shuttle near the base of the beak, substantially as described. 7th. The rock-shaft D, its attached carrier, having arms to hold the shuttle, the shuttle having a heel, a beak *b1*, a slotted loop-discharger and a post 5 in line with the axis of the said rock-shaft, the face *n2*, the bobbin-case bevelled, as at *o3*, the bobbin *m*, means to restrain the bobbin case from rotation, the needle-bar, means to move it, and a take-up to take up the loop of needle-thread as it is discharged from the loop-discharger, the parts being combined to

bined to operate substantially as described. 8th. The rock-shaft D, its attached carrier having arms, as described, and a carrier-face a_2 , to hold the shuttle, combined with a bobbin-case, a bobbin, a shuttle, having a beak, a loop-discharger d_3 longer than the beak and terminating near the bobbin-case, all as shown and described, to discharge the loop of needle-thread on the bobbin-case beyond a vertical line drawn, through its centre, and a tension device, substantially as described, connected to the bobbin-case. 9th. The bobbin-case, the bobbin and the shuttle, combined with the tension spring 33, having ing feet 34, 35 and 36, and with a screw 32, the foot 34 and the bobbin case being bevelled, all as set forth to give up the loop of needle thread quickly, substantially as described. 10th. In a sewing machine, an eye-pointed needle, means to reciprocate it, an oscillating shaft provided with a shuttle-carrier, a shuttle having a beak, and a loop-discharger extended in advance of the beak, and a post 5 combined with a bobbin-case holder, a bobbin-case and a bobbin mounted on the said post, the said post being located in line with the centre of oscillation of the said oscillating shaft, to operate all substantially as described. 11th. The bobbin-case and tension spring, having a thread-pressing end and feet, and a teat 36 to support one part of the tension-spring between its ends from contact with the said bobbin case and provided with a concavity, combined with a tension-regulating screw, the head of which enters the said concavity, thereby preventing the needle-thread catching upon the said screw, substantially as described. 12th. The oscillating carrier and shuttle therein combined, with the carrier-face secured to and moving with the carrier, the said carrier face having an inwardly-bent free end terminating between the periphery of the bobbin case and the periphery of the shuttle, to prevent the entrance of the bobbin or under thread under the said face, as the carrier and shuttle are being moved backward, substantially as described.

No. 30,586. Device for Boring Artesian Wells. (*Appareil pour percer les puits artesiens.*)

Misaël Fontaine, Notre Dame du Mont Carmel, Joseph A. Blondin and François X. Blondin, St. Maurice, Que., 17th January, 1889; 5 years.

Claim.—In a device for boring artesian wells, the combination, with a well tube A B C, and boring tool D E F G, of the plugs H and I, as above described and for the purposes set forth.

No. 30,587. Steam Engine. (*Machine à vapeur.*)

Joel T. Case, Bristol, Conn., U.S., 19th January, 1889; 5 years.

Claim.—1st. In a double acting engine, the combination, with a steam chest or cylinder casing F, of an oscillating cylinder H located within, and supported by rounded seats formed in the steam chest or cylinder casing, and ports for conveying the entire amount of steam used in operating the engine into the opposite ends of the cylinder, and for its exhaust therefrom into the steam chest, substantially as set forth. 2nd. In an engine, the combination, with a steam chest or cylinder casing F, of an oscillating cylinder H, wholly enclosed within the steam chest and wholly supported on the cylindrical valve seat of the steam chest, substantially as set forth. 3rd. In an engine, an oscillating cylinder block H, constructed with a cylindrical bearing surface, and with flat sides, substantially as set forth. 4th. The combination, with the crank disk E, of the shaft bearing a , provided with an inclined oil duct, and perforations for conveying oil to the shaft journal, substantially as set forth. 5th. In an engine, the combination, with a casing or frame provided with a rounded seat having an opening P for the passage of the piston rod, and sleeve P, of a cylinder constructed with a rounded end which is fitted to, and supported by the rounded seat G, the latter serving as the sole support of the cylinder, said rounded cylinder end and seat having ports for the admission and exhaust of steam, substantially as set forth. 6th. In an engine, the combination, with a casing or frame F, provided with a rounded seat G, of a cylinder constructed with a rounded end, which is fitted to, and supported by the rounded seat, said rounded cylinder end and its seat having ports for the admission and exhaust of steam, and suitable intervening steam chambers or passages for balancing the cylinder and relieving its bearing and seat of undue pressure and wear, substantially as set forth.

No. 30,588. Vehicle Wheel. (*Roue de voiture.*)

Arthur P. Ricard, Toledo, Ohio, U.S., 19th January, 1889; 5 years.

Claim.—1st. In a metal vehicle-wheel, the dish flanges B, B, provided with a series of internal and lateral winding-grooves e, e, e, e , and slight internal and external projections $b, b, etc.$, between these grooves e, e, e, e , in combination, with the box A, and spokes C, C and C₁, C₁, substantially as shown and described. 2nd. In a metal wheel for vehicles, the combination, of the tire D, spokes C, C and C₁, C₁, the dish flanges B, B, and box A, all substantially as shown and described.

No. 30,589. Radiator. (*Culorifère.*)

Patrick J. Kelly, Elizabethport, N.J., U.S., 19th January, 1889; 5 years.

Claim.—The radiator herein described, consisting of cast-metal sections, each composed of a base portion B, and U-shaped tubes A, the sections being secured together side by side, and each having chambers, as c, c_1 and c_2 , with which the legs of the tubes A respectively communicate, and with the end chambers c and c_1 , in combination alternately at opposite sides of the radiator with each other, to provide for circulation through the base portions and tubes of the sections in succession, substantially as herein set forth.

No. 30,590. Railroad Frog. (*Rail de croisement.*)

James F. Hart and Charles M. Hendry, Union Point, Ga., U.S., 19th January, 1889; 5 years.

Claim.—1st. In a railway-frog, the combination, with a main truck

A, and siding B, and a frog-rail C having a portion of its lower face cut away, of a supplemental rail D adapted to form a bearing on which the frog-rail rests when the latter is closed to the main line, and provided with a rigid shoulder forming a stop for limiting the movement of the frog-rail, substantially as set forth. 2nd. In a railway-frog, the combination, with a main track A, and siding B, and a frog-rail C having a bevelled lower face, of a supplemental rail D adapted to form a bearing on which the lower face of the frog-rail rests, when the latter is closed to the main line, and provided with a rigid shoulder forming a stop for limiting the movement of the frog, substantially as set forth.

No. 30,591. Attachment to Blacksmith's Anvils. (*Disposition aux enclumes de forges.*)

Benjamin E. Robinson, Lyn, Ont., 19th January, 1889; 5 years.

Claim.—An attachment to anvils comprising a yoke B, provided at the ends with a clamping screw b , and having a post or standard C rising vertically, a horizontal lever D fulcrumed pivotally to said post, and provided at the front end with a cam d , or key d_1 , to force the opposite end of the lever sidewise against the anvil when the yoke is attached to encompass the tail end and clamped by the screw, as set forth.

No. 30,592. Apparatus for Raising or Lifting Heavy Weights. (*Appareil pour soulever les fardeaux.*)

Fischel Landau and Sigmund Scharfberg, Vienna, Austria, 19th January, 1889; 5 years.

Claim.—1st. A machine for raising weights, having a loaded truck reciprocated by power and provided with wheels, some of which run upon fixed horizontal rails while others run upon fixed inclined rails, and one of which runs along and depresses a movable inclined rail forming part of a lever, substantially as described. 2nd. In a machine for raising weights or accumulating power, the combination of the loaded truck A having wheels, such as a, a, b , with the fixed and movable rails B, C, D, forming ways for said truck A, to reciprocate upon said truck, being connected with any suitable source of power, such as the crank E, by means of a connecting rod e , substantially as described. 3rd. A double acting weight raising machine having the above enumerated parts in duplicate, substantially as described with reference to Fig. 7.

No. 30,593. Balanced Gearing for Wind-Mills. (*Engrenage équilibré pour moulins à vent.*)

Charles H. Tuckwood and William Tuckwood, Janesville, Wis., U.S., 19th January, 1889; 5 years.

Claim.—1st. The combination, with a base plate A, a hollow stump B, and a bracket arm C₁ loosely mounted on the base plate, said arm having a wind wheel shaft journalled therein, this shaft having a gear wheel Fr on one end, of a main shaft M adapted to turn in the stump, gear wheels loosely mounted on the main shaft, and hollow stump, and bevel pinions H and K between said gear wheels, the axis of one being secured to the hollow stump, and the axis of the other to the main shaft, substantially as set forth. 2nd. The combination, with a base plate A, a hollow stump B formed integral therewith, and a bracket arm C₁ loosely mounted on the base plate, said bracket arm having a wind wheel, shaft D journalled therein, the shaft carrying a gear wheel Fr, of a main shaft M adapted to rotate in the hollow stump, gear wheels loosely mounted on the stump and on the shaft, in position for their teeth to mesh with the teeth on the wind wheel, shaft, gear wheel, intermediate gear wheel also loosely mounted on the main shaft, and bevel pinions K and H between said intermediate wheels, and the gear wheels on the main shaft, the axis of one of said wheels being secured to the hollow stump, and the axis of the other to the main shaft, substantially as set forth. 3rd. The combination, with a base plate A, a circular supporting flange A₁ projecting therefrom, a hollow stump B formed integral with the base plate, and a bracket arm C₁ mounted on the flange, of a horizontal wind wheel shaft D journalled in the bracket arm, and provided with a gear wheel Fr, a vertical shaft M journalled in the stump, bevel gear wheels loosely mounted on the vertical shaft meshing with the gear wheel on the horizontal shaft, intermediate bevel gear wheels, and the intermediate bevel pinions, one secured to the vertical shaft, and the other to the hollow stump, for the purpose substantially as set forth.

No. 30,594. Car Truck. (*Châssis de char.*)

James E. W. Currier, Ottawa, Ont., 19th January, 1889; 5 years.

Claim.—1st. The car A provided with the loop H, in combination with the truck B provided with the tongue E inserted in said loop, said truck being pivotally connected with said car by the king-bolt C, substantially as described. 2nd. The car A provided with the loop H, the truck E provided with the tongue E, and pivotally connected with said car by the king-bolt C, and a spring or springs for cushioning and centering the tongue, combined and arranged to operate substantially as set forth. 3rd. The combination, with a car-body, of a truck pivoted thereto, and provided with a tongue at one end, and a loose chain connected to the car-body and tongue, substantially as described. 4th. The combination, with a car-body provided with a loop attached to its bottom, of a truck pivoted to the car-body, and provided with a tongue at one end, which projects through said loop, and a loose chain connected to the car-body and tongue, substantially as described. 5th. The truck B provided with the tongue E, braces x , and ring z , the car A provided with the loop h , the chains y, g , connecting said ring and car, the springs r for cushioning said tongue, and the king-bolt C for connecting the truck and car, all constructed, combined and arranged to operate to operate substantially as set forth.

No. 30,595. Skate. (Patin.)

John Forbes, Halifax, N.S., 19th January, 1889; 5 years.

Claim.—1st. In a skate, the combination of self-adapting spring sole-clamps 13, 13, 16, 16 with a self-fastening clamp for the breast of the heel, substantially as described, whereby the skate is capable of being clamped to a sole of a boot or shoe without the necessity of any previous setting of the sole and heel clamps. 2nd. In a skate, the self-adapting spring sole-clamps 13, 13, 16, 16, substantially as described, whereby the skate may be clamped to the sole of a boot or shoe without the necessity of any previous setting of the sole clamps. 3rd. In a skate, the self-fastening heel-clamp 2, for the breast of the heel, substantially as described, whereby the heel of a boot or shoe may be clamped, without the necessity of any previous setting or adjustment of the heel-clamps by pinching or binding screws, or similar devices. 4th. In a skate sole and heel plates, constructed by the bending down therefrom, or attaching thereto, a loop forming a double bracket, such loop being slitted to receive the runner, with a pin passing through the runner and inside the loop, for the purpose of securing the runner to the bracket, substantially as described. 5th. In a skate, the combination of heel or sole plates bent down at their ends, such ends being slitted to receive the runner, and having a loop bent down from, or attached thereto, in form of a double bracket, said loop being also slitted to receive the runner, with a pin passing through the runner for the purpose of securing such heel or sole plate onto the runner, substantially as described. 6th. In a skate, the heel-clamp 2 with its spring-tongue 4, such heel-clamp being bent down and slotted so as to embrace the forward end of the heel-plate 1, the heel-plate containing serrations 3 on its upper surface, substantially as described. 7th. In a skate, the springs 13, 13, secured firmly at their ends to the toggle-clamp 2, and carrying on their forward ends sole-clamps 16, 16, substantially as described.

No. 30,596. Automatically Closing Can and Bottle. (Boîte et bouteille à fermeture automatique.)

George A. Poole, Chicago, Ill., U.S., 21st January, 1889; 5 years.

Claim.—1st. In an automatically opening and closing can or bottle, a tube passing through the mouth of the vessel, in combination with a cork or valve at the outer end of said tube, and a weight within said vessel connected to said valve by means of mechanism adapted to operate on the inner end of said tube, whereby said valve may be opened and closed through the said attached mechanism by the action of gravity by moving such vessel into suitable positions, substantially as specified. 2nd. In an automatically opening and closing can, tube in combination with cork, and a weight within the can arranged eccentrically to the axis of the tube, and connected to a rod having an inclined part *f*, to operate upon the inner end of the tube, substantially as specified.

No. 30,597. Mowing and Reaping Machine.*(Fauçonneuse-moissonneuse.)*

John T. Jackson and Thomas Jackson, Toronto, Ont., 21st January, 1889; 5 years.

Claim.—1st. In a mowing or reaping machine, the cutter-bar A having formed in it the longitudinal corrugations B, substantially as shown and described. 2nd. In a mowing or reaping machine, the guard finger C having on the upper side of its shank the corrugations D, to fit into notches or corrugations in the cutter-bar, substantially as shown and described. 3rd. The combinations, in a mowing or reaping machine, of a guard finger having a corrugated shank, and a washer having a corrugated contact surface, with a corrugated cutter-bar, substantially as described and for the purpose set forth.

No. 30,598. Double and Whiffletree.*(Volée d'arrière et palonnier.)*

John Bear, Jr., and Benjamin Bear, Waterloo, Ont., 21st January, 1889; 5 years.

Claim.—The combination of steel channel bars A and F, in connection with steel bars B and G, also malleable wire centre pieces C and H, substantially as and for the purpose hereinbefore set forth.

No. 30,599. Fence Post. (Pieu de clôture.)

Silas J. Saxon and William H. James, Colfax, W. T., U.S., 21st January, 1889; 5 years.

Claim.—1st. In a fence-post, the combination, with a foot-piece, adapted for insertion in the ground, and having at its upper end a tubular extension of a post, having in its lower end a slot adapted to receive and hold the extension of said foot-piece, substantially as shown and described. 2nd. The combination, with the post B, having the annular slot *b*, and provided with the ferrule *c*, concentric with said slot, of the foot-piece A, having the radial wings *a*, and provided with the tubular extension *a'*, substantially as shown and described.

No. 30,600. Pipe for Smoking Tobacco, etc., Cigar Holder, etc. (Pipe de fumeur, porte-cigare, etc.)

Stephen Backus, Chatham, Ont., 21st January, 1889; 5 years.

Claim.—1st. A nicotine absorber for pipes, cigar-holders, etc., consisting of a mass or lump of felt, or similar absorbent, placed in the smoke passage of the pipe or cigar-holder, substantially as described. 2nd. A nicotine absorber for pipes, consisting of the combination, with the pipe bowl, of a removable mass or lump of felt or similar absorbent placed in the bottom thereof, said mass or lump provided with a cap of metal or other incombustible material, substantially as substantially as described. 3rd. A nicotine absorber for pipes, cigar-holders, etc., consisting of the combination with a divided stem united by the tube D, of a mass or lump of absorptive material,

located in said tube, substantially as described. 4th. A nicotine absorber for pipes, cigar-holders, etc., consisting of the combination with a divided stem having the smoke passage or a part of the smoke passage large enough to contain the absorber, and the parts of the stem joined by any device, of a mass or lump of absorptive material located in said smoke passage, substantially as described. 5th. A nicotine absorber for pipes, consisting of a mass or lump of absorptive material, provided with a cap of incombustible material, said cap provided with one or more perforations, substantially as described.

No. 30,601. Elevator. (Monte-charge.)

Rudolph C. Smith, New York, N. Y., U. S., 21st January, 1889; 5 years.

Claim.—1st. The combination, with the cage operating engine valve, auxiliary engine and stopping and starting device, of an elevator, of a travelling cable suspended within the well, connected with the cage and with the stopping and starting device to operate the latter, and means, substantially as described, for operating upon said cable from within the cage. 2nd. The combination, with the cage operating engine, stopping and starting device and travelling cable, of a weight connected with said cable to take up the slack thereof, in the manner substantially as set forth. 3rd. The combination, with the cage and elevator engine, and stopping and starting device, of a suspended cable in two sections connected with the stopping and starting device, supported by a counter-weighted lever at the upper end, and device upon the cage for deflecting either section of the cable at the will of the operator, substantially as set forth.

No. 30,602. Police Nippers. (Menottes.)

Amos Eisaman, Putnam, and George Rome, Mansfield Valley, Penn., U.S., 21st January, 1889; 5 years.

Claim.—1st. The nippers having the pivoted jaws C, provided with operating arms D, in combination with the cam K and the handle M, substantially as specified. 2nd. In nippers, the body provided with a spindle H, and the jaws C provided with operating arms D, in combination with the hollow shaft I provided with a cam K, the handle M mounted on the hollow shaft, the stationary ratchet plate P, a similar ratchet Q on the handle, and the spring O, substantially as specified. 3rd. In nippers, the body A having lateral ears B, and the spindle H, the jaws C mounted between the ears and provided with operating arms D, and the spring F, in combination with the hollow shaft I, provided with a squared end L, and the shoulder *l*, the cam K, the handle M, having a central barrel N, provided with the interior shoulder *n*, and the ratchet Q, the ratchet plate P, and the spring O, bearing at its ends against the shoulders *l*, *n*, whereby the ratchet Q is held normally in engagement with the ratchet plate, substantially as and for the purpose specified.

No. 30,603. Rotary Cutting Knife.*(Ciseau rotatoire.)*

James M. Butters, Brighton, Vt., U.S., 21st January, 1889; 5 years.

Claim.—A rotary cutting-knife (for planing regular or irregular shapes in wood), having its cutting face bevelled, substantially as described and for the purpose set forth.

No. 30,604. Faucet for Regulating the Discharge of Liquids from Vats, Tanks, Cisterns, etc. (Robinet pour régler le déchargement des liquides des cuves, réservoirs, citernes, etc.)

Arthur Stafford, Lancaster, Ont., 21st January, 1889; 5 years.

Claim.—1st. Plug A with handles *a* and threaded at *b*, *b'*, and solid end *d*, having a grooved recess *a'*, in combination with body B having threaded part *b* and projection *a*, substantially as and for the purpose hereinbefore set forth. 2nd. Plug A and body B, in combination with collar C, having set-screw *a''*, substantially as and for the purpose hereinbefore set forth.

No. 30,605. Elevator and Separator for Mills. (Élévateur et séparateur pour moulins.)

John R. Beynon and James B. Murphy, Watertown, Wis., U.S., 21st January, 1889; 5 years.

Claim.—1st. In a separator for grain, etc., the combination of a main hopper, a supplemental hopper, the latter formed with a valve on one side, means for operating said valve from the outside of the main hopper, and an elastic tube surrounding the supplemental hopper, substantially as set forth. 2nd. In a separator for grain, etc., the combination of a receptacle having a depending chamber or well provided with an outlet opening, a hooded draft tube leading up through the chamber or well, and a disk adjustably arranged to open or close the tube, substantially as set forth. 3rd. In a separator for grain, etc., the combination, of a main receptacle provided with a depending chamber or well, having an outlet opening, a hooded draft tube leading up through the chamber or well, a disk adjustably arranged to open or close the tube, a partition arranged to extend from the top of the receptacle to within a certain distance of its bottom, a flue communicating at its upper end with the passage formed by the partition and adjacent wall of said receptacle, a hopper arranged to have a direct outlet into the flue, and a fan communicating with the receptacle, substantially as set forth.

No. 30,606. Roller Mill. (Moulin à rouleaux.)

John R. Beynon and James B. Murphy, Watertown, Wis., U.S., 21st January, 1889; 5 years.

Claim.—1st. In a roller mill, the combination, with the yielding roller and its adjusting rods, of a wheel fast on each adjusting rod, a hanger suspended from the hub of each wheel, and provided with an

elongated bearing, and a handle journalled in the bearings and geared to said wheels, substantially as set forth. 2nd. In a roller mill, the combination, with the yielding roller and its adjusting rods, of a wheel fast on each adjusting rod, a hanger suspended from the hub of each wheel, opposing spindles journalled in the hangers and geared to said wheels, and a handle detachably connected at its ends to the spindles, substantially as and for the purpose set forth. 3rd. In a roller mill, the combination, with the yielding roller and its adjusting rods, of a wheel fast on each adjusting rod, a bearing suspended from the hub of each wheel, opposing spindles journalled in the bearings and geared to said wheels, and a handle connected to the spindles and adjustable in length, substantially as set forth. 4th. In a roller mill, the combination, with the yielding roller and its adjusting rods, of a wheel arranged on each adjusting rod, a casing made in two sections hinged together and fitted to the hub of each wheel, a spindle journalled in each casing and geared to the wheel encased thereby, and a handle uniting the opposing spindles, substantially as and for the purpose set forth. 5th. In a roller mill, the combination, with the yielding roller and its adjusting rods, of a wheel arranged on each adjusting rod, a casing fitted to the hub of each wheel, and having its sides depressed to form opposing bearing points, and its ends provided with elongated bearings, a spindle arranged in the elongated bearings of each casing to impinge against said points, whereby the spindle is kept in line with the centre of the adjacent wheel, a gear connection established between said spindle and wheel, and a handle uniting the opposing spindles, substantially as set forth.

No. 30,607. Pump. (*Pompe*.)

William H. McIntyre, Brandon, Man., 23rd January, 1889; 5 years.

Claim.—The combination, with a pump A, provided with a handle E, and a cylinder B having a leak-hole *b* and a plunger or bucket C, of the pump rod D, tubular throughout its entire length and having at top a removable cap or plug F, and perforations *a* above the plunger or bucket, substantially as and for the purpose set forth.

No. 30,608. Combined Latch and Lock.

(*Loquet serrure*.)

John Maynard, Bowmanville, Ont., 23rd January, 1889; 5 years.

Claim.—1st. In a combined latch and lock, the combination, of the bolt, the tumbler secured thereto, the knob collar or sleeve, and the lever arm adapted to be engaged by the said collar or sleeve, the said tumbler being adapted to engage and disengage the said lever arm, substantially as described. 2nd. The combination, in a combined latch and lock, of the bolt, the tumbler pivoted thereto and having the hook R, the gravity lever S, normally engaging the bolt and having the arm U, the knob sleeve or collar and the lever arm Ar, the latter having the arms engaged by the knob sleeve or collar and the arm U, and provided further with a stud Er, adapted to be engaged or disengaged by the hook R, of the tumbler, substantially as described. 3rd. The combination, in a lock, of the relatively fixed stud Er, the bolt and the tumbler pivotally connected to the bolt and having the hook adapted to engage the stud, substantially as described. 4th. The combination of the bolt, the tumbler pivoted thereto and having the hook R, the lever arm adapted to be engaged by the said hook, and the detent weight lever connected to the lever arm, substantially as described. 5th. In a lock, the latch bolt comprising the sections D and E joined together, substantially as described. 6th. The combination of the knob, sleeve, or collar, the lever arm engaged by the same, the latch bolt, the tumbler pivoted thereto and adapted to be engaged by the lever arm, and detent to lock the lever arm in place, and thereby prevent the bolt from being withdrawn by a key, substantially as described. 7th. In combination with the latch bolt, the lever arm engaging the same, knob, sleeve or collar to engage the lever arm, and the detent to lock the lever arm and prevent the bolt from being withdrawn by a key, substantially as described. 8th. The lock case having the flange G, combined with the bolt slotted to work on the flange, as set forth. 9th. In a combined latch and lock, the latch bolt having the key engaging point or recess I, combined with the knob sleeve or collar, and connections between the latter and the latch bolt, whereby the latter can be operated by the knob or the key, as set forth. 10th. In combination with the latch bolt, the knob having connections therewith to operate the bolt, the tumbler O on the latch bolt, and establishing the connection between the knob and the bolt, said tumbler being arranged in such proximity to the key-hole that it will be actuated by the key when the latter is inserted, whereby, when said tumbler is actuated, it will disengage the connection between the knob and the bolt, as set forth. 11th. In a lock, the latch bolt, comprising the sections D, E, detachably joined together, the section E being slotted to run on a rigid flange of the lock case, as set forth. 12th. In combination with the latch bolt, the lever Ar connected with the same, the gravity detent S normally engaging the arm Ar, and the knob sleeve, or collar engaging the arm Ar, as set forth.

No. 30,609. Ammunition and its Manufacture. (*Ammunition et sa fabrication*)

David Johnson and William D. Borland, London, Eng., 23rd January, 1889; 5 years.

Claim.—1st. Compressing a charge of powder or explosive compound into a cartridge case carrying a primer at the centre of its base, the compression being effected by means of a plunger having a tapering point projecting from it, of sufficient length to reach nearly down to the cup chamber at the bottom of the case, substantially as described. 2nd. Ammunition composed of a cartridge case with central primer at the base, and with the rear end of the case filled with powder compressed into a block, having a central tapering hole extending from its front end nearly, but not quite to, the cap chamber, and with the larger end of the hole towards the projectile. 3rd. A cartridge similarly formed but with powder in rings having different rates of combustion.

No. 30,610. Machine for Assembling Radiator Loops. (*Machine à assembler les anneaux des calorifères*.)

Harrison H. Taylor, Detroit, Mich., U.S., 23rd January, 1889; 5 years.

Claim.—1st. In a machine for assembling radiator loops, a rotatable chuck to engage a nipple and unite the nipple with the adjacent loops, substantially as described. 2nd. In a machine for assembling radiator loops, a chuck to engage a nipple, and mechanism to rotate said chuck, whereby the nipple will be simultaneously united with the adjacent loops, substantially as described. 3rd. In a machine for assembling radiator loops, a rotatable chuck constructed to enter the hub of the loop to be added and interiorly engage a nipple, and simultaneously unite the nipple with the adjacent loops, substantially as described. 4th. In a machine for assembling radiator loops, a reciprocating rotatable chuck to engage a nipple and unite the nipple with the adjacent loops, substantially as described. 5th. In a machine for assembling radiator loops, a support to hold one or more loops in position, and a rotatable chuck to engage a nipple, and unite the nipple with the adjacent loops, substantially as described. 6th. In a machine for assembling radiator loops, a support to hold one or more loops in position, and a reciprocating rotatable chuck to engage a nipple and unite the nipple with the adjacent loops, substantially as described. 7th. In a machine for assembling radiator loops, a support to hold one or more loops in position, a reciprocating head block to engage the new loop to be added, and hold said loop against the nipple upon which it is to be united, and a rotatable chuck to engage the nipple, substantially as and for the purposes described. 8th. In a machine for assembling radiator loops, a support to hold one or more loops in position having, in combination therewith, a reciprocating head block and a rotatable chuck carried by said head block, substantially as and for the purpose described. 9th. In a machine for assembling radiator loops, a support for holding one or more loops, and in combination therewith, a reciprocating head block, a rotatable chuck carried by said head block, and having a reciprocating engagement therewith, substantially as described. 10th. In a machine for assembling radiator loops, a support to hold one or more loops, a head block to engage the new loop to be added, and a rotatable chuck to engage a nipple, said support and said head block made movable the one toward the other, substantially as and for the purpose described. 11th. In a machine for assembling radiator loops, a support to hold one or more loops in position, a head block to engage the new loop to be added, and in combination therewith, centering mechanism, whereby the several hubs of the loops will be located axially in line, and a rotatable chuck to engage a nipple and unite it with the adjacent loops, substantially as described. 12th. In a machine for assembling radiator loops, the combination, with a support for one or more loops, of a head block to engage the new loop to be added, a rotatable chuck, and means for centering the added loops upon said head block, substantially as described. 13th. In a machine for assembling radiator loops, a support for one or more loops, and in combination therewith, a head block to engage the loop to be added, a rotatable chuck to engage and rotate a nipple to be united with the adjacent loops, and means for feeding forward the said support or head block the one toward the other, as the nipple is united with the loops, substantially as described. 14th. In a machine for assembling radiator loops, an expandible chuck to interiorly engage a nipple, and mechanism to rotate said chuck, substantially as described. 15th. In a machine for assembling radiator loops, the combination, with a support, of a rotatable chuck, a driving pulley geared with said chuck, and a clutch to engage a pulley, substantially as described. 16th. In a machine for assembling radiator loops, rotatable chucks to engage nipples at both ends of the loops respectively, and simultaneously unite the loops at both ends, substantially as described. 17th. In a machine for assembling radiator loops, rotatable chucks to engage nipples at each end of the loops respectively, and simultaneously unite the respective nipples with the adjacent loops, and means for reciprocating said chucks, substantially as described. 18th. In a machine for assembling radiator loops, a support for one or more loops, rotatable chucks to engage nipples and unite them with loops at each end of said loops respectively, said support made adjustable for different lengths of loops, substantially as described. 19th. In a machine for assembling radiator loops, a support for holding one or more loops in position, and provided with a rack bar, and in combination therewith, a head block arranged to travel along said rack bar, a rotatable chuck to engage a nipple, and means for rotating said chuck, substantially as described. 20th. The process of assembling radiator loops by means of a right and left hand screw threaded nipple, consisting of interiorly engaging the nipple by an expandible chuck, and thereby screwing the nipple into the adjacent loops, substantially as described. 21st. The chuck herein described, for assembling radiator loops, said chuck constructed to interiorly engage a nipple, and means to rotate said chuck and thereby unite the nipple with the adjacent loop, substantially as set forth. 22nd. The chuck herein described for assembling radiator loops, consisting of expandible jaws to interiorly engage a nipple, and means to rotate said chuck and thereby unite the nipple with the adjacent loops, substantially as set forth.

No. 30,611. Fireproofing of Buildings. (*Moyens de rendre les bâtisses à l'épreuve du feu*.)

George Hayes, New York, N.Y., U.S., 23rd January, 1889; 5 years.

Claim.—1st. An opening in sheet metal formed by puncturing through and pressing forward the metal at the edge of the cut, in such manner that a dovetail slot is produced without removal of any portion of the metal, essentially as and for the purpose herein set forth. 2nd. In sheet metal, a tongue, lip or hook formed by puncturing through the sheet, and spreading outward and backward the metal at the side of the opening, in the manner shown for the purpose set forth. 3rd. A sheet or strip of sheet metal, having at intervals throughout its extent punctured apertures, each having its edge spread outwardly, constituting it a wedge-shaped or dovetail slot for reception of plaster, essentially as shown and described. 4th. A sheet or strip of sheet metal having at intervals, throughout its ex-

tent, raised hooks or catches formed of the edge-metal by puncturing and turning outwardly with a backward curl or roll the edge of the opening, essentially as shown and described. 5th. Sheet metal lathing prepared for the reception and holding of plaster by apertures and raised tongues, essentially as shown and described. 6th. In sheet metal lathing or backing for plaster, the combination of apertures, and tongues or catches arranged at intervals throughout, essentially as shown and described. 7th. Sheet metal, corrugated at intervals and prepared for holding plaster by punctured apertures, the edges of which are raised to form tongues or catches, essentially as shown and described. 8th. In metallic lathing, a projecting bend or fold adapted to serve as a soread, essentially as shown and described. 9th. In combination with metallic lathing, a separate angle-screed or moulding applied thereto, essentially as shown and described. 10th. In metallic lathing, backward projecting corrugations or folds adapted to hold the plane of the sheet or strip at a suitable distance from the wall (when applied thereto) to prevent passage of dampness, essentially as shown and described. 11th. The combination of sheets or strips of sheet metal, all apertured with raised tongues or catches, as herein set forth, with furring folds arranged and secured together back to back to form partitions, essentially as shown and described. 12th. A single faced partition composed of the lathing sheets having formed therein ribs for the purpose of strengthening and sustaining the same, essentially as shown and described. 13th. A double faced partition composed of the lathing sheets having formed therein ribs, the sheets of the two faces secured together back to back with the ribs between, essentially as shown and described. 14th. The combination of the lathing sheets and iron posts, essentially as and for the purpose herein set forth. 15th. The combination of furring and lathing in the same sheet, formed essentially as herein shown and described.

No. 30,612. Waterproofing Compound.

(Composition imperméable à l'eau.)

Charles T. Snedeker, New York, N.Y., U.S., 23rd January, 1889; 5 years.

Claim.—1st. A composition of matter for waterproofing purposes, consisting of asphalt, English gloy, cotton seed oil, peroxide of manganese, talc, China clay, isinglass, ammonia, linseed oil, copal gum, pyrites and coloring material, substantially as described. 2nd. A composition of matter for waterproofing purposes, consisting of liquid asphalt, English gloy, cotton seed oil, peroxide of manganese, French talc, China clay, Russian isinglass, ammonia, linseed oil, West India copal gum, Zanzibar copal gum, pyrites, and lamp black, substantially as described.

No. 30,613. Lead Pigment and Process of Preparing the same. (Pigment de plomb et procédé de préparation.)

Ambrose G. Fell, New York, N.Y., U.S., 23rd January, 1889; 5 years.

Claim.—1st. The herein described method of producing the new pigment herein described, which consists in forming a solution of a salt of lead, forcing sulphurous acid through the said solution, whereby the lead is converted into normal sulphite, separating said sulphite from the liquid, steaming it and drying it. 2nd. The herein described process of treating sulphite of lead, for the productions of a lead pigment, which process consists in subjecting the sulphite to the action of steam, or its equivalent, for the purpose and in the manner described. 3rd. The method of producing the new pigment herein described, which consists in forming a solution of acetate of lead, forcing sulphurous acid through the said solution, whereby the lead is converted into normal sulphite, separating said sulphite from the liquid, steaming and drying it, substantially as described. 4th. As a new manufacture, a lead pigment, consisting substantially of a lead sulphite, white in color and distinguished by yielding a blue streak, and by the other properties and characteristics herein set forth.

No. 30,614. Signal for Railway and other purposes. (Signal de chemin de fer et autres.)

Charles H. Koyl, Swarthmore, Penn., U.S., 23rd January, 1889; 5 years.

Claim.—1st. In a signalling apparatus, the combination, with a support or standard, of a reflector having the shape, or approximately the shape, of the section of a paraboloid, as described, and mounted on, or pivoted to said support, so as to be rotatable about an axis corresponding to, or coincident with, the axis of the paraboloid, of which said reflector is a section, substantially as and for the purposes hereinbefore set forth. 2nd. The combination, in a signalling apparatus, of a support or standard, a reflector having the shape, or approximately the shape of the section of a paraboloid, as described, and mounted on, or pivoted to, said support, so as to be rotatable about an axis coincident with the axis of the paraboloid, of which the said reflector is a section, and a lamp or other source of light located on said support at the focal point of the said paraboloid reflecting section, substantially as and for the purposes hereinbefore set forth.

No. 30,615. Lime Tray for Purifying Gas.

(Auge à chaux pour purifier le gaz.)

George H. Turnbull, New Westminster, B.C., 23rd January, 1889; 5 years.

Claim.—1st. A gas purifying tray or gird, consisting of spaced united slats, essentially oval in cross section, substantially as shown and described. 2nd. A gas purifying tray or gird, consisting of a series of parallel slats, oval in cross section, a tie-rod passing through the series of slats and washers, carried by the said tie-rod, spacing the slats, substantially as shown and described. 3rd. In a gas purifying tray or gird, the combination, with a series of parallel slats, oval in cross section, of headed tie-rods passed transversely through the said slats, at or near their ends, washers carried by the said tie-rods

spacing the several slats, and a lock-nut screwed upon one end of the said tie-rod, all combined for operation substantially as shown and described.

No. 30,616. Laced Rubber Boot or Shoe.

(Chaussure de caoutchouc lacée.)

Minnie Howitt, Owen Sound, Ont., 24th January, 1889; 5 years.

Claim.—A rubber boot or shoe, having ankle pieces B, B', or gossamer rubber cloth secured to the foot portion A, along the edge b, said pieces lacing together vertically at the inner side of the foot, as set forth.

No. 30,617. Process of Disintegrating Fibrous Substances. (Procédé de désagrégation des substances fibreuses.)

Sidney S. Boyce, New York, N.Y., U.S., 24th January, 1889; 5 years.

Claim.—A new process of disintegrating fibrous substances, consisting of, first, breaking the straw; second, subjecting the fibres to the action of a boiling, neutral soapy solution, made by dissolving soap high in fatty matters, in water; third, drying the fibres and, fourth, subjecting the dried fibres to rolling and finishing, as herein described.

No. 30,618. Clamp. (Serre-joint.)

William D. Hawley, Syracuse, N. Y., U. S., 24th January, 1889; 5 years.

Claim.—The improved adjustable clamp, composed of the shank B, provided with the perforations a, a, a, and formed integral with the gripping hook A, and perforated lateral projection b respectively at opposite ends, and the shank B' formed integral with the gripping hook A', and coupling hook C respectively at opposite ends, and adapted to slide with said coupling-hook through the perforated projection b, and pass said coupling hook into the perforation of the shank B, substantially as described and shown.

No. 30,619. Packing and Binding Wood.

(Empaquetage du bois.)

Thomas V. Wheeler, Fort Ellice, Man., 24th January, 1889; 5 years.

Claim.—1st. In means for packing and holding masses of wood together, the spring binding poles arranged on opposite sides of the mass, and crossing each other at their ends beyond the mass, in combination with locking sticks secured in position between the crossing ends of the poles, substantially as specified. 2nd. In means for packing and holding masses of wood together, the spring binding poles B, B', arranged on opposite sides of the mass, crossing each other at their ends beyond the mass, in combination with the locking sticks C, C', arranged in between the crossing ends of the poles, and said poles and crossing sticks being fitted in locking engagement with each other by means of notches c, c' made in them, essentially as described. 3rd. A package of sticks of wood b, b', having combined with and applied to them a series of bent spring binding poles B, B', arranged to cross them on opposite sides of the mass, and to cross each other beyond the latter, and secured in position by transverse locking sticks C, C', between the crossing ends of the poles, substantially as specified.

No. 30,620. Stove Pipe. (Tuyau de poêle.)

Emmanuel Samuel and John O. Thorn (assignees of Levi H. Montross), Toronto, Ont., 24th January, 1889; 5 years.

Claim.—1st. A stove-pipe section, having a longitudinal joint formed by a fold near one edge of the plate, forming the section to receive the opposite edge of the said plate, substantially as and for the purpose specified. 2nd. A stove-pipe section, having a pocket A, formed near one edge of the plate, forming the section to receive the opposite edge of the said plate, which is bent to form a ridge to butt against the top fold of the pocket, when the edge is fitted therein, substantially as and for the purpose specified.

No. 30,621. Attachment to Rotary Snow Ploughs. (Disposition aux charrues à neige rotatoires.)

The Canadian Pacific Railway Company (assignee of Francis B. F. Brown), Montreal, Que., 24th January, 1889; 5 years.

Claim.—1st. In a rotary snow plough, the combination with the scoop, of wings attached to the sides thereof and extending from the top of same to a point sufficiently high to clear permanent structures along the sides of the track, as and for the purposes described. 2nd. In a rotary snow plough, the combination with the scoop, of wings hinged thereto and adapted to be secured in a forward position, so as to project beyond face of scoop, and also be folded back of same, and means for locking them in either position, as and for the purposes set forth.

No. 30,622. Lamp Holder for Music Stands. (Porte-lampe pour pupitres à musique.)

Max A. O. L. Liebich, Berthier en haut, and Benjamin Tooke, Montreal, Que., 24th January, 1889; 5 years.

Claim.—The combination of the stand a, having rail b, with clamp c, having arm d, fore-arm g, having eye h and clamping screw i, rod k, holding light l, and reflector m, the whole substantially as described and for the purposes set forth.

No. 30,623. Spring Stay. (Basc élastique.)

George N. Clark, Woodstock, N. B. (assignee of Samuel K. Butterfield, Swanton, Vt., U.S.), 24th January, 1889; 5 years.

Claim.—1st. A spring stay, composed of the two wires A, secured

together centrally, and provided with elongated loops B, formed of the end portions of the crossed wires, substantially as shown and described. 2nd. The combination of a spring stay, composed of the crossed wires A, having the loops B, with the spiral spring C, substantially as shown and described.

No. 30,624. Hub Attaching Device.

(Appareil à assujétir les moyeux.)

Albert P. Olmstead, Troy, and Alexander T. Porter, West Troy, N. Y., U. S., 24th January, 1889; 5 years.

Claim.—1st. In a hub attaching device, the combination, with an interiorly threaded thimble, secured to revolve upon the axle, and a hub revoluble with said thimble, and provided with an interiorly-projecting flange threaded to correspond with the threaded part of the thimble, of a lock-screw threaded to correspond with and fit the threads of the thimble, and hub or box flange, substantially as described. 2nd. In a hub-attaching device, the combination, with a thimble secured to revolve upon the axle, and having an angular exterior surface, of a thimble-inclosing hub-box, having its inner inclosing surface, of a size and form to receive and fit the exterior angular surface of the thimble, and means for securing the thimble within the box, substantially as described.

No. 30,625. Rail Joint Union.

(Eclisse de rail.)

William Lowe and Shepherd Tappen, Troy, N. Y., U. S., 24th January, 1889; 5 years.

Claim.—1st. In a rail joint union, the combination, with a chair provided with a rail seat, and having on one side of such seat a cross tie flange, and a laterally-supporting rail flange, and on the opposite side a pivotal hook projecting above and to one side of such seat, of a locking bar provided on its opposite edges with a cross tie flange and a laterally supporting rail flange and intermediately of such flanges, with an eye adapted to receive such pivotal hook, substantially as described. 2nd. In a rail joint union, the combination, with a chair having a rail-seat, and provided with a cross tie flange, a laterally-supporting rail flange, having end extensions *dt*, and a pivotal hook A, of a locking bar provided with a cross tie flange, a laterally-supporting rail flange, having end extensions *dt*, and intermediately of such flanges, with an eye adapted to receive such pivotal hook, substantially as described.

No. 30,626. Button Hole Attachment for Sewing Machines. (Appareil à boutonsnières pour machines à coudre.)

Samuel Halliwell (assignee of Albert W. Johnson), New Haven, Conn., U. S., 24th January, 1889; 5 years.

Claim.—1st. In a button-hole attachment, substantially such as described, the combination of the feed disk G, the actuating lever adapted to swing under the reciprocating movement of the needle-bar, the divided band I, around said feed disk G, the ends of the said divided band overlapping and constructed respectively with shoulders 6, 7, the plate 5 hung upon the axis of the feed disk and adapted to oscillate thereon, the dog 9 hung to said plate 5, its nose extending between said shoulders 6 and 7, and so as to take a bearing thereon, with connections, substantially such as described, between said actuating lever and said plate 5, substantially as described. 2nd. In a button-hole attachment, substantially such as described, the combination of the feed-disk G, the actuating lever adapted to swing under the reciprocating movement of the needle, the combination between said actuating lever and said disk, whereby a step by step rotative movement is imparted to said disk, a frictional band Q around said disk G, the said band divided into two ends extending one beyond the other, and the said two ends constructed respectively with shoulders R, S, with a dog T hung upon the frame of the attachment, its nose extending between said two shoulders R, S, and adapted to bear thereon, substantially as and for the purpose described. 3rd. In a button-hole attachment, the combination of the actuating lever J adapted to swing under the reciprocating movement of the needle-bar, the feed disk G, the plate 5 hung upon the axis of said feed disk, mechanism, substantially such as described, to engage said disk and plate in one direction, but leave said disk free in the opposite direction, the dog 2 hung to said actuating lever, the said dog constructed with an arm 12 to engage with the said plate 5, and also constructed with an arm 13 to engage a bearing upon the side of the dog opposite the arm 12, the said plate provided with a stop above said dog, substantially as and for the purpose described. 4th. In a button-hole attachment, substantially such as described, having a cloth holder and feeding mechanism, the combination therewith of the feed disk G, the actuating lever J, the plate 5 hung upon the axis of the said disk G, mechanism, substantially such as described, to engage said disk and plate in one direction, and leave said disk free in the opposite direction, the said plate provided with the stud 11, the dog 2 hung upon the said actuating lever, the cam 7 fixed to the axis of said feed disk, the said dog constructed with an arm 12 upon one side to engage the stud 11, and with a nose 14 upon the opposite side to engage said cam, the said plate provided with a stop above said dog, substantially as described. 5th. In a button-hole attachment, substantially such as described, having a cloth holder and feeding mechanism, the combination therewith of the feed disk G, the actuating lever J, the plate 5 hung upon the axis of the said disk G, to engage said disk and plate in one direction, and leave said disk free in the opposite direction, the said plate provided with the stud 11, the dog 2 hung upon the said actuating lever, the cam 7 fixed to the axis of said feed disk, the said dog constructed with an arm 12 upon one side to engage the stud 11, and with a nose 14 upon the opposite side to engage said cam, an adjustable stop 15 on the said plate 5 and above said dog, substantially as and for the purpose specified. 6th. In a button-hole attachment for sewing machines, the combination therewith of work plate 38,

constructed with a needle hole 39, and with a tubular pivot 43 around said needle hole upon the under side of the plate, with the shuttle rice cover 40, the said plate loosely hung to said cover, substantially as described, and so as to permit universal oscillation of said work plate, substantially as described.

No. 30,627. Axle Box or Bearing of Carriages and other Vehicles. (Boîte à graisse pour voitures de toutes sortes.)

Dan Rylands, Barnsley, Eng. (assignee of John A. Wilson, Dundee, Scotland), 24th January, 1889; 5 years.

Claim.—1st. A cup cap or cover for the axle box or bearing of a carriage or other vehicle, which cup, cap, or cover is formed wholly or partially of glass, or other suitable transparent substance, for the purpose above specified. 2nd. The combination, with an axle box or bearing, of the cup, cap, or cover formed wholly or partially of glass or other suitable transparent material, and provided with a guard or shield, substantially as and for the purposes set forth. 3rd. The combination, with the cup, cap, or cover, formed wholly or partially of glass or other suitable transparent material, of means for automatically cleaning the said glass or other material, substantially as and for the purpose set forth.

No. 30,628. Alternating Current Dynamo.

(Dynamo à courant alternatif.)

The Thomson Houston International Electric Company, Boston (assignee of Elihu Thomson, Lynn), Mass., U. S., 24th January, 1889; 5 years.

Claim.—1st. In a self-exciting alternating current, a commutator for rectifying the current taken from the machine to the exciting coil or circuit, in combination with a reactive coil in the connection to the commutator, as and for the purpose described. 2nd. The combination with the armature supplying alternate currents to mains, of a field exciting coil or circuit connected with a branch, a commutator in said branch and a reactive coil between the commutator and the main. 3rd. The combination, with the main carrying alternating currents, of a branch, a commutator for rectifying the currents in the branch, and a reactive coil between the commutator and main, as and for the purpose described. 4th. The combination, with the branch supplied with current from a main carrying alternating currents or their equivalent, as described, of a commutator in the branch, and a reactive coil, provided with means for adjusting its self-induction or reaction, as and for the purpose described. 5th. The combination, with the reactive coil and core on an alternating or other vibratory current circuit, of a counterbalancing reactor, whereby the immersion of the core in the coils may be stationary with a normal flow of current, and may be increased on an increase of current, so as to automatically adjust the reaction to the strength of the alternations or vibrations, as and for the purpose described. 6th. The combination with the alternating current main, of the branch containing a commutator, a reactive coil in said branch between the main and commutator, and a main circuit coil combined with the reactive coil in inductive relation thereto, as and for the purpose described. 7th. The combination with a reactive coil in the alternating current branch, of a compensating coil in a circuit from which the branch is derived, as and for the purpose described. 8th. The combination, with an alternating current dynamo having a field coil in a branch or derived circuit, of a self-inductive coil in said branch, whereby a field coil of comparatively low resistance may be employed. 9th. The combination, with a commutator connected with a source of alternating currents of their equivalent, as described, of a reactive coil in the commutator connection, as and for the purpose described. 10th. The combination, with an alternating current dynamo, whose field is sustained by the action of current on a branch of a commutator for rectifying the currents that are used to excite the field, and a compound reactive coil, part of the winding of which is traversed by the branch current and a part by the main current. 11th. The combination of the field circuit of a dynamo machine, and a commutator for said field circuit with a reactive coil in an alternating current circuit to said commutator, and a source of alternating current, the rapidity of the alternations in which is dependent on the speed of the dynamo increasing and decreasing with such speed, for the purpose of automatically varying the current in the field-circuit to compensate for differences of potential developed at different speeds by regulating the strength of the field magnetism. 12th. The combination, with a dynamo machine, of an alternating current source delivering alternating currents, whose rapidity varies with the speed of the machine, and a reactive coil in the connection between said source, and the wires or connections which deliver field exciting energy to the machine, as and for the purpose described. 13th. A compound or differential reactive coil, placed on an alternating current circuit, and having one portion G wound and adjusted as described, so as to tend to overcome the effect of the self-induction in the other or active portion. 14th. In an alternating current dynamo, a field sustaining branch from the main, containing a reactive coil, in combination with a compensating main circuit coil, as and for the purpose described.

No. 30,629. Flood Fence. (Clôture fluviale.)

Harvey A. Mace, William B. Hunter and John R. Wonscott, Mount Zion, Ill., U. S., 24th January, 1889; 5 years.

Claim.—In a flood fence, the combination of the fence posts, sills carrying upwardly-projecting pickets, and loosely hinged to the upstream sides of said posts at such a point that they will come in contact with the under side of the upper guide braces of the posts, to contain said pickets in horizontal adjustment while the water is passing over them, and a board loosely hinged to the down stream side of the sills and extending below the same, whereby the pickets and board when under action of the water will fold into a horizontal position, substantially as described.

No. 30,630. Apparatus for Cleansing and Recovering Saw-dust, or other Similar Hydrate Substances from Filtrates. (*Appareil pour nettoyer et recouvrer le bran de scie ou autres substances hydrates des matieres filtrées.*)

The Casamajor Filter Company, New York (assignee of Louise J. Casamajor, administratrix of the estate of Paul Casamajor, Brooklyn, N. Y., U.S., 24th January, 1889; 5 years.

Claim.—1st. The combination of an agitating vat for agitating a filtering substance in the presence of water, with a series of straining devices located on different levels, and provided with means for passing the filtering substance upward through the series of straining devices. 2nd. The combination of an agitating vat, a series of straining devices located on different levels, and provided with means for passing the strained material upward through the series of straining devices, and sprinkling devices interposed between each pair of straining devices. 3rd. The combination, with an agitating vat, of a vertically rotating sieve provided with a circumferential straining network or mesh elevating buckets, an elevated trough within said sieve, and sprinkling devices located above said sieve, and adapted to wash the material from said buckets into said troughs. 4th. In combination, an agitating vat, a vertically rotating sieve, having a circumferential network, a conveying trough between the vat and sieve, elevating buckets within the sieve and an elevating trough, said buckets serving to convey the material from the bottom of said sieve to said trough, as described. 5th. An organized apparatus for cleansing and straining filtering substances, comprising an agitating vat, having a pipe connecting with a rotary sieve, a vertically rotating sieve provided with interior circumferential elevators or buckets, a second agitating vat provided with a pipe leading to a second sieve, a second rotating sieve provided with interior elevators, troughs leading from the sieves and sprinkling devices above each sieve, all arranged to operate as described. 6th. In apparatus for cleansing filtering substances, an agitating vat connections from the same to a rotating sieve, provided with means for elevating the strained material to a higher level within the sieve, and a casing for the drip water, disconnected from the agitating vat.

No. 30,631. Roller Mill. (*Moulin à rouleaux.*)

John A. McAnulty, Minneapolis, Minn., U.S., 25th January, 1889; 5 years.

Claim.—1st. In a roller mill, the feeding device consisting of the hopper 6 having the sub-divisions 12, and provided with the yielding gates, and a valve provided with adjustable wings to direct the flow to either or both of the said sub-divisions, substantially as described. 2nd. In a feeding device, the combination, with the inlet spout and the hopper, of the plate 10 located between the hopper and the spout, and the wings 12 oppositely secured to the plate and adjustable thereon, by which the stock is directed to either side of the hopper, substantially as described. 3rd. In a roller mill, the combination, with the frame or body 2 supporting the fixed rolls 4, of the shoe or frame section 42 supporting the movable rolls 5, and adjustably secured to the said frame, substantially as described. 4th. In a roller mill, the combination, with the movable rolls and shoe 42 in which the said rolls are journaled, of the yoke 46 adjustably secured to the shoe, and the cam or eccentric shaft 48 operating upon the inner end of the said yoke to draw the rolls into or out of grinding contact, substantially as described. 5th. In a roller mill, the combination, with the movable rolls, and the shoes 42 in which the said rolls are journaled, of the yokes 46 attached to the shoes 42, and the series of cams or eccentrics 52 bearing against the said yoke, the shaft 48 upon which the said cams or eccentrics are mounted, and the lever 50 secured to, and operating said shaft, whereby one or both sets of rolls may be thrown out of or into grinding contact by a single operation of the lever, substantially as described. 6th. In a roller mill, in combination with the yoke 48 secured to the bearings of the movable roll, having its upper and lower members formed of spring metal, the up-turned end 62 of the lower member, and the shoulder 64 for allowing the rolls to spread automatically when undue pressure is brought against them, and the stirrup 68 binding the upper and lower members together, and allowing for the adjusting of the spring tension of the yoke, substantially as described. 7th. The combination, with the rolls 4, 4, 5, 5, and the pulleys 77, 81, 75 and 79 for driving said rolls, of the driving pulley 74 located below the roller mill, the adjustable tightener pulley 78 also located below the mill but above the driving pulley, and the swivelled idler pulleys 80 and 82 secured above the base of the machine, all connected and driven by one continuous and open belt, substantially as described. 8th. The belt drive for a four roller mill consisting of one continuous open belt passing from a driving pulley 74 over the pulley 75, driving the outer roll of one series downward around the idler 82, upward and around the pulley 77, driving the inner roll of said series downward around the adjustable tightener pulley 78, upward and around the pulley 79, driving the outer roll of the opposite series downward and around the idler pulley 80, upward and around the pulley 81, driving the inner roll of this series and thence to the main driving pulley 74, substantially as described.

No. 30,632. Automatic Boiler Feeder.

(*Alimentateur automatique de chaudière.*)

Cléophas Gosselin, Montreal, Que., 25th January, 1889; 5 years.

Claim.—1st. In a feed water heater, the boiler M provided with hot air passage B, B, and feed water boiler A, as shown and described and for the purpose hereinbefore set forth. 2nd. In a feed water heater, the boiler A provided with steam and water pipes D and E of different sizes, and main boiler M, as shown and described and for the purpose hereinbefore set forth. 3rd. The combination in a feed water heater, of the boilers M and A, steam and water pipes C, D and E, and valves C₁, D₁ and E₁, and hot air passage B, B, the whole as shown and described and for the purpose hereinbefore set forth.

No. 30,633. Oil Burner. (*Brûleur d'huile.*)

Louis Schutte, Philadelphia, Penn., U.S., 25th January, 1889; 5 years.

Claim.—1st. In an oil-burner, a final oil-delivery nozzle provided with a round unobstructed delivery orifice, and with internal spiral blades terminating at a distance from the delivery orifice, whereby the oil is first given a rotary motion, and thereafter delivered in a solid jet through the orifice to the end, that it may be atomized by centrifugal force. 2nd. In an oil-burner, the combination, of an air delivery nozzle, and a central and final oil-delivery nozzle, the latter provided with a round unobstructed oil-delivery orifice, and with internal blades terminating in rear of said orifice, whereby the oil is delivered through the orifice as a rotating solid stream atomized by centrifugal force, and delivered in its atomized condition centrally into the column of air flowing through the surrounding air nozzle. 3rd. In an oil burner, the combination, of the central and final oil-delivery nozzle having the round unobstructed delivery orifice, and the internal spiral blades terminating in rear of said orifice, the air-delivery nozzle α surrounding the first-named nozzle and terminating in rear of the oil-delivery, and an external nozzle A surrounding and extending slightly beyond the nozzle α , as shown.

No. 30,634. Clock Escapement.

(*Echappement d'horloge.*)

William H. Douglas, Stonebridge, Eng., 25th January, 1889; 5 years.

Claim.—1st. Applying a rotating pendulum to a detached lever escapement, a horizontal escapement, or a duplex escapement, substantially as herein set forth and specified. 2nd. Regulating rotating pendulums by means of a curb, substantially as herein set forth and specified.

No. 30,635. Device for Sharpening Stone Cutting Tools, etc. (*Appareil pour aiguiser les outils à tailler la pierre, etc.*)

Edward England, Duluth, Minn., U.S., 25th January, 1889; 5 years.

Claim.—1st. In a machine for sharpening or cutting stone-cutters, tooth-chisels, tooth-axes, etc., the combination of the upright shaft A, the shank or chunk B, the cutter or punch C, the throat-plate D, the rigid jaw G, the lever F, and the fulcrum K, as and for the purposes substantially as described. 2nd. The combination of the open and rigid jaw G, the upright shaft A moving freely through the box formed by the plate L and L', and secured to the upper jaw by the bolt M and M', the square head and mortise or slot with the short arm of the lever F moving freely therein, the shank or chunk B, the cutter C with its bevelled edge, the throat-plate D, the lever F, the fulcrum K, the guide H, and the gauge I, as and for the purposes substantially as described.

No. 30,636. Plastering Composition.

(*Composition pour crépir.*)

John H. Fitzgerald, Frankford, W.V., U.S., 25th January, 1889; 5 years.

Claim.—A plastering composition composed of sand, sawdust, plaster-of-paris, slaked lime, sugar, and carbonate of soda, in or about the proportions described.

No. 30,637. Plastering Composition.

(*Composition pour crépir.*)

John H. Fitzgerald, Frankford, W.V., U.S., 25th January, 1889; 5 years.

Claim.—A plastering composition consisting of cream of tartar, pumice-stone, sugar, lime, and plaster-of-paris, in or about the proportions described.

No. 30,638. Spring for Vehicles.

(*Ressort de voiture.*)

Albert E. Cook, Knowlton, Que., 25th January, 1889; 5 years.

Claim.—1st. The combination of the lower short spring lever E, E, having their inner ends provided with hooks F, F, the connecting coiled or spiral spring G, the recessed blocks R, R, secured by clips U, and nuts T, T, with a vehicle spring, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with a vehicle spring of the socket plate K with its circular recess I, and ears N, N formed in the lug J, substantially as and for the purpose hereinbefore set forth.

No. 30,639. Automatic Scales for Weighing Cars and Recording the Weights. (*Pont à bascule pour peser les chars et enregistrer le poids.*)

Edward H. Amot, Chicago, Ill., U.S., 25th January, 1889; 5 years.

Claim.—1st. The combination, in a printing or recording scale, of the scale beam and variable counterpoise, with a type wheel connected with, and operated by the scale beam, an impression block or hammer, and a dash pot and its piston connected with the type wheel for regulating the movement of the type wheel, and holding the same stationary at the true balance during the printing operation, substantially as specified. 2nd. The combination, in an electric printing scale for weighing railroad cars, of the scale platform having track rails thereon, with a long lever parallel to one of the track rails, an electric circuit, and electric printing mechanism, and a pair of contact points closed by said lever when depressed by the front wheel of the car, substantially as specified. 3rd. The combination, in an automatic electric scale for weighing railroad cars, with the scale platform having track rails thereon, of the electric circuit, and the

electric printing mechanism, mechanism for closing the electric circuit when the last wheel of the car passes on to the scale platform, and a long bail lever for holding said circuit closed by the front wheel of the car, substantially as specified. 4th. The combination, in an electric printing weighing scale, with the scale beam, type wheel connected therewith, printing levers, and the scale platform having track rails thereon, of a wheel operated lever in the middle of the scale platform for raising the printing lever, and mechanism operated by the last wheel of the car as it passes onto the scale platform, for closing an electric circuit to release the printing lever, substantially as specified. 5th. The combination, in an automatic printing weighing scale, of the scale platform having track rails thereon, with the printing mechanism, and a wheel operated lever G adjacent to the track rail, and near the middle of the scale platform for giving motion to the printing mechanism preparatory to the printing operation, substantially as specified. 6th. In an automatic printing weighing scale, the combination, of the printing wheel, and printing lever, a spring for operating the printing lever, the scale platform, the wheel operated lever on the scale platform for raising the printing lever, and a pawl for holding it in its elevated position until ready for printing, substantially as specified. 7th. In an automatic printing weighing scale, the combination, of the printing wheel, and printing lever, a spring for operating the printing lever, the scale platform, the wheel operated lever on the scale platform for raising the printing lever, and a pawl for holding it in its elevated position until ready for printing, and mechanism operated or controlled by the passage of the last wheel of the car onto the scale platform for releasing the printing lever, so that its spring may cause it to strike the blow against the printing wheel, substantially as specified. 8th. The combination in a railroad car weighing scale, of the scale platform A, having track rails A₁ thereon, with track rails A₂ at the side of the track rails A₁, rigidly supported, one of said track rails A₂ bridging the scale platform, substantially as specified. 9th. The combination of the weighing scale platform A, having track rails A₁, an electric circuit, the operating lever a for closing said electric circuit, and a bail lever P at the opposite end of the scale platform for closing the circuit at another point, substantially as specified. 10th. The combination of weighing scale platform A, track rails A₁ thereon, an electric circuit, the operating levers a, a₁, one at each of the scale platforms for closing said electric circuit, and operating levers P, P for closing said circuit at another point, and a switch R R₁ for causing the circuit to be closed by one or the other of said levers P, P according as the car to be weighed approaches from one direction or the other, substantially as specified. 11th. The combination of the scale platform A, and track rails A₁ thereon, car wheel, operated lever a, pawl lever H, and a line, and pulleys connecting the same with said lever a, the ratchet wheel K having contacts k at intervals for closing an electric circuit, a printing wheel connected to the scale beam, a printing lever, a car wheel, operated lever on the scale platform for raising the printing lever in an elevated position, and a magnet included in the circuit closed by said contacts k for releasing said printing lever, substantially as specified. 12th. The combination of the scale platform A, and track rails A₁ thereon, car wheel, operated lever a, pawl lever H, and a line, and pulleys connecting the same with said lever a, the ratchet wheel K having contacts k at intervals for closing an electric circuit, a printing wheel connected to the scale beam, a printing lever, a car wheel, operated lever on the scale platform for raising the printing lever in an elevated position, and a magnet included in the circuit closed by said contacts k for releasing said printing lever, and a wheel operated bail lever P at the opposite end of the scale platform for simultaneously closing said electric circuit at another point, substantially as specified. 13th. The combination in an automatic electric weighing scale, of the electric circuit, with the scale platform, a wheel operated lever for closing the electric circuit by the last wheel of the car as it passes onto the scale platform, and a wheel operated lever near the opposite end of the scale platform for simultaneously closing said circuit by the front wheel of the car, substantially as specified. 14th. In an automatic printing weighing scale, the scale platform A furnished with track rails A₁, and with car wheel operated levers for controlling the operation of the printing mechanism located at or near each end of the scale platform, so that one of said levers will be operated by the last wheel of the car, and the other by the front wheel of the car, whereby the scale platform is adapted to weigh long or short cars while coupled in a train and passing over the scale platform, substantially as specified. 15th. The combination in an automatic weighing and printing scale, with the scale beam, and variable counterpoise, of a wooden type wheel connected with the scale beam, and adjusted or controlled thereby, and having a thin metal band furnished with type, whereby the error due to the inertia of a heavy type wheel is eliminated, substantially as specified. 16th. The combination in an automatic printing weighing scale, with the scale beam, and variable counterpoise, of a wooden type wheel connected with the scale beam, and adjusted or controlled thereby, and having an electrotype peripheral, whereby the error due to the inertia of a heavy type wheel is eliminated, substantially as specified. 17th. The combination, with the scale beam B, of the type wheel C connecting link c₃, adjusting nut c₄, and swivel e₇ connected to said scale beam, substantially as specified. 18th. The combination, with the scale beam B, of the laterally projecting arm b₆, type wheel C, and a connecting link detachably secured to said laterally projecting arm, substantially as specified.

No. 30,640. Steam Boiler. (*Chaudière à vapeur.*)

Herbert Hackney, Topeka, Kan., U.S., 25th January, 1889; 5 years.

Claim.—1st. The combination of the boiler O, the mud-drum G, and the circulation pipe F, as and for the purpose above set forth. 2nd. The combination of the boiler O, the mud-drum G, and the circulation pipe F, with the coupling E provided with the removable cap e, as and for the purpose stated.

No. 30,641. Photographic Plate to be developed in Water. (*Plaque photographique à bain d'eau.*)

Leo Backelandt, Ghent, Belgium, 25th January, 1889; 5 years.

Claim.—The coating of the back of photographic dry plates, with suitable developing substances, such as hydrochinone, rendered adhesive and preserved against oxidation by the use of a light varnish, substantially as and for the purpose specified.

No. 30,642. Grape Harvester. (*Cisailles de vignes.*)

Jonathan Phillips, Oakville, Ont., 25th January, 1889; 5 years.

Claim.—An improved grape harvester, consisting of a pair of tonge A having fixed to one of its jaws a, a cutting blade B extending beyond its face, and designed to overlap the edge of the opposite jaw a, substantially as and for the purpose specified.

No. 30,643. Telegraphic Relay. (*Relai télégraphique.*)

Patrick B. Delany, New York, N.Y., U.S., 28th January, 1889; 15 years.

Claim.—1st. A main line having a table of contacts, and a rotating circuit-completer which traverses the table at each end of the line, whereby each signal transmitted over said line is formed by a series or group of momentary impulses of electricity, in combination with a relay, and a condenser or source of electric energy from which a current is discharged to magnetize the relay-magnet, during the brief interval between the successive impulses of electricity composing a given signal. 2nd. The combination, with a synchronous system of telegraphy in which each unitary signal is made up of a group of impulses, of a relay having a permanent magnet arranged with its poles adjacent to the poles of the relay, the adjacent poles being of like polarity when the current is traversing the circuit, substantially as and for the purpose set forth. 3rd. The combination of the relay-magnet, its armature, the permanent magnet arranged in proximity thereto, an electric circuit in which the relay is included, a source of electric energy, the current from which produces in such relay-core a polarity the same as the polarity of the adjacent pole of the permanent magnet, and the condenser and circuit connections, whereby the discharge from the condenser prevents the relay from releasing its armature when momentary interruptions in the main line occur during the transmission of a unitary signal.

No. 30,644. Synchronous Multiplex Printing Telegraphy. (*Télégraphie synchrone à impression multiple.*)

Patrick B. Delany, New York, N.Y., U.S., 28th January, 1889; 15 years.

Claim.—1st. The combination, substantially as set forth, of a main line, synchronously-actuated apparatus at each end of the main line, a table of independent working contacts at each end of the main line connected in branch lines at each station, the corresponding branch lines being connected with one or more corresponding contacts, and step-by-step printing or indicating apparatus in the branch lines, for the purpose set forth. 2nd. The combination, with the main line, of synchronously-actuated apparatus at each end of the main line, a series of insulated contact at each station, mechanism for successively placing the main line in connection with each of said contacts, step-by-step printing or indicating apparatus connected in branch lines at each station, corresponding branch lines being connected with one or more corresponding contacts at the stations, and other of said contacts placed at intervals around the table through which correcting impulses of electricity are sent over the main line to insure the synchronous rotation of the two apparatus. 3rd. The combination of the main line, the relay actuated by periodic impulses of electricity transmitted over the main line, the actuating magnet and its local circuit which is made and broken by said relay as the impulses are transmitted over the line, the print magnet, and the tardy circuit-completer which completes the print magnet circuit when a more than normal period of time has elapsed between said impulses. 4th. The combination, substantially as set forth, of a main line, the tables, contacts, and synchronously-moving circuit completers at each end of the line, step-by-step printing instruments connected with corresponding contacts on the tables of contacts, a battery from which impulses are sent over the line to advance the instruments step-by-step, the print magnets and tardy circuit completers in the circuits of the print magnets, for the purpose set forth.

No. 30,645. Synchronous Movement and Telegraphy. (*Mouvement et télégraphie synchroniques.*)

Patrick B. Delany, New York, N.Y., U.S., 28th January, 1889; 15 years.

Claim.—1st. The combination of the main line, synchronously-actuated apparatus at each end of the main line, the correcting battery from which impulses are sent over the line, correcting devices at one end of the main line for accelerating or retarding the apparatus by varying the resistance of its controlling circuit or circuits, and contacts or devices at the other end of the main line for completing the circuit of the correcting battery through said correcting devices, whenever the apparatus at the station to be corrected runs too fast or too slow. 2nd. The combination of the main line, synchronously-actuated apparatus connected at each end of the main line, the 9 and 10 contacts at one station, the alternate 10's being connected with one set of correcting devices, and the alternate 9's farthest removed from said connected 10's, being connected with the other set of correcting devices, a correcting-battery, and the 9 and 10 battery contacts at the distant station corresponding with the unconnected 9 and 10 contacts at the first station connected to earth, whereby the correcting battery-circuit is completed to actuate the correcting devices whenever the apparatus runs out of time, as set forth. 3rd. The method of synchronizing apparatus which consists in sending a correcting impulse of electricity from one station to a distant station whenever the apparatus runs out of synchronism, utilizing said impulse at the distant station to correct the speed of the apparatus at that station, and simultaneously utilizing the same impulse to cor-

rect the speed of the apparatus at the station from which the impulse is sent out. 4th. The combination of a main line, synchronously-actuated apparatus at each end of the main line, a battery from which correcting impulses are sent into the line, and mechanism, substantially as described, by which the speed of the apparatus at the station where the correcting impulse is sent into the line is corrected by the action of said impulse to maintain its synchronous movement with the apparatus at the distant station. 5th. The combination of a main line, the tables of message and line discharge contacts, and synchronously-rotating circuit completers, a ground line connected with the discharge contacts through which the main line is grounded after each completion of the circuit, and a resistance in the ground line. 6th. The combination of the branch line or lines, main and ground contacts, the bridging circuit completer, and a resistance in the circuit, or circuits, completed by the bridging of the circuit completer. 7th. The combination of a continuously automatically-acting circuit-interrupting vibrator, a vibrator magnet, and means for adjusting the pole of the magnet in the direction of the length of the vibrator to change its normal rate. 8th. The manner, substantially as herein described, of adjusting the normal rate of vibration of a continuously-actuated vibrator, by means of a permanent magnet located in proximity to the vibrator, and having a moving keeper x (Fig. 8). 9th. The combination, substantially as set forth, of the continuously-actuated vibrator, its vibrator magnet, an independent magnet located in proximity to the vibrator, and means for varying the power of the magnet to adjust the normal rate of vibration. 10th. The combination of the vibrator, its magnet and circuit, a branch or shunt circuit around said magnet, a resistance in said shunt, and means for controlling the shunt and correcting the speed of the vibrator. 11th. The combination of a constantly regularly-acting automatic circuit-interrupting vibrator, its support, and flexible or elastic devices for supporting it, whereby a uniform rate and greater amplitude of vibration are obtained. 12th. The combination of a vibrator, its magnet, and circuit magnetic correcting devices independent of the vibrator magnet, the local circuit of said correcting devices, and a relay in the main line for rendering the correcting impulses effective. 13th. The combination of a vibrating reed or bar, the vibrator magnet, and the independent correcting magnet having its poles arranged to envelop and act on both sides of the vibrator. 14th. The combination of the vibrator, its normally energized correcting magnet, and means for varying the power of said magnet upon the reception of a correcting impulse, substantially as set forth. (Fig. 16). 15th. The combination of the vibrator, its local driving circuit, the motor and the motor circuit which is made and broken by the vibrator, and is arranged entirely independent of the vibrator circuit. 16th. The combination of the vibrator which is free to vibrate at one end, and devices for clamping it at two or more points at the other end, for the purpose set forth. 17th. The combination of the vibrator, its vibrator magnet and circuit, and an independent correcting magnet either permanent or electro, and means for causing said magnet to approach or recede from the vibrator on the reception of a correcting impulse to effect its correction. 18th. The combination of the vibrator, the correcting relay, and the elastic finger for mechanically correcting the vibrator. 19th. The combination of a table of contacts, a synchronously-actuated circuit completer, the correcting contacts, the controlling vibrator, and the device for mechanically correcting the speed of said vibrator.

No. 30,646. Twine and Device for Making the same. (*Cordonnet et appareil pour le fabriquer.*)

James Lyall, New York, N.Y., U.S., 28th January, 1889; 5 years.

Claim.—1st. A twine of jute sized to strengthen the twine, and containing a mildew proof composition to prevent the twine becoming injured by heat or moisture while around the grain, substantially as set forth. 2nd. The method herein specified of manufacturing twine, consisting in giving to the roving or thread a preliminary twist, flattening the same between rolls, and rolling up and twisting the flattened thread, and winding it on spools or bobbins, and then sizing and drying the same, substantially as set forth. 3rd. The method herein specified of sizing and rounding up twine, consisting in passing the twine through the sizing rolls, squeezing out the surplus moisture by passing the twine between rolls, and then rounding up the twine that has become flattened by the action of the rolls, by passing such twine into grooves having semicircular bottom surfaces, and pressing the twine into such grooves, substantially as set forth. 4th. The combination, with the sizing vat, squeezing rolls for sizing twine and pressing out the surplus moisture of one or more grooved rolls, the bottoms of the surplus being semi-circular, and a weighted presser grooved upon its surface for pressing the twine against the grooved roll, substantially as set forth. 5th. The combination, with the sizing vat, and squeezing rolls for sizing twine, of a grooved roll over which the twine passes, the drying chamber for drying the twine, and a beam round, substantially as set forth. 6th. The respective twines are wound, substantially as set forth. 7th. The herein described combination of steps in the manufacture of twine, consisting in sizing the same, pressing out the surplus moisture, rounding up the twine to obliterate the flattening caused by the squeezing rolls, drying the twine, winding the same upon a beam, re-winding the separate pieces of twine upon spools, and then winding the twine from the spools into balls, substantially as set forth.

No. 30,647. Indicator for Hotels.

(*Indicateur pour les hotels.*)

Roch R. Gareau, Detroit, Mich., U.S., 28th January, 1889; 5 years.

Claim.—1st. In a device for the purpose described, the combination of the frame or case, divided into compartments or boxes, provided with doors adapted to close and disclose such compartments, of a slit provided in each compartment, and of a series of indicating devices displayed on such door for the purpose of indicating the number of the room, the floor on which said room is located, and the name of the occupant, and the time indicating devices, substantially as and for the purpose described. 2nd. In a combined indicator for hotels, the combination of a frame or case divided into compart-

ments or boxes, provided with doors adapted to open and close such boxes, of a slit into each compartment, and of the indicating devices displayed upon the door, consisting of the clock dial with the indicator hands, the variable room number, the name or card space provided for and the series of rollers L, M and N, substantially as and for the purpose described. 5th. The combination in an indicator for hotels, provided with a series of compartments or boxes adapted to indicate the absence or presence of the occupant of the room indicated on said compartment or box, a tape or ribbon displayed on the face of said compartment or box, mounted on rollers and provided with a series of numbers for changing the number of the room, substantially as and for the purpose described.

No. 30,648. Engine. (*Machine à vapeur.*)

The Duke Engine Manufacturing Company (assignee of William F. Duke), Grand Haven, Mich., U.S., 28th January, 1889; 5 years.

Claim.—1st. In an engine, the combination, with a casing and a piston reciprocating therein, of a second piston arranged within, and having a reciprocating motion at right angles to the line of movement of the first named piston, the outer face of the said second piston forming a valve for operating both pistons, substantially as described. 2nd. In an engine, the combination of a casing, having a central opening in the inner surface of its front plate, a piston reciprocating therein, a second piston arranged within and having a reciprocating motion at right angles to and line of movement of the first named piston, and provided with ports on its outer face, said ports being arranged in a circle and operating over the said central opening of the casing, substantially as herein shown and described. 3rd. In a steam engine of the class described, the combination, with an inner piston having steam ports arranged in a circle, of a cover having a central opening and an annular opening adapted to register with the said ports, substantially as shown and described. 4th. In a steam engine of the class described, the combination, with an inner piston provided with the ports i_1 , i_2 and i_3 , of an outer piston having the openings k and k' connecting with the said ports i_1 and i_2 , and a casing surrounding the said outer piston, substantially as shown and described. 5th. In an engine of the class described, the combination, with a casing and a steam chest held on the said casing, of a piston mounted to slide horizontally in the said casing, packing plates held at the back of the said piston, and pressed against the back of the said casing by live steam passing from the said steam chest through suitable openings in the casing between the said packing plates and the said piston, substantially as shown and described.

No. 30,649. Pointing and Cutting off Die.

(*Etampe à faire les pointes et découper.*)

The American Screw Company (assignee of Charles D. Rogers), Providence, R.I., U.S., 28th January, 1889; 15 years.

Claim.—1st. A cutting-off die of the class hereinbefore described, having its working face provided with a point-forming recess, and also having a cavity arranged to produce a convex-shaped end upon the wire, substantially as set forth. 2nd. A combined pointing and cutting-off die, having a cone-shaped cavity, and a concave recess communicating with said cavity formed in its working face, and having the circumscribing edges of the die cavities adapted for cutting, substantially as shown and described and for the purpose hereinbefore set forth. 3rd. In a machine for making wood-screw blanks, the combination, with wire-feeding mechanism, a mounted heading-die and actuated heading hammers, or a pair of reversely mounted and actuated cutting-off dies, having the working faces constructed to engage the wire and reduce it to a cone-shaped form, and, at the same time, sever the blank and produce a convex shape on the end of the wire contiguous to the blank's point, preparatory to upsetting the metal into the heading-die, substantially as hereinbefore described. 4th. The combination in a screw-blank machine, of a mounted solid heading die, and two suitably mounted cutting-off and swaging dies A, having the working or meeting faces thereof provided with a cone-shaped recess or mould r , communicating with or in close proximity to a concave recess r' formed in the lower edge of the dies, substantially as shown and described and for the purpose hereinbefore set forth.

No. 30,650. Ice Creeper.

(*Grappin de chausure.*)

Donald Munro and Andrew Hislop, Pictou, N.S., 28th January, 1889; 5 years.

Claim.—An ice creeper, comprising a plate A, having an offset at both ends, provided with a notch d , a lever B having a prong b at right angles, and pivoted through the angle to said plate, substantially as set forth.

No. 30,651. Glass Bevelling Machine.

(*Machine à chanfreiner le verre.*)

Alonzo Langlais and A. Ramsay and Son, Montreal, Que., 28th January, 1889; 5 years.

Claim.—1st. In a glass bevelling machine, the combination of framework supporting tracks, a movable carriage adapted to travel along same, hangers suspended from such carriage, a table carried in such hangers on which glass plates are placed, a grinding disc in stationary bearings, and means for giving said carriage reciprocal motion, whereby the glass plates are subjected to the action of such disc. 2nd. In a glass bevelling machine, the combination of framework supporting tracks, a movable carriage adapted to travel along same, hangers suspended from such carriage, a table supporting the glass plates carried axially in such hangers, and being capable of adjustment at various angles, means for securing such adjustment, a grinding disc in stationary bearings and means for giving the aforesaid carriage reciprocal motion, whereby the glass plates are subjected to abrasion from the under surface of said disc. 3rd. In a glass bevelling machine, the combination, with a frame work supporting tracks, a movable carriage travelling on same and hangers suspended

from said carriage, a shaft carried in movable blocks, capable of adjustment in said hangers, and means for obtaining such adjustment, of a table for supporting the glass plates mounted eccentrically on such shaft, and an adjustable counterpoise adapted to counterbalance the preponderance of table on one side of its axis, and secure the pressure of the glass plates against the face of the grinding disc.

4th. In a glass bevelling machine, the combination of a frame A, tracks a, a carriage B, hangers B₂ and blocks c, c, working in same, means for adjusting said blocks, shaft C₁ carried by said blocks, table C₂ mounted on such shaft, means for imparting to said carriage reciprocal motion, and means for governing such reciprocal motion, all substantially as herein shown and described.

5th. In a glass bevelling machine, the combination, with carriage B, means for imparting to it reciprocal motion, and means for governing such motion, of cut-off mechanism, substantially as shown and described, consisting of dog M, lever O and pin O₁ on same.

6th. In a glass bevelling machine, a grinding disc mounted on a rotating shaft set at an angle in stationary bearings, the grinding face being on the underside of said disc.

7th. In a glass bevelling machine, a grinding disc mounted on a rotary shaft, set at a compound angle in stationary bearings, the grinding face being on the under side of such disc and bevelled to compensate for the tilt that is imparted to such shaft to secure the compound angle.

8th. In a glass bevelling machine, the combination, of the rotating shaft e mounted in bearings, and hub F₂ arranged on such shaft, as and for the purpose described.

9th. In combination with the shaft e, carried in bearings, the cover H, as and for the purpose described.

No. 30,652. Cornice for the Interior of Dwelling-Houses and other Public and Private Edifices. (*Corniche d'intérieur de maisons et autres édifices publics et privés.*)

Henry N. Black, Woodstock, N.B., 29th January, 1889; 5 years.

Claim.—1st. The general device and form for cornices, constructed or prepared leather-bound, and materials hereinbefore mentioned. 2nd. The adapting and method and manner of adapting the several kinds of materials hereinbefore mentioned for interior cornices, substantially as and for the purposes hereinbefore set forth.

No. 30,653. Store Service Apparatus. (*Appareil de service de magasin.*)

Hubert Herbert, Lake Linden, Mich., U. S., 29th January, 1889; 5 years.

Claim.—1st. In a store service apparatus, the combination, with a carrier provided with two open bottom compartments, of a bottom for alternately closing the lower ends of the compartments carried by the carrier, and means for preventing the bottom from moving with the carrier as it nears the end of its route, substantially as described.

2nd. In a store service apparatus, the combination, with a track, of a carrier provided with two compartments, and a bottom adapted to close said two compartments alternately, substantially as shown and described.

3rd. In a store service apparatus, the combination, with a carrier provided with two open bottom compartments, of a bottom fitted to slide on the carrier, and provided with downwardly projecting lugs, and a stationary plate with which the lugs of the bottom engage to prevent it from moving with the carrier, substantially as described.

4th. In a store service apparatus, the combination, with a track, of the carrier D provided with the plate E, having the upwardly-projecting lugs K, K₁, and on which are mounted the wheels F travelling on the track, the springs L, L₁ for engaging the lugs K, K₁ of the carrier, the pivoted and spring held levers N, N₁ and the cords O, O₁, substantially as herein shown and described.

5th. In a store service apparatus, the combination, with a carrier, provided with two compartments, and a track on which the said carrier is held to travel, of a spring catch at each end of the track for locking the said carrier in place at either end of the track, a spring operating on the said carrier to force it from one end of the track to the other, a lever acting on the said spring to give it the necessary tension, a rope connected with the said lever, a block secured on the said rope, and adapted to operate on the said spring-catch, so as to release the carrier after the said spring has received the necessary tension, and a second rope connected with one of the said ropes and extending to the other end of the track, substantially as shown and described.

6th. In a store service apparatus, the combination, with a track and two fixed plates held at either end of the said track, of a carrier provided with two compartments and travelling on the said track, and a bottom adapted to close alternately the lower ends of the said two compartments, said bottom being held to slide on suitable guideways secured to the said two compartments, substantially as shown and described.

7th. In a store-service apparatus, the combination, with a track and two fixed plates held at either end of the said track, of a carrier provided with two compartments and travelling on the said track, a bottom adapted to close alternately the lower ends of the said two compartments, said bottom being held to slide on suitable guideways, secured to the said two compartments, and vertically sliding bolts operated by the said plates and adapted to lock said bottom in place under either compartment, substantially as shown and described.

No. 30,654. Stamping Device for Cuff Blank, Hem-folding and Cutting Machines. (*Appareil à étamper pour les machines à plier les ourlets et tailler les manchettes.*)

Fred B. Ide, Troy, N.Y., U.S., 29th January, 1889; 5 years.

Claim.—1st. The combination, with the pressing roller R₁, the rollers R₂ and R₃, of the roller O made with the recess M in the cylindrical face thereof, the type-holder D constructed with the spring I arranged in said recess, and the inking roller I, constructed and arranged to operate substantially in the manner as and for the

purposes set forth. 2nd. The combination, with the roller O, made with the recess M, of the type-holder D constructed with the leaf spring L, and the ink-roller I arranged with reference to said roller O, substantially as and for the purpose set forth. 3rd. The combination, with the roller O, made with the recess M in its cylindrical face, of the type-holder D constructed with the leaf spring L, journals J and rod A, the ink-roller I and the hot-roller R₂ arranged with reference to said roller O, substantially as and for the purpose set forth.

No. 30,655. Method of Making Apparel Cuffs. (*Mode de fabrication des manchettes de vêtements.*)

Fred. B. Ide, Troy, N.Y., U.S., 29th January, 1889; 5 years.

Claim.—The method of making apparel cuffs herein described, and consisting of cutting the two exterior cuff facings of the same size, hemfolding their side edges, placing the two facings together with their hemfold edges reversed, with the hemfold of the facings forming the cuff exterior when worn, embracing the edges of the ply placed over said facing, and then stitching the blanks as laid to connect the parts, then turning them through one of the open sides, and border stitching the ends and sides, for the purposes set forth.

No. 30,656. Bag Lock. (*Serrure de sac.*)

Thomas W. Harrison, Topeka, Kan., U.S., 29th January, 1889; 5 years.

Claim.—1st. In a bag lock, the combination, with the side A, and the side B having an oblong opening, of the lock-bolt C having an oblong head, and a spring having a locking-lug which is adapted to engage with the said bolt, substantially as and for the purpose described. 2nd. The combination, with the side A, the side B, the lock-bolt having a longitudinal opening, and side openings, and the springs having locking-lugs, of the key composed of two members pivoted together, and having oppositely-disposed extensions to enter the lateral openings in the said bolt, substantially as and for the purpose described. 3rd. The combination, with the side A, and the side B, having an oblong opening b, the recesses 23 and the lateral openings b₁, of the springs 22 having locking-lugs, and the lock-bolt having openings in its side to receive the said locking-lugs, substantially as and for the purpose described. 4th. The combination of the sides A and B, the springs 22 having locking-lugs, the lock-bolt having a longitudinal bore, and lateral openings, and the key composed of two members pivotally connected together midway of their ends, the front ends of the members extending parallel and terminating in oppositely-disposed extensions, and the rear ends of the members curving in opposite directions to form a circle, one end having a socket and a spring, and the other end having a tenon which is adapted to enter the said socket, substantially as and for the purpose described.

No. 30,657. Oar Lock. (*Toilette.*)

Warren R. Briggs and Frank C. Lyon, Bridgeport, Conn., U.S., 29th January, 1889; 5 years.

Claim.—1st. In an oar lock, the recesses thole pin, in combination with a spring catch secured therein, and adapted to lock said pin within its socket, substantially as set forth. 2nd. In an oar lock, the combination, with the socket, of the thole pin carrying a spring adapted to lock automatically underneath said socket, whereby the oar lock is secured as against retraction, substantially as shown and for the purposes set forth.

No. 30,658. Photographic Process for Printing in Colors. (*Procédé photographique pour imprimer en couleurs.*)

Johann C. Hösch, Vienna, Austria, 29th January, 1889; 5 years.

Claim.—The process for reproducing colored copies of originals by first taking a photographic negative from the original, and taking from this negative a number of glass positives, and preparing the same by means of transparent and opaque varnishes for each color, then transferring said prepared glass positives into glass negatives by the ordinary photographic process, and retouching the reversed portions, and then printing the sheets from said negatives successively, substantially as herein described.

Fo. 30,659. Composition of Matter to be used as a Medicine. (*Composition médicinale.*)

Camillus E. Bizzozero and Ernest Bizzozero, Quincy, Mass., U.S., 29th January, 1889; 5 years.

Claim.—The herein described composition of matter, consisting of alcohol, centaury, yarrow, angelica, calamus, cinnamon, myrrh, aloes, vanilla, cloves, nutmeg, and camphor, combined in about the specified.

No. 30,660. Envelope Machine. (*Machine à enveloppes.*)

Louis P. Bouvier, Toronto, Ont., 29th January, 1889; 5 years.

Claim.—1st. A gum-dish supported above the pile of blanks, in such a manner that the top blank is held in contact with the bottom of the dish through which an opening is made, to permit the gum in the dish to fall through onto the top blank, in combination with fingers arranged in connection with a reciprocating frame, whereby each blank as it is raised by the picker is gripped by the fingers and carried towards the folder, substantially as and for the purpose specified. 2nd. The gum-dish D having an opening a formed in it, in combination with the plate b connected to and operated by levers so arranged that the tilting of the dish shall cause the plate b to close the opening a, substantially as and for the purpose specified. 3rd.

The finger L fixed to the reciprocating bar G, and the finger M carried by the journalled rod N actuated by the spring P, in combination with the dog Q, pivoted finger R, and finger I, arranged substantially as and for the purpose specified.

No. 30,661. Tool Head and Handle.

(*Tête et manche d'outil.*)

Frederick Latulip, Syracuse, N.Y., U.S., 29th January, 1889; 5 years.

Claim.—The herein described tool head or handle, as an improved article of manufacture, having grooves, serrations, or inequalities in its periphery, and provided with one or more rawhide caps to serve as ferrules formed permanently and directly upon one or both of its ends, and shrunk into said serrations or inequalities, as set forth.

No. 30,662. Faucet. (*Robinet.*)

Albert P. Howes, Worcester, Mass., U.S., 29th January, 1889; 5 years.

Claim.—1st. A faucet having a primary valve that closes in the direction of the flow, an auxiliary valve or cup provided with small orifices in its side, arranged over said valve, and fitting an annular seat around the primary valve-seat, and having a chamber above the valve from which the liquid is forced by the action of opening the valve, and into which liquid must return through limited space as the valve closes, for the purpose set forth. 2nd. The combination, substantially as described, with the faucet-body, or shell A, having the valve seat *a*, inlet passage *m*, and discharge passage *at*, of the valve poppet B, the cup *c* arranged over said valve, with its flange extending downward and surrounding said valve-poppet, and having the chamber E between said cup and valve, substantially as and for the purpose set forth. 3rd. The combination, substantially as described, of the faucet-body A having the valve seats *a*, *a3*, the valve-poppet B, having the dependent spindle B₁, and auxiliary disk B₂, the cup C having orifices *c* in its side arranged over said valve, and closing upon the seat A₃ around said valve, and a movable discharge nozzle having a stop that engages the valve-spindle, for the purpose set forth. 4th. The combination, substantially as described, of the shell A, valve-poppet B, cup C inverted over and surrounding said valve-poppet, movable nozzle D, sliding upon the body extension A₁, having the engaging step F arranged across the interior of said nozzle below said extension, the lever I fulcrumed on a projection of the body at K, with its ends engaging a projection upon the exterior of said nozzle, for the purpose set forth. 5th. In a faucet, the cup C provided with a shoulder or lug C₁ disposed for engaging with the valve-poppet at an intermediate point in its movement, to lift the flange of the cup from its seat *a2*, as described, in combination with the valve-poppet, poppet-lifter, discharge-nozzle, and faucet-body, whereby the faucet is adapted for delivering the liquid in greater force and volume, substantially as set forth. 6th. The combination, with the valve B, and valve-operating nozzle D, of the bearing step provided with an adjusting screw-stud F, for the purpose set forth. 7th. The bridge or bearing-step F₁, separately constructed with the ends of its arms slightly inclined, in combination with the faucet-body A, valve B, and valve-operating nozzle D internally bored, with an intermediate bevelled surface to match the end of said arm, and against which said arms are wedged for retaining the step in position, as set forth. 8th. In a faucet wherein the valve is lifted by a step in connection with the discharge-nozzle, the valve-stem having a cavity *f* in its lower end, and the adjustable supporting stud F having its point *f* of less diameter than said cavity, in combination with the valve-operating step, and discharge-nozzle, substantially as described and for the purpose set forth. 9th. In a faucet wherein the valve is lifted by a step in connection with the discharge nozzle, the combination of the cup C, with the spindle B₁, valve B provided with the plate *b*, disk B₂ provided with the projection 45, and nut B₃, substantially as described. 10th. In a faucet of the character described, the valve B provided with the plate *b*, the disk B₂, nut B₃, and stem B₁, combined and arranged to operate substantially as set forth.

No. 30,663. Steam Engine Valve.

(*Souape de machine à vapeur.*)

Andrew Tolton, Guelph, Ont., 29th January, 1889; 5 years.

Claim.—1st. A cylindrical valve A having ports E and H, as described, and fitted into a correspondingly-formed chamber having a steam-space K surrounding it, and steam-ports C and D leading to the ends of the cylinder, substantially as and for the purpose specified. 2nd. A cylindrical valve A having ports E, communicating through the ports F, with the steam-chest G, and with the exhaust-chamber I through the exhaust ports H, in combination with the cut-off sleeve M having ports N to correspond with the ports F, the said sleeve being operated by a governor or lever, substantially as and for the purpose specified. 3rd. The tapered cylindrical valve A fitted into a correspondingly-shaped chamber, and provided with ports, as described, in combination with the set-screw L, arranged substantially as and for the purpose specified. 4th. The combination, with a revolving cylindrical valve having suitable steam and exhaust ports, to communicate with the engine-cylinder parts, of an adjustable sleeve fitted onto the said cylindrical valve, and having ports to communicate with the ports of the latter.

No. 30,664. Water Motor. (*Moteur à eau.*)

Henry E. Trumbull, Kalamazoo, Mich., U.S., 29th January, 1889; 5 years.

Claim.—1st. The combination of a suitable flume or support, a vibrating piston, and the adjustable stop-gates hinged in the induction port, substantially as set forth. 2nd. The combination of a suitable flume, a jointed vibration piston therein, and an automatic valve in the exhaust port, substantially as set forth.

No. 30,665. Process of and Apparatus for the Manufacture of Gas. (*Procédé et appareil de production du gaz.*)

Alexander M. Sutherland, New York, N.Y., U.S., 29th January, 1889; 5 years.

Claim.—1st. The process of manufacturing illuminating gas, which consists in substituting gas coal, or other gas-producing substance, to heat in closed vessels or retorts, thoroughly breaking up and disintegrating and commingling the volatile products as they come off, and, while being disintegrated and commingled, reheating them in their finely divided condition at a lower heat than that to which they have previously been subjected, substantially as and for the purpose set forth. 2nd. The process of manufacturing illuminating gas, which consists in subjecting gas coal, or other suitable gas-producing substance, to heat in the usual manner, immediately disintegrating the products as they come off, reheating the same at a lower heat, and introducing oil and steam, substantially as and for the purpose specified. 3rd. In apparatus for making oil-gas, the combination, with an oil-feed, of retorts provided with disintegrating devices, and means for heating said retorts, the disintegrating devices, consisting of toothed or roughened partitions or auger-shaped sections, serving as triturating surfaces and commingling devices, substantially as described. 4th. In apparatus for manufacturing gas, the combination, with a main retort, with a supplemental retort, containing toothed or roughened partitions, and with means for heating said retorts, of an atomizing oil feed, substantially as described.

No. 30,666. Holdback. (*Ragot de limonière.*)

Daniel A. Camp, Barre, Vt., U.S., 29th January, 1889; 5 years.

Claim.—1st. The combination, with the case having the closed front, and also having standard G provided with the brace H, of the pivoted arms C, D, having the cam projection *d*, the spring *a* and cap E, said cap having an opening through which the standard G passes, substantially as and for the purpose hereinbefore set forth.

No. 30,667. Cake or Bread Beater.

(*Pétrin mécanique.*)

Samuel F. Stowe, Providence, R.I., U.S., 29th January, 1889; 5 years.

Claim.—1st. The combination, with the beater-chamber 4, provided with the zig-zag guideways 18, of the beater 8 working in said ways, and having means for operating the beater, whereby the zig-zag reciprocating motion about the horizontal axis is obtained, substantially as and for the purpose herein described. 2nd. The combination, with the beater-chamber 4, provided with the zig-zag guideways 18 and with the air vent 6, and the gate 22, of the beater 8 provided with the means for reciprocating the beater, substantially as and for the purpose herein described. 3rd. The combination, with the beater-chamber 4, provided with the ways 18 and the springs 21, of the beater 8 having the guide projections 19 working in the ways 18, and provided with the means for reciprocating the beater, substantially as and for the purpose herein described. 4th. The combination, with the beater-chamber 4, provided with the zig-zag guideways 18, and the beater 8 working in said ways, of the hand-wheel 12 and the connecting-rod 11, intermediate the wheel and beater, and the link 15 for supporting said rod, substantially as and for the purpose herein described.

No. 30,668. Bed Bottom. (*Sommier élastique.*)

Samuel J. Dickson, Chicago, Ill., U.S., 29th January, 1889; 5 years.

Claim.—1st. In a bed bottom, the combination, with the side frames, provided at opposite ends with suitable brackets, of a cross-bar C journalled in the brackets at one end of said frame, a stretching roller B journalled in said brackets and arranged above the cross-bar C, and provided with a suitable ratchet device, a roller B₁ journalled in brackets secured to the opposite end of said frame, and a continuous strip of canvas D, extending around the roller B₁ at one end of the frame, and secured at its ends to the cross-bar C, and roller B at the opposite end of the frame forming a double bottom, substantially as set forth. 2nd. The combination, with the roller B, provided at one end with a ratchet-wheel *h*, of a bracket F, provided with a socket *i*, having a marginal rim or flange *i* made slightly larger than the ratchet-wheel, and provided on a portion of its inner face with ratchet teeth *j*, which engage with the teeth of the ratchet-wheel *h*, substantially as set forth. 3rd. The combination, with the frame of the bedstead, the roller B₁ and cross-bar C, having angular ends of the stretching-roller B, provided at one end with a ratchet-wheel *h*, a bracket F₁ provided with angular and round sockets *l*, *p*, for receiving one end of said stretching roller and cross-bar, and a bracket F provided with an angular socket *f*, for receiving the opposite end of the cross-bar C, and with a socket *i*, supporting the opposite end of the stretching roller, and having internal teeth *j*, substantially as set forth.

No. 30,669. Spring Seat for Vehicles, and Spring Foot Rest or Spring Bottom for such Vehicles. (*Siège et appui-pieds ou sommier élastiques pour voitures.*)

Lewis Warren, McGrawville, N.Y., U.S., 29th January, 1889; 5 years.

Claim.—1st. In a spring seat of a side bar vehicle, the combination of the seat or seat frame, the front springs serving as made of spring bars of wood or metal, the rear springs made of two or more separate metal springs, suitably shackled or pivoted to the seat or seat frames and fastened or attached at their rear ends to the side bars, so as to be in contact at such rear ends, but separating at a suitable point at or above the side bars of the vehicle, substantially as shown and described for the purpose hereinbefore set forth. 2nd. In a side bar vehicle, the combination, with the seat and side bars, of the front and rear springs, each composed of two leaves secured at different

points to shackles attached to the seat and to side bars by means of suitable clips, substantially as specified. 3rd. In a side bar vehicle, the combination of the springs V and U, supporting the bottom of the vehicle, whereby spring motion is communicated in said bottom, substantially as and for the purposes shown and described.

No. 30,670. Combined Hot Water and Hot Air Heating Furnace. (*Calorifère à eau et à air.*)

William St. Croix, Toronto, Ont., 29th January, 1889; 5 years.

Claim.—1st. The cylindrical coal feeder and water heater letter A, Fig. 5, combined in one arrangement, substantially as described above, and shown on the several figures of the drawings accompanying this specification. 2nd. The coal shute or feed box letter B, Fig. 5, arranged with the ventilator in the door thereof, letter J, with the slide H at the bottom thereof, and the gas escape G at the top thereof, all shown on figure. 3rd. The gas tight joint or attachment of the cylinder to the furnace, as above described and shown in the drawings, letters E and F, Fig. 4, also the mode of placing the coal feeder and water heater A into the furnace without fastenings, so that the same may be lifted out of the furnace and replaced again at pleasure without difficulty or injury to the furnace. 4th. The combination of hot water and hot air generators in one furnace, as shown, and described in this specification and in the accompanying drawings, all substantially as set forth.

No. 30,671. Horse Boot. (*Bottine de cheval.*)

Peter J. Schild, Frank L. Schild and Charlie C. Schild, Ionia, Mich., U.S., 29th January, 1889; 5 years.

Claim.—1st. In a hoof boot, the clamp C adapted to receive the front portion of the casing, and the strap C' secured thereto, substantially as and for the purpose described. 2nd. In combination with the casing A, provided with the curved recess, of the strap C' and secured thereto and to clamp C, curved throughout its length, and consisting of the sides c' and c2, and formed integral with the clamp and adapted to receive the front of the casing A, substantially as described. 3rd. The combination of the metallic sponge-lined casing A, provided with the curved recess a, the strap connecting the ends of the casing, the clamp and toe strap formed integral with each other, the sponge lined pad attached to the strap connecting the ends of the casing, the strap H and the rubber tube I surrounding said strap H, substantially as and for the purpose described.

No. 30,672. Wood-Working Machine. (*Machme à travailler le bois.*)

Samuel F. Tibbets, Biddeford, Me., U. S., 29th January, 1889; 5 years.

Claim.—1st. The cutting tool J, to which a rotary motion is imparted, in combination with the tool-holder G supported by a block H, adjustable on plate I in front of the machine, an oscillating motion being imparted to the tool-holder G, substantially as shown and described. 2nd. The tool-holders G, carrying rotating cutting-tools J, in combination with bars q, sliding blocks n, sliding bar l, bar k and disk j mounted on shaft i, that also carries drum h driven by belt v for imparting a horizontal oscillating motion to the tool-holders, substantially as shown and described. 3rd. The oscillating tool-holders G, supported by blocks H, adjustable on plate I in front of the machine and carrying rotating cutting tools J, in combination with the pulleys K, belts Q, drums L mounted in frames M, belt A1, tightening pulley B1 and pulley S, for imparting a rotary motion to the cutting tools J, substantially as shown and described. 4th. The angle-iron table B, working in guides C, in combination with bar D, arms E mounted upon shaft F, to which an intermittent rotary motion is imparted for lowering the table, and levers W and springs X, for returning the table to its normal position, substantially as shown and described. 5th. The pinion x, mounted on shaft Z, to which a rotary motion is imparted, in combination with the lever Y, provided with recess y1 and pin y2, bar y11, provided with a pin y12, and eccentric 4 on shaft F, and spring 6 for throwing the pinion x into and out of gear with the wheel y, on shaft F, substantially as shown and described. 6th. The clamping device, consisting of a rectangular piece 15, hollow block 16, with a space 17 between, to fit onto the angle iron table B, and a slide 18 provided with an arm 19, for attachment to a lever fulcrumed at 20, the front end of the slide being provided with a toothed plate 21, substantially as shown and described.

No. 30,673. Spark Arrester. (*Arrête-étincelle.*)

Robert H. Coleman, Cornwall, Penn., U. S., 31st January, 1889; 5 years.

Claim.—1st. In a spark arrester, the combination of a deflection plate between the flue sheet and the exhaust nozzle, a channel plate provided with a screen and a valve, as f, or damper for covering said screen, a dead plate in front of the exhaust nozzle, and a baffle plate projecting forward of the dead plate, substantially as described. 2nd. In a spark arrester, the combination of a deflection plate between the flue sheet and the exhaust nozzle, a channel plate provided with a draft opening, and a valve, as f, for controlling it, a dead plate, an extended passage for the draft, a baffle plate and a screen between the baffle plate and the well of the smoke box, substantially as described. 3rd. In a spark-arrester, the combination of a deflection plate, a channel provided with a section of wire gauze and a draft opening valve, as f, h, i, for controlling said section and opening, and a baffle plate projecting from its upper end, a dead plate and a wire gauze section between the baffle plate and the crown of the smoke box, substantially as described.

No. 30,674. Scaffold Bracket. (*Boulin d'échafaud.*)

James A. Long, Spokane Falls, W. T., U. S., 31st January, 1889; 5 years.

Claim.—The combination, with the brace A formed of a Y-shape strip of flat iron, having apertured flanges at its free ends, and having transverse apertures through the opposite spaced ends of its side arms, a transverse strip bolted to the flanges, and hooks B secured by the same bolts, of the transversely-apertured brace-rod C passed between the spaced ends of the brace A, the pin D connecting said rod and brace, and the clip E formed of a transverse rod E, extending through the lower end of the brace-rod C, and having hooks at its opposite ends, substantially as set forth. 2nd. The combination, with the brace A, composed of the arms a, the free ends of the arms being provided with hooks B, and their other ends spaced and provided with apertures, of the brace-rod C, provided with the apertures c, and having its other end headed, the lock bolt D and the clip E provided with hooks e and bend e2, substantially as shown and described.

No. 30,675. Spark-Arrester for Coal Burning Locomotives and other Engines. (*Arrête-étincelle pour machines locomotives consommant le charbon et autres.*)

Robert H. Coleman, Cornwall, Penn., U.S., 31st January, 1889; 5 years.

Claim.—1st. In a spark-arrester, the combination of a deflection plate between the tube sheet and the exhaust nozzle, a channel plate and a dead plate on the opposite side of the nozzle, substantially as described. 2nd. In a spark-arrester, the combination of a deflection plate between the tube sheet and the exhaust nozzle, a channel plate, a nozzle plate between the deflection plate and the channel plate, a dead plate, a baffle plate and an extended passage formed by the channel plate, and the dead plate, substantially as described. 3rd. In a spark-arrester, the combination of a deflection plate, a channel plate, a dead plate, a baffle plate, and a screen between the upper end of the channel plate and the wall of the smoke box, substantially as described. 4th. In a spark-arrester, the combination of a deflection plate, a channel plate provided with a perforated section or wire screen, a dead plate, a contracted passage between the channel plate and the dead plate, a baffle plate, and a screen between the upper end of the channel plate and the wall of the smoke box, substantially as described.

No. 30,676. Moulding Coal Dust or Small Coal into Solid Blocks. (*Aggloméré de charbon.*)

William H. Lindsey, London, Eng., 31st January, 1839; 5 years.

Claim.—1st. In the compressing machine making the cylinder capable of sliding away from the crank axis and restraining it by springs, substantially as described. 2nd. The manufacture of blocks of artificial fuel from small coal or coal dust by heating such coal, and after admixing therewith about 1 per cent. of sugar, or other saccharine matter, compressing it into blocks, substantially as described. 3rd. The manufacture of blocks of artificial fuel from small coal or coal dust, by admixing such coal with about 5 per cent. of lime and compressing it into blocks, after having previously moistened it with water in which sugar or other saccharine matter is dissolved, substantially as described.

No. 30,677. Rheostat or Resistance for Electric Circuits. (*Rhéostat ou résistance pour circuits électriques.*)

The Thouson-Houston International Electric Company, Boston, (assignee of Edwin W. Rice, Jr., Lynn), Mass., U.S., 31st January, 1889; 5 years.

Claim.—1st. In an electric resistance frame, the combination of a series of conducting pins or studs projecting inward from a suitable support, and cast in one piece, with contact-plates C arranged upon the outer face of the support, a second set arranged parallel with the first, and electric resistance strips or pieces supported by said studs and bridging the space between the sets. 2nd. In an electric resistance frame, the combination of a series of conducting pins or studs projecting inwardly from a suitably supported plate, a second set of pins arranged parallel with the first but insulated therefrom, a continuous resistance strip or wire strung upon the two set of studs and bridging the space between the two sets, and a series of switch contacts cast in one piece with the conducting pins, and arranged upon the outer face of the support, as and for the purpose described. 3rd. In a rheostat, the combination, with two set of pins or studs arranged in circles, one within the other, of a set of contacts connected with the pins of one set, a contact arm or circuit-closer adapted to move over the same, and an electric resistance wound upon the two sets of pins, and in electric connection with the pins connected with the contacts, as and for the purpose described. 4th. In an electric resistance frame, the combination of two sets of pins or studs projecting from the same side of a suitable support, and arranged in circles, one set of pins being of conducting material and electrically disconnected from the other set except by the conductor forming the electric resistance, and a set of contacts connected with the conducting pins or studs. 5th. The combination, with a base plate, of a disk-plate or annulus supported thereon, and having a series of pins or studs projecting from its under surface toward the base plate, a second plate of insulating material carrying a series of conducting pins or studs also projecting toward the base plate, a series of contacts mounted on the insulating plate and electrically connected with the conducting pins or studs, and an electric resistance supported between the pins of the two series, as and for the purpose described. 6th. An electric resistance-frame consisting essentially of a base-plate, a superposed supporting table or plate separated from the first by a free air space, two sets of pins projecting into said space at right angles to the base, one set being of conducting material, a series of contacts mounted on the face of the table or outer plate and severally connected with the pins of conducting material, and an electric resistance supported by the two sets of pins, and bridging the space between the two sets. 7th. In an electric resistance frame,

a series of contact blocks C mounted on an insulating board or plate B, and having pins or studs L formed integral with them, and projecting through said board into the space between the latter and the base plate, as and for the purpose described. 8th. In an electric resistance-frame, the combination of a base plate, a superposed disk or plate I having a series of pins projecting inward from it and cast integral with it, a board or plate of insulating material B carrying contact blocks, and studs L of conducting material, projecting inward toward the base board, and a continuous electric conductor wound to and fro upon the two sets of pins and across the space between the sets, as and for the purpose described. 9th. The combination, with a suitable base board, of a disk or annulus I of iron, having a series of pins P projecting downward from the same, a plate of insulating material supported over an opening in the centre of the plate I, and carrying a series of conducting pins or studs projecting inward from it, and electrically connected with blocks or studs mounted on the base of the plate, and an electric conductor strung across the space between the two sets of pins, as and for the purpose described.

No. 30,678. Hand Fence Machine.

(*Machine à clôture à bras.*)

The Gilchrist Manufacturing Company, Chicago, (assignee of Matthew F. Connett, Jr., Peoria), Ill., U.S., 31st January, 1889; 5 years.

Claim.—1st In fence-machines, a wire-carrier mounted within and upon a guide-ring, and adapted to travel along said ring when the latter, without rotation on its centre, is moved bodily in the proper direction, whereby the wires borne by the carrier are intertwisted to any desired extent. 2nd. A fence-machine, comprising one or more annular guide-frames, and a wire-carrier mounted and revoluble in each of said frames respectively, whereby the curvilinear bodily motion of the frames may cause each carrier to travel around the corresponding frame twisting the wires. 3rd. In a fence-machine, an annular guide-frame and a wire-carrier mounted upon and rotating in said frame to twist the wires, said frame being discontinuous to permit the wires to pass laterally into the space enclosed by the frame. 4th. In fence-machines, a wire-carrier, a broken annular guide-frame encircling and forming a track for said carrier, and means whereby a segment of said frame or track may at will be removed or be fixed in position to form a part of said frame, substantially as set forth. 5th. In fence-machines, a guide-frame of annular form, and a wire-carrier mounted therein and revoluble in the plane thereof, said carrier being provided with anti-friction rollers bearing against the surface of the frame and maintaining the position of the carrier, substantially as set forth. 6th. The broken ring D, and the carrier mounted therein at a fixed distance from said ring's inner surface, said carrier being adapted to move along the inner surface of the ring, and thus twist the wires when the ring is given proper bodily curvilinear motion in its own plane. 7th. In a fence-machine, a guide-ring from which a small segment is removed, and a wire-carrier mounted in said ring and using it as a track in rotation therein, said carrier forming three sides, and the ring itself the fourth side, of a space for confining the wires, whereby, when the carrier is opposite the space of the removed segment, the wires may pass into or out of the carrier, substantially as set forth.

No. 30,679. Automatic Friction Coupling.

(*Embrayage à friction automatique.*)

Stanslaus Lentner and Co., (assignees of Emil Boehme), Breslau, Germany, 31st January, 1889; 5 years.

Claim.—1st. A friction clutch having the parts thereof engaged and disengaged by screws, operated substantially as hereinbefore described. 2nd. In clutches of the kind referred to, the combination, with the screws, of conical clutches, or of friction-wheels for actuating the screws, substantially as hereinbefore described. 3rd. In friction clutches, the combination, with the parts, of the clutch screws with hook-shaped heads carried by the one part which engage with projections on the other part, so that the said heads either run free of the projections or grip them when the screws are tightened by the rotation of the screw nuts, substantially as hereinbefore described. 4th. The combination of parts constituting the friction clutch operated to engage and disengage the parts, substantially as hereinbefore described.

No. 30,680. Dust Guard for Car Axle Boxes.

(*Garde-poussière pour boîtes à graisse de chars.*)

The Union Bearing and Lubricator Co., Portland, Me., U.S., (assignee of Louis Goullioud, Montreal, Que.), 31st January, 1889; 5 years.

Claim.—1st. The combination, with the back-plate A, of an axle box trued upon its rear face, of a supplementary plate B, with projection B' trued upon its inner face and secured to A, and a cork plate or disk mounted on axle and finished smooth, both sides interposed between the plates, as and for the purposes set forth. 2nd. The combination, with the back-plate A of an axle box, of the plate B secured to same, cork disk D mounted on axle between plate strap E encircling such disc, and means for tightening same, all substantially as herein described.

No. 30,681. Burglar Alarm.

(*Avertisseur de voleur.*)

Stephen S. Kimball, Montreal, Que., 31st January, 1889; 5 years.

Claim.—1st. A percussion burglar alarm consisting of a base plate, an alarm sounder, a sliding hammer with projecting arm, upper and lower transverse bearings for said hammer, a spring coiled about said hammer between said upper bearing and the projecting arm, and detents with which this latter may engage, substantially as shown and described. 2nd. In a burglar alarm, as above described, the base plate A, and detents D, D, of the shape shown, cast on same. 3rd. In a burglar alarm, as above described, the combination, with the base plate, of a projecting claw adapted to attach the alarm to the fixture desired, as shown and described.

No. 30,682. Toilet Paper. (*Papier de garde-robe.*)

Charles D. Chase, Northumberland, N.H., U.S., 31st January, 1889; 5 years.

Claim.—As an improved article of manufacture, a tissue or toilet paper formed with indentations or impressions, substantially as shown and described and for the purpose specified.

**CERTIFICATES OF THE PAYMENT OF FEES FOR FURTHER TERMS HAVE BEEN ATTACHED TO
THE FOLLOWING PATENTS.**

- | | |
|---|---|
| <p>1315. J. B. PIKE and S. T. MARTIN, 2nd 5 years of No. 18,507, from the 22nd day of January, 1889. Improvements on Dash Wheels, 7th January, 1889.</p> <p>1316. THE STEAM HEAT EVAPORATING CO. (assignee), 2nd 5 years of No. 18,424, from the 15th day of January, 1889. Improvement on Fruit Driers, 9th January, 1889.</p> <p>1317. J. and G. BRAKE, 2nd 5 years of No. 18,413, from the 14th day of January, 1889. Combined Condenser and Separator for Condensing and Separating the Vapor Eliminated from Petroleum Oils, 12th January 1889.</p> <p>1318. J. Q.C. SEARLE, 2nd and 3rd 5 years of No. 18,467, from the 16th day of January, 1889. Improvements on Apparatus for Warming Railway Cars and Buildings, 14th January, 1889.</p> <p>1319. R. L. HITCHCOCK, 2nd 5 years of No. 18,439, from the 15th day of January, 1889. Improvements in Farm Gates, 14th January, 1889.</p> <p>1320. J. B. ARMSTRONG, 2nd and 3rd 5 years of No. 18,611, from the 4th day of February, 1889. Improvements on Road Vehicles, 15th January, 1889.</p> <p>1321. T. WALKER and J. F. CARTER, 2nd 5 years of No. 18,430, from the 15th day of January, 1889. Improvements in Ore Roasting Furnaces, 15th January, 1889.</p> <p>1322. T. WALKER, 2nd 5 years of No. 18,468, from the 16th day of January, 1889. Improvements in Gold and Silver Amalgamators, 15th January, 1889.</p> <p>1323. N. D. FAIRCHILD, 2nd 5 years of No. 29,215, from the 28th day of May, 1893. Improvements in Washing Machines, 16th January, 1889.</p> <p>1324. U. K. MAYO, 2nd 5 years of No. 22,106, from the 18th day of July, 1889. Improvement in Anesthetics, 16th January, 1889.</p> <p>1325. J. PENNMAN, 2nd 5 years of No. 18,630, from the 7th day of February, 1889. Improvements in the art of Manufacturing Machine Knitted Stockings, 18th January, 1889.</p> | <p>1326. J. H. and C. F. PARKER and C. E. TINGLEY, 2nd 5 years of No. 18,528, from the 24th day of January, 1889. Improvements in Boots and Shoes, 19th January, 1889.</p> <p>1327. L. H. WATSON, 2nd 5 years of No. 18,515, from the 23rd day of January, 1889. Improvements in Preservatives for Organic Substances, and Process of Making the Same, 21st January, 1889.</p> <p>1328. D. R. CLYMER, 2nd 5 years of No. 18,678, from the 16th day of February, 1889. Improvements in Fire Escapes, 21st January, 1889.</p> <p>1329. THE REND ROCK POWDER CO. (assignee), 2nd 5 years of No. 18,497, from the 21st day of January, 1889. Improvements in Explosive Compounds, 21st January, 1889.</p> <p>1330. T. GINGRAS, 2nd 5 years of No. 18,525, from the 23rd day of January, 1889. Improvements in Leather Washers and Machinery for Manufacturing the Same, 21st January, 1889.</p> <p>1331. W. J. HENLEY and S. T. AXTELL, 2nd 5 years of No. 18,539, from the 24th day of January, 1889. Improvements in Ice Boat Oars, 24th January, 1889.</p> <p>1332. S. PARISEAULT, 2nd 5 years of No. 18,557, from the 25th day of January, 1889. Improvements in Washing Machines, 25th January, 1889.</p> <p>1333. G. W. MILLER and H. G. HAINES, 2nd 5 years of No. 18,652, from the 8th day of January, 1889. Improvements in Railway Velocipedes, 28th January, 1889.</p> <p>1334. W. L. and H. L. and A. O. BEATTY, 2nd 5 years of No. 18,860, from the 30th day of March, 1889. Improvements in Hoisting Machines, 30th January, 1889.</p> <p>1335. F. B. HERZOG, 2nd 5 years of No. 18,706, from the 18th day of February, 1889. Improvements in Telephone Signalling Apparatus, 30th January, 1889.</p> |
|---|---|

JANUARY LIST OF TRADE MARKS.

Registered at the Department of Agriculture—Copyright and Trade Mark Branch.

3341. WILLIAM GODFREY LUMSDEN, of Hamilton, Ont., A certain medicine, 4th January, 1889.
3342. EDWIN HARRY PLUMMER, of Detroit, Michigan, U.S.A. A medical compound, 4th January, 1889.
3343. THE ST. HYACINTHE OIL AND PAINT CO., de St. Hyacinthe, Que. Peinture de toutes sortes, 5 Janvier, 1889.
3344. PIERRE PELLETIER, de Montreal, Que. Cigars, 10 Janvier, 1889.
3345. CHAPUT ET COMPAGNIE, de Montreal, Que. Cigares, 10 Janvier, 1889.
3346. CHAPUT ET COMPAGNIE, de Montreal, Que. Cigares, 10 Janvier, 1889.
3347. GEORGE JOHNSON, of Ottawa, Ont. Publication, 11th January, 1889.
3348. THE SMOKELESS POWDER COMPANY. (Limited), of 3 Great Winchester Street, London, England. Explosives, 11th January, 1889.
3349. DE GRUCHY & RAPHAEL, of Montreal, Que. Kid Gloves, 14th January, 1889.
3350. S. DAVIS & SONS, of Montreal, Que. Cigarettes, Cigars and Tobaccos, 16th January, 1889.
3351. D. RITCHIE & CO., of Montreal, Que. Cigarettes, Cigars and Tobacco, 16th January, 1889.
3352. D. RITCHIE & CO., of Montreal, Que. Cigarettes, Cigars and Tobacco, 16th January, 1889.
3353. D. RITCHIE & CO., of Montreal, Que. Cigarettes, Cigars and Tobacco, 16th January, 1889.
3354. D. RITCHIE & CO., of Montreal, Que. Cigarettes, Cigars and Tobacco, 16th January, 1889.
3355. SAMUEL PERRIN, of Lindsay, County of Victoria, Ont. Certain preparations for toilet purposes, for removing pimples, freckles, tan, eczema and all roughness from the skin, 18th January 1889.
3356. SAMUEL BRANN, of New York, U.S.A. A medicinal remedy, 21st January, 1889.
3357. VACUUM OIL COMPANY, of Rochester, New York, U.S.A. Lubricating Oils, 23rd January, 1889.
3358. CALVIN POMEROY REID, of Toronto, Ont. Tobacco, Cigarettes and Cigars, 24th January, 1889.
3359. WILLIAM DEAN, of Toronto, Ont. Medicine for the Cure of Rheumatic Sciatica, 25th January, 1889.
3360. WILLIAM JOHNSON, of Montreal, Que. Paints and colors, dry, ground in oil, or any other liquid, 29th January, 1889.
3361. VEUVE POMMERY, FILS ET CO., de Reims, France. Vins de Champagne, 29 Janvier, 1889.
-

COPYRIGHTS.

Entered during the month of January at the Department of Agriculture—Copyright and Trade Mark Branch.

4636. VIEWS OF PETERBOROUGH AND VICINITY, (as per application). Geo. B. Sproule, Peterborough, Ont., 3rd January, 1889.
4637. BELLS THAT ARE PEALING. Vocal Duet. English version by Nella. Music by Ch. Gounod. The Anglo-Canadian Music Publishers' Association. (L'd.), London, England, 5th January, 1889.
4638. THE MERCANTILE TEST AND LEGAL RECORD. Vol. XIX., No. 1., January 3rd, 1889. (periodical). Dun, Wiman & Co., Toronto, Ont., 5th January, 1889.
4639. IDYLWYLDE. Waltz. By J. B. Hutchins. Sydney Ashdown, Toronto, Ont., 5th January, 1889.
4640. HEROINE WALTZ. By Mrs. W. H. Ashley. Strange & Co., Toronto, Ont., 7th January, 1888.
4641. TRAITÉ ELEMENTAIRE D'HYGIÈNE PRIVÉE. Par le Dr. J. I. Durocher. Joseph Israël Desroches, Montreal, Que., 7 Janvier, 1889.
4642. UN PELERINAGE AU PAYS D'EVANGÉLINE. Par l'Abbé H. R. Casgrain. (livre). L. J. Demeres & Frère, Quebec, Que., 8 Janvier, 1888.
4643. COMMODORE JUNK. By G. Manville Fenn. (book). Wm. Bryce, Toronto, Ont., 9th January, 1889.
4644. AMOUR TROMPEUR. Romance pour Soprano ou Tenor. Paroles du Dr J. N. Legault. Music de A. Contant. Alexis Contant, Montreal, Que., 9 Janvier, 1889.
4645. TE DEUM. In Chant Form by Fred. W. Saffery. A. & S. Nordheimer, Toronto, Ont., 9th January, 1888.
4646. JOHNSON'S ALPHABET OF FIRST THINGS IN CANADA. George Johnson, Ottawa, Ont., 10th January, 1889.
4647. PLAN OF THE SIXTH WARD OF THE TOWN OF WINDSOR. George McPhillips, Windsor, Ont., 11th January, 1889.
4648. MUNICIPAL FINANCES AND ACCOUNTS AND RELATIVE LEGISLATION. By Wm. Powis, F.C.A., (book). William Powis, Toronto, Ont., 11th January, 1889.
4649. THE MERCANTILE TEST AND LEGAL RECORD. Vol. XIX. No. 2, January 10th, 1889. (periodical). Dun, Wiman & Co., Toronto, Ont., 11th January, 1889.
4650. CANADIANA. Vol. I., No. January, 1889. (magazine) Wm. John White, Montreal, Que., 11th January, 1889.
4651. MANUAL OF EVIDENCE IN CIVIL CASES. By R. E. Kingsford, M.A., LL.B. assisted by J. E. Hansford. Jeffrey Ellery Hansford, Toronto, Ont., 12th January, 1889.
4652. TRADE MARK CARD. John Harvie, Toronto, Ont., 14th January, 1889.
4653. THE STORM OF '92. A Grandfather's Tale told in 1932. By W. H. C. Lawrence, The Sheppard Publishing Co., (L'd.), Toronto, Ont., 14th January, 1889.
4654. FORT GARRY IN THE YEAR 1872. (picture), Washington Frank Lynn, Winnipeg, Man., 14th January, 1889.
4655. COUPON DE CREDIT. (carte). Louis Ed. Morin. Montreal, Que., 15 Janvier, 1889.
4656. COUPON BOND OF THE CITIZENS INSURANCE COMPANY OF CANADA. (Policy Form). Gerald E. Hart, Montreal, Que., 15th January, 1889.
4657. THE ACCOUNTANTS' COMPANION FOR 1889. (Calendar and Time Table). Robert Terroux, Jr., Montreal. Que., 16th January, 1889.
4658. AFTER SUNDOWN. Song. Words by H. L. D'Arcy Jaxone. Music by Theo. Bonheur. I. Suckling & Sons, Toronto, Ont., 16th January, 1889.
4659. COME TO ME O YE CHILDREN. Contralto Song. Words by Henry W. Longfellow. Music by Charles A. E. Harriss. I. Suckling & Sons, Toronto, Ont., 16th January, 1889.
4660. LOVE LIVES FOREVER. Song. Composed by Charles A. E. Harriss. I. Suckling & Sons, Toronto, Ont., 16th January, 1889.
4661. O SALUTARIS. (Praise for Ever). Solo for Soprano or Tenor arranged on a Spanish melody by J. A. Fowler. I. Suckling & Sons, Toronto, Ont., 16th January, 1889.
4662. McKILLOP'S COMMERCIAL AND LEGAL RECORD. January 10th, 1889. (periodical). James Jack, St. John, N.B., 16th January, 1889.
4663. SYSTEMATIC GIVING BY HEIRS OF GOD AND JOINT HEIRS OF CHRIST. By "Jarvis." Miss J. Flora Maclean, Guelph, Ont., 18th January, 1889.
4664. THE MERCANTILE TEST AND LEGAL RECORD. Vol. XIX. No. 3, January 17th, (periodical). Dun Wiman & Co., Toronto, Ont., 18th January, 1889.

4665. **THE CRIME OF THE GOLDEN GULLY.** By Gilbert Rock, (book). Wm. Bryce, Toronto, Ont., 18th January, 1889.
4666. **UNDER FALSE PRETENCES.** By Adeline Sergeant, (book). Wm. Bryce, Toronto, Ont., 18th January, 1889.
4667. **THE PIONEERS OF BEVERLY,** which is now being preliminarily published in separate articles in the respective newspapers, "The Galt Reporter" and "The Dundas Standard" (Temporary Copyright). John A. Cornell, Township of Beverly, County of Wentworth, Ont., 18th January, 1889.
4668. **McKILLOP'S COMMERCIAL AND LEGAL RECORD.** January 17th, 1889. (periodical). James Jack, St John, N.B., 22nd January, 1889.
4669. **TRAVELLERS' GUIDE—EASTERN PROVINCES,** Routes, Distances, and Fares to all the principal points in New Brunswick and Nova Scotia, and Business Directory of St. John, N.B., 1889. (Chart). John R. Hamilton, St. John, N.B., 22nd January, 1889.
4670. **THE MADDOXES.** By Jean Middlemass, (book). The National Publishing Co., Toronto, Ont., 25th January, 1889.
4671. **THE MERCANTILE TEST AND LEGAL RECORD.** Vol. XIX., No. 4, January 24th, 1889. (periodical). Dun, Wiman & Co., Toronto, Ont., 25th January, 1889.
4672. **McKILLOP'S COMMERCIAL AND LEGAL RECORD.** January 24th, 1889. (periodical). James Jack, St. John, N.B., 29th January, 1889.
4673. **HENDERSON'S BRITISH COLUMBIA GAZETTEER AND DIRECTORY.** The Henderson Directory Co., Winnipeg, Man., 29th January, 1889.
4674. **SONGS OF CALVARY.** By The Whyte Brothers: D. A. Whyte,—J. M. Whyte (as per application). John Marchant Whyte, Toronto, Ont., 29th January, 1889.
4675. **RÉVÈREND MESSIRE GIBAND.** Prêtre du Seminaire de St. Sulpice de la Cité de Montreal. (Photographie). L. E. Desmarais et Cie., Montreal, Que., 29 Janvier, 1889.
4676. **MORSE'S DIARY** 1889. Hazen Morse, International Bridge, Ont., 31st January, 1889.
4677. **FAME THE FIDDLER.** Song. Words by F. E. Weatherly. Music by J. L. Molloy. The Anglo-Canadian Music Publishers' Association, (L'd.), London, England, 31st January, 1889.
4678. **A LITTLE BIRD ON WEARY WING,** from the Opera "Paul Jones" by Planquette and Farnie. Hopwood and Crew, London, England, 31st January, 1889.
4679. **THE PRACTICE OF THE PARLIAMENT OF CANADA UPON BILLS OF DIVORCE, INCLUDING AN HISTORICAL SKETCH OF PARLIAMENTARY DIVORCE AND SUMMARIES OF ALL THE BILLS OF DIVORCE PRESENTED TO PARLIAMENT FROM 1867 TO 1888, ALSO NOTES IN THE PROVINCIAL DIVORCE COURTS, &c.** John Alexander Gemmill, Ottawa, Ont., 31st January, 1889.
4680. **THE QUEEN'S TOKEN.** By Mrs. Cashel Hoey, (book). Wm. Bryce, Toronto, Ont., 31st January, 1889.
4681. **ASSOCIATION LETTER.** The Montreal Merchants and Traders Protective Association, Montreal, Que., 31st January, 1889.
4682. **SUBSCRIBERS LETTER.** The Montreal Merchants and Traders Protective Association, Montreal, Que., 31st January, 1889.

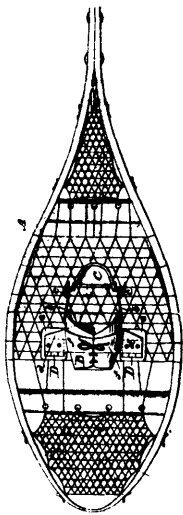
THE
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

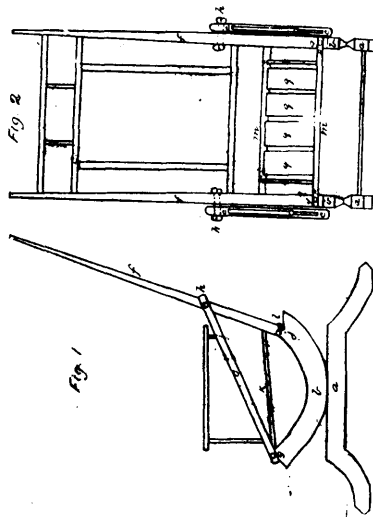
Vol. XVII.

JANUARY, 1889.

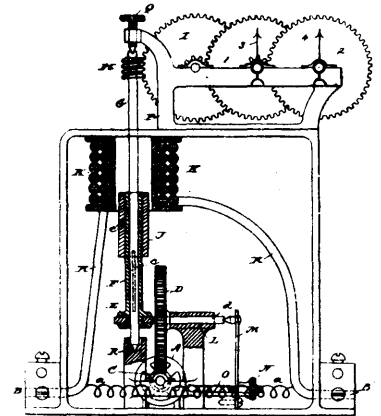
No. 1.



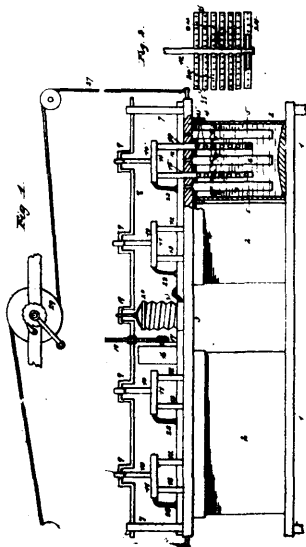
30528 Woodbury's Snow Shoe Attachment.



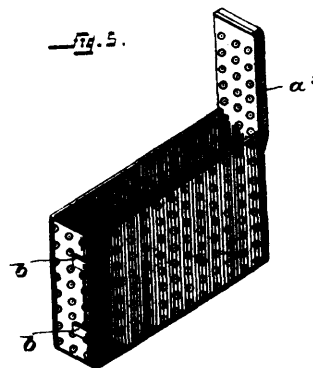
30530 Hibner & Doolittle's Chair.



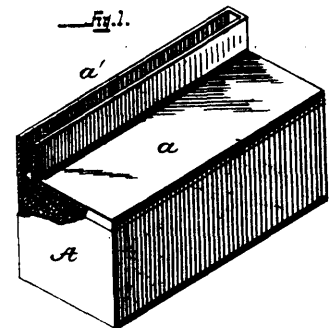
30531 Reckenzaun & Pentz's Electric Meter.



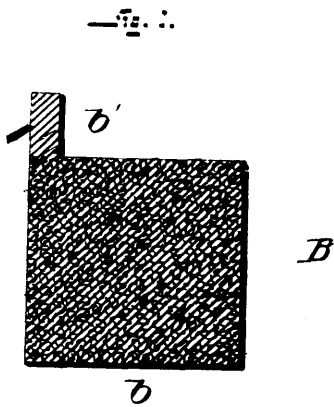
30532 Humphreys' Galvanic Battery.



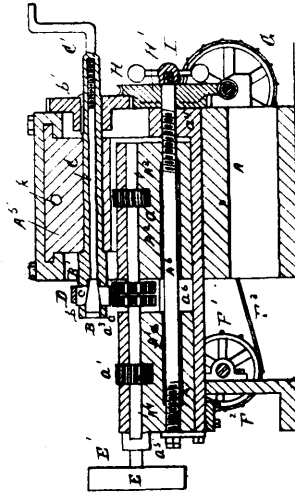
30533 Thompson's Electrode for Secondary Batteries.



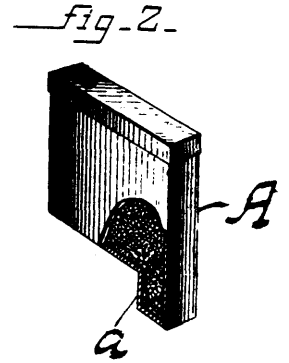
30534 Thompson's Electrode for Secondary Batteries.



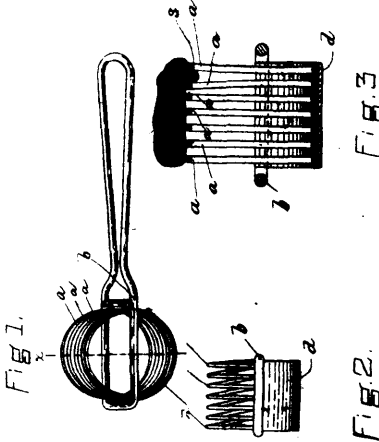
30535 Thompson's Electrode for Secondary Batteries.



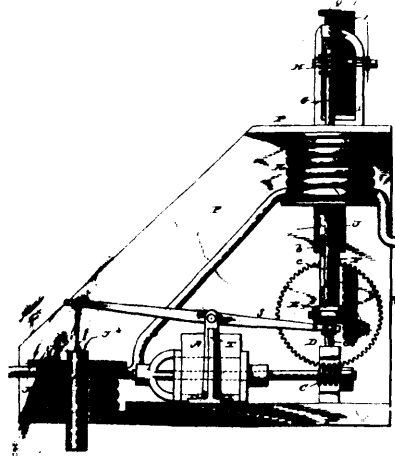
30536 Taylor's Screw Threading Machine.



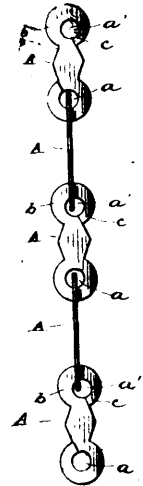
30538 Thompson's Mould for Casting Cellular Electrodes



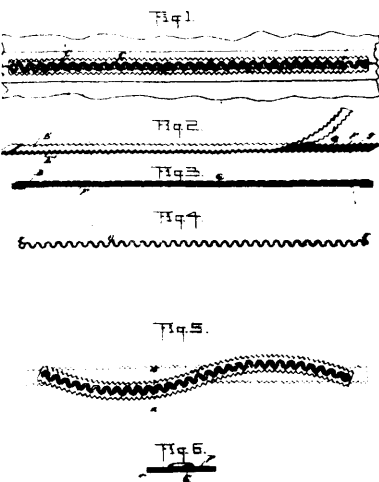
30539 Calef's Raisin Seeder.



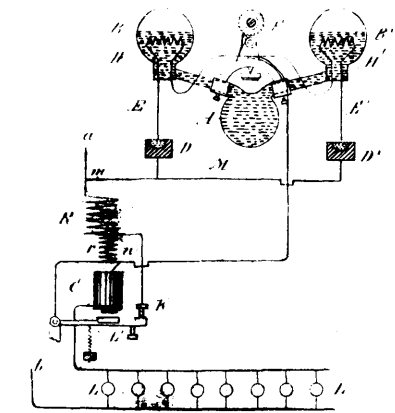
30540 Reckenzaun's Electric Meter.



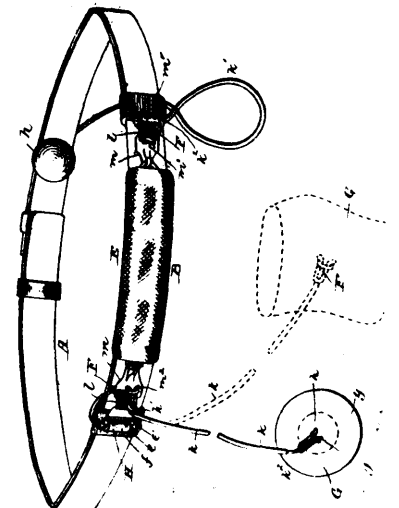
30541 Kelley's Chain Link.



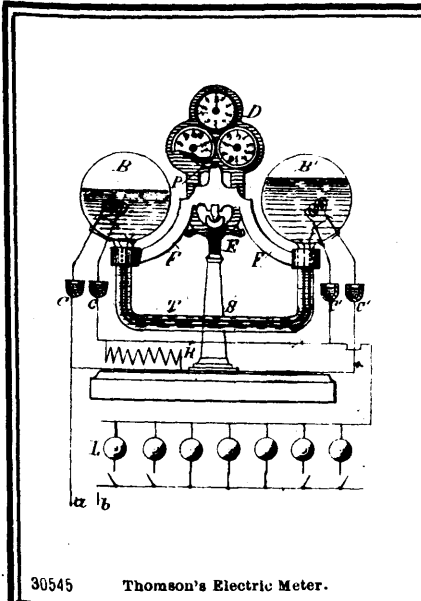
30542 Wheeler's Garment Stays.



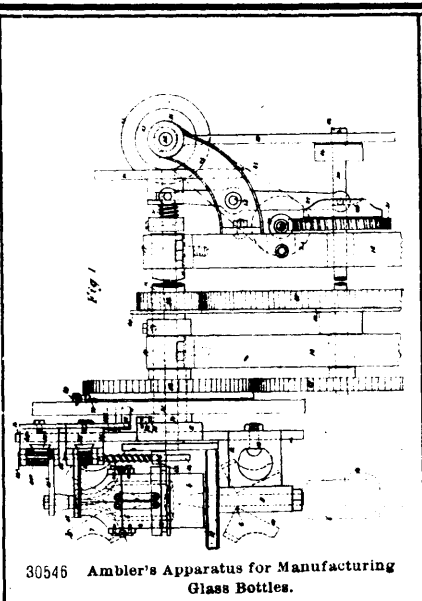
30543 Thomson's Electric Meter.



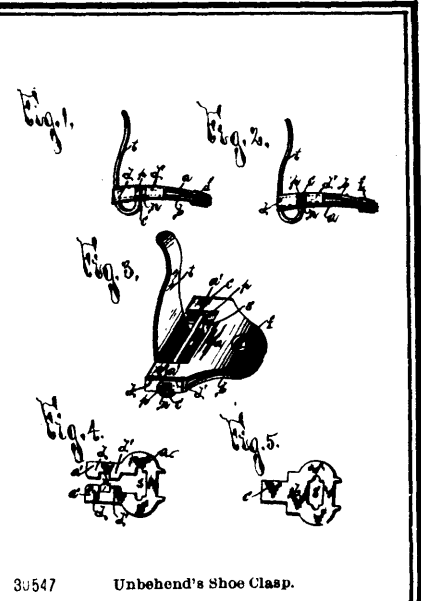
30544 Pratt's Electric Belt.



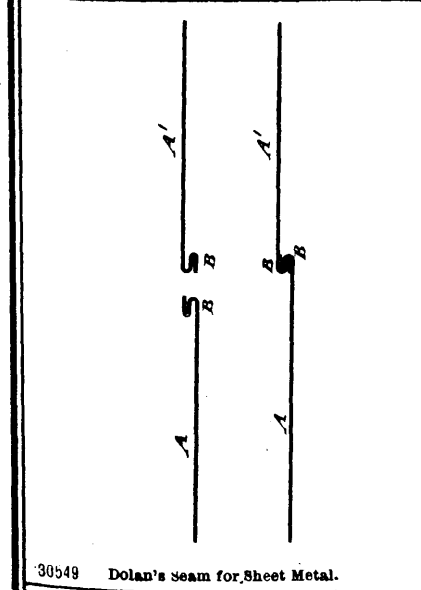
30545 Thomson's Electric Meter.



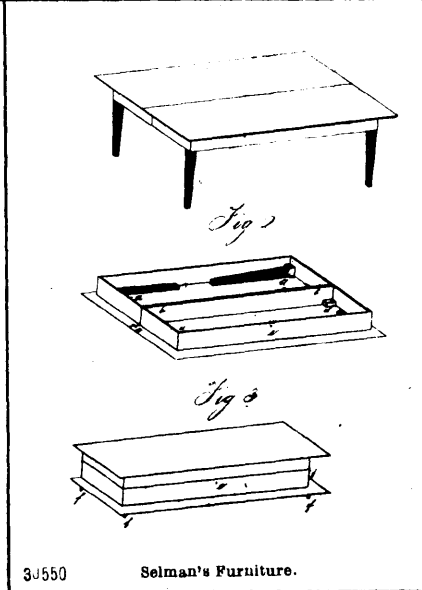
30546 Ambler's Apparatus for Manufacturing Glass Bottles.



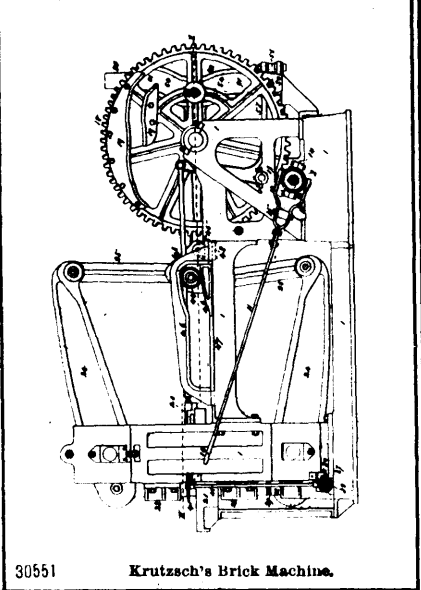
30547 Unbehend's Shoe Clasp.



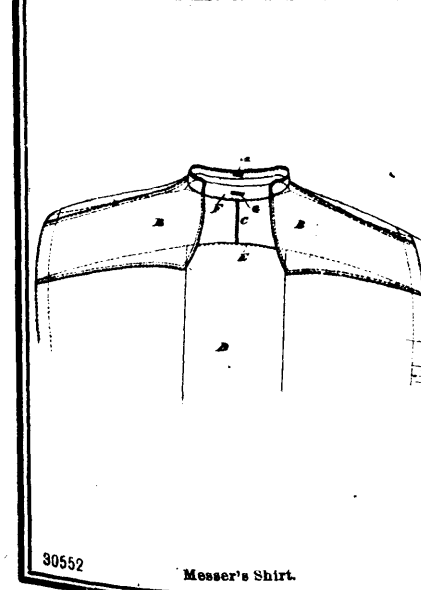
30549 Dolan's Seam for Sheet Metal.



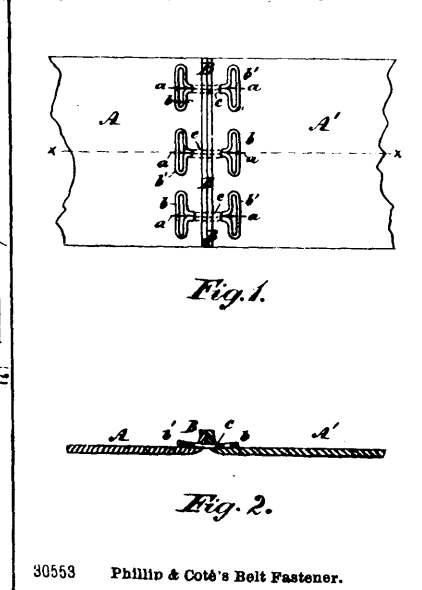
30550 Selman's Furniture.



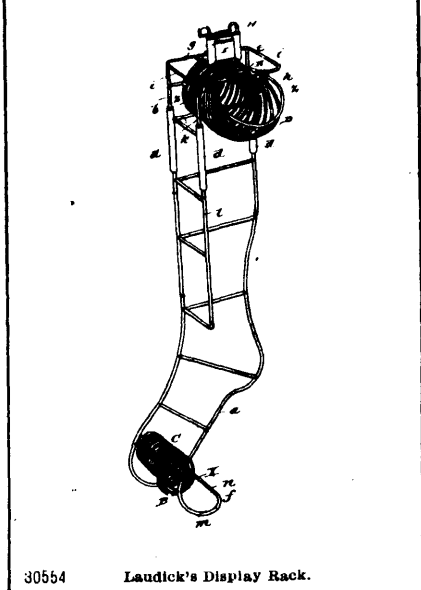
30551 Krutzsch's Brick Machine.



30552 Messer's Shirt.



30553 Phillis & Coté's Belt Fastener.



30554 Laudick's Display Rack.

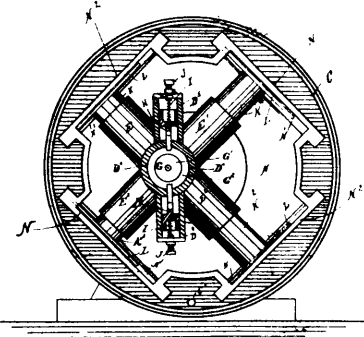


Fig. 1.

30556 Beauchemin's Rotary Engine.

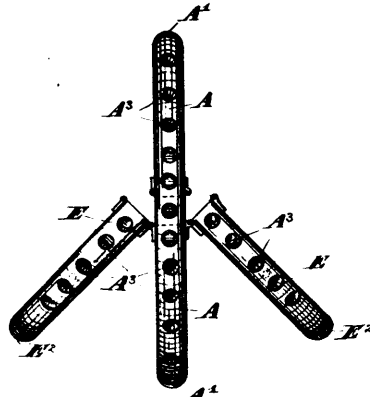
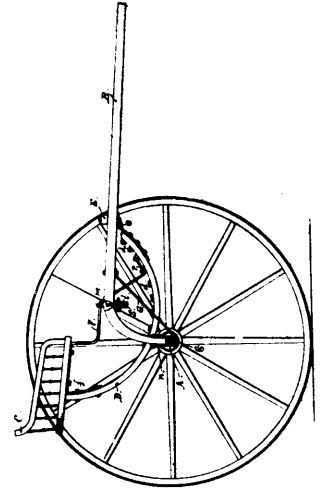
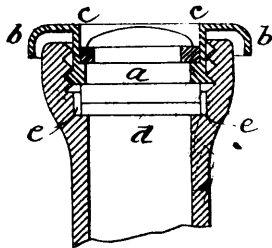


Fig. 19.

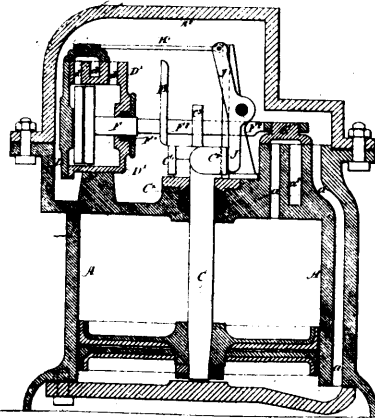
30557 Goodwin's Umbrella Stand.



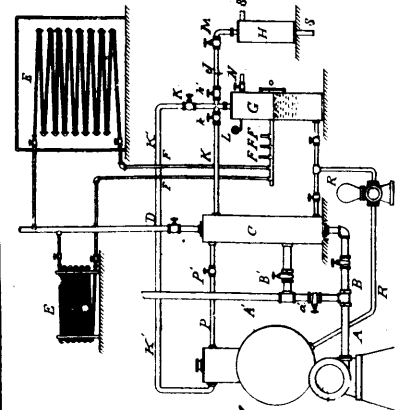
30558 Altick's Two-Wheeled Vehicle.



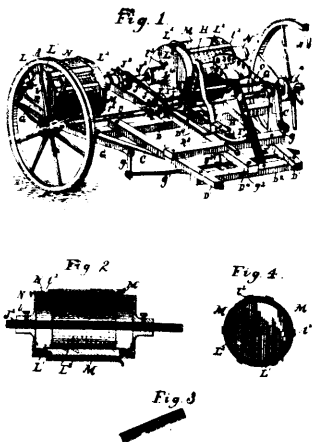
30559 Shepherd's Stopping Bottles, etc.



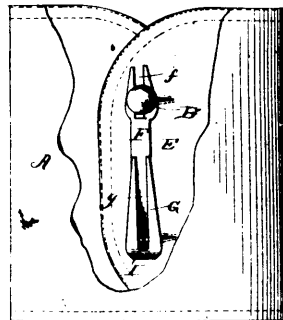
30560 Teldeman's Liquid Meter.



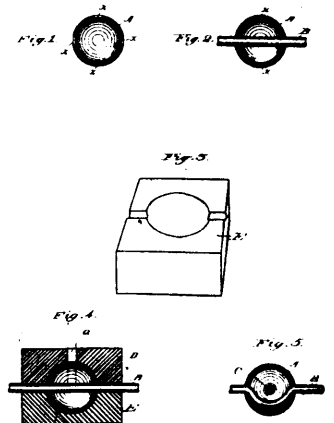
30561 Barnard's Heating Apparatus.



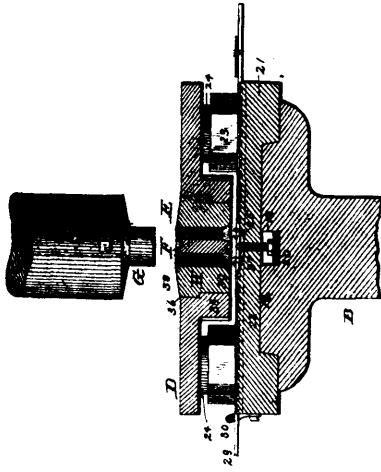
30562 Dodgson's Powder Dusting Machine.



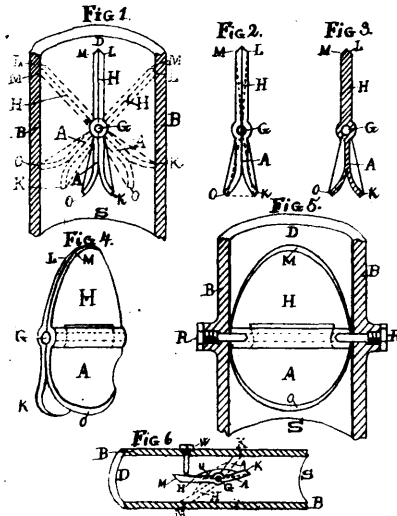
30563 Newman's Cuff-Holder.



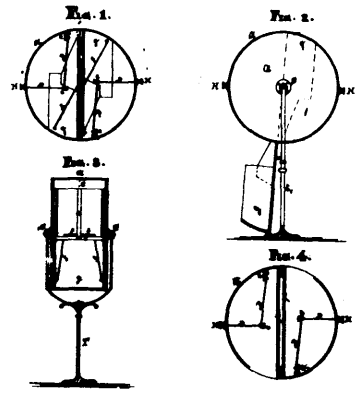
30564 Burkhardt's Wire Screen.



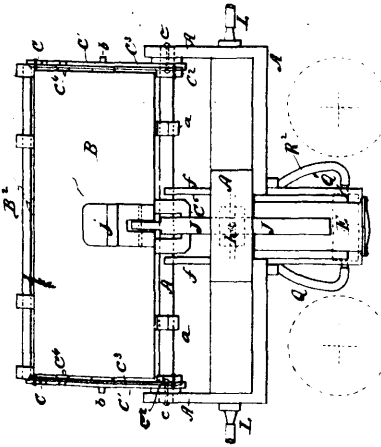
30565 Shimer's Machine for Making Metal Washers.



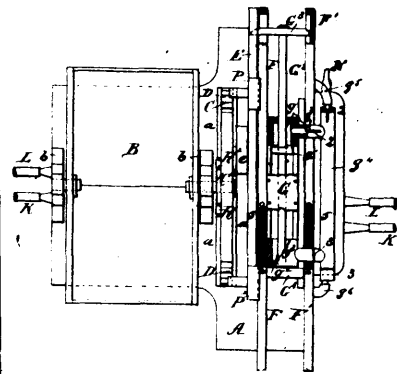
30566 Goll's Valve.



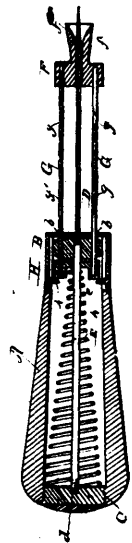
30567 Young's Letter and Document File.



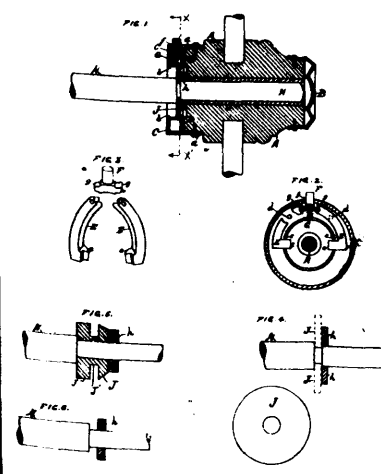
30568P Duff's Dumping Car.



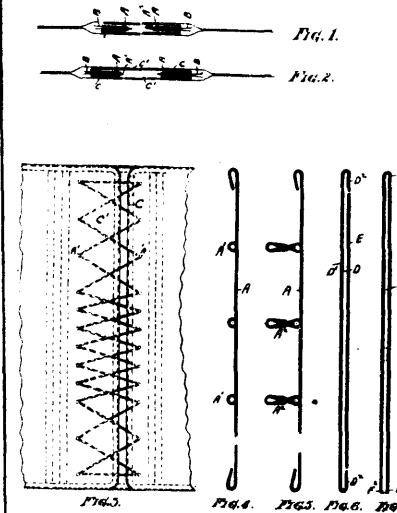
30569 Duff's Dumping Car.



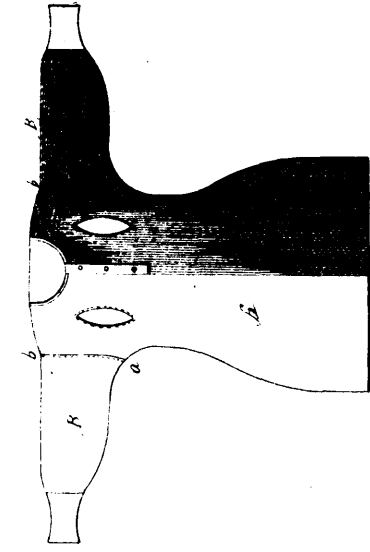
30571 DeLamarre's Oyster Knife.



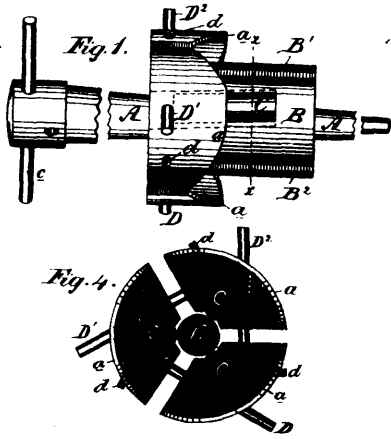
30572 Garben's Mechanism for Detachably Connecting Wheel Hubs and Axles.



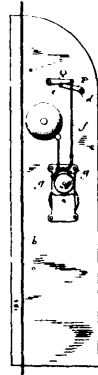
30573 Gunning's Manufacture of Corsets.



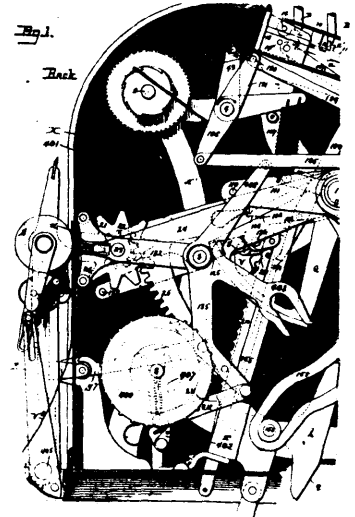
30574 Wilcomb's Knitted Undershirt.



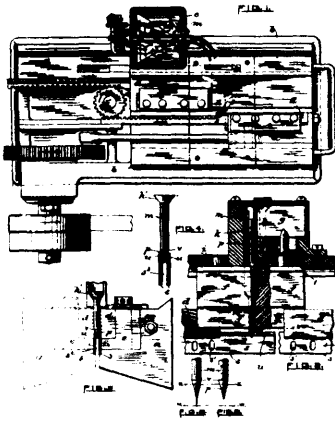
30575 Jardine's Tube Expander.



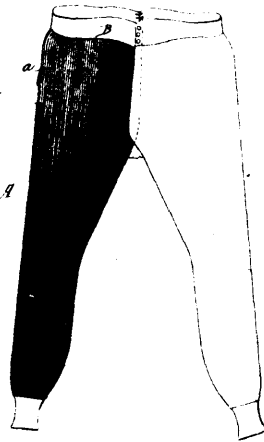
30576 Beynon's Alarm for Grain Elevators, etc.



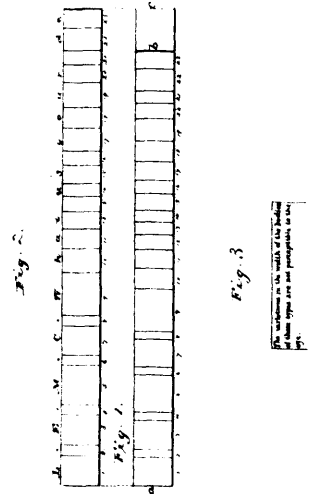
30577 Burroughs' Mechanical Accountant.



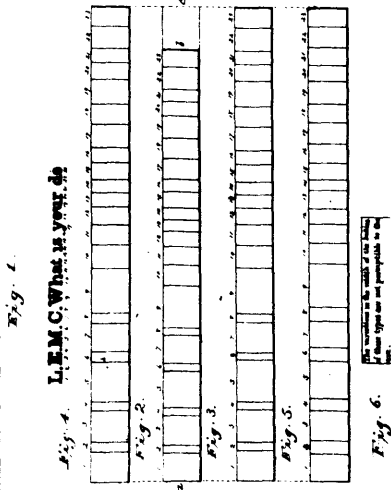
30578 Rogers' Blank Supporting Device for Screw-threading Machines.



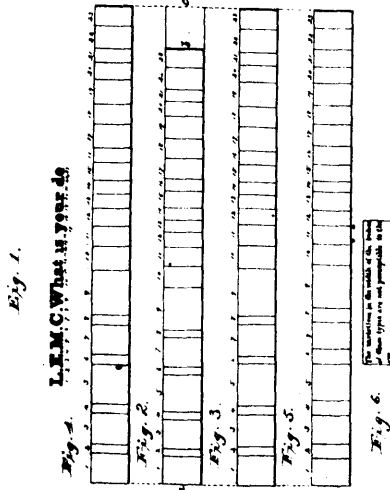
30580 Wilcomb's Knitted Drawers.



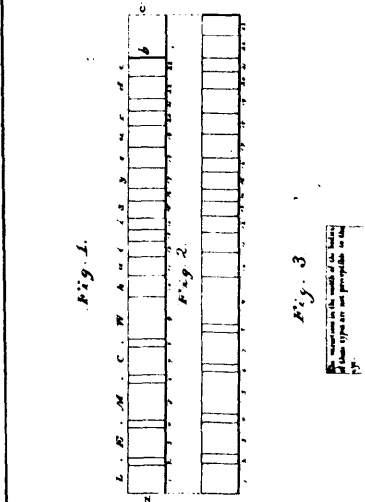
30581 Lanston's Art of forming justified lines of Types.



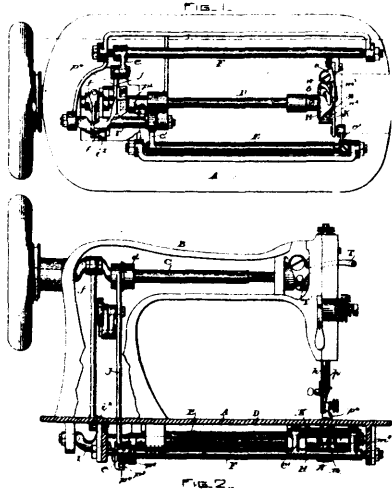
30582 Lanston's Art of forming justified lines of Types.



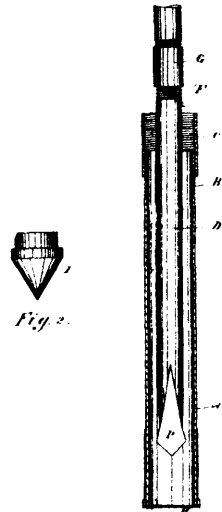
30583 Lanston's Art of forming justified lines of Types.



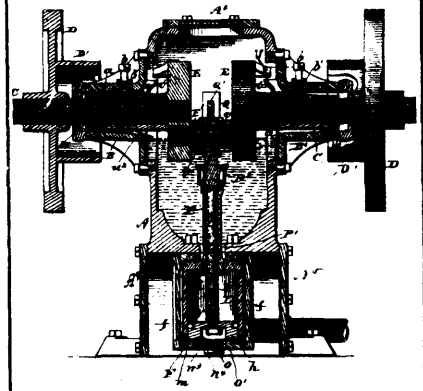
30584 Lanston's Art of forming justified lines of Types.



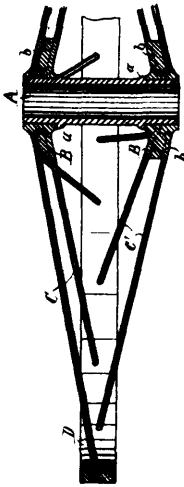
30585 Diehl's Sewing Machine.



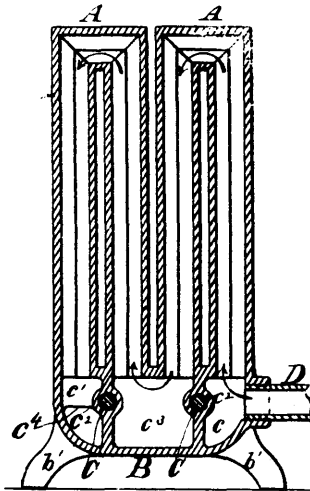
30586 Fontaine's Device for Boring Artesian Wells.



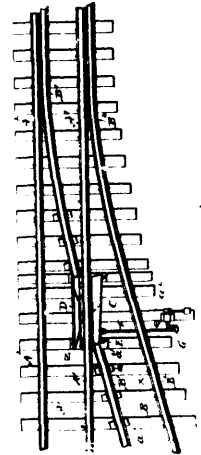
30587 Case's Steam Engine.



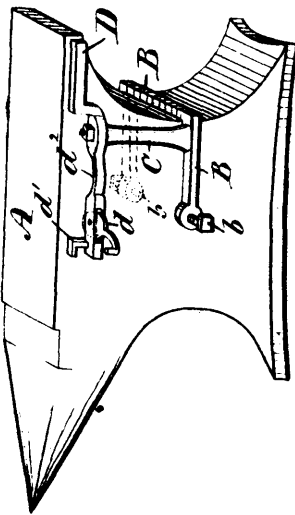
30588 Ricard's Vehicle Wheel.



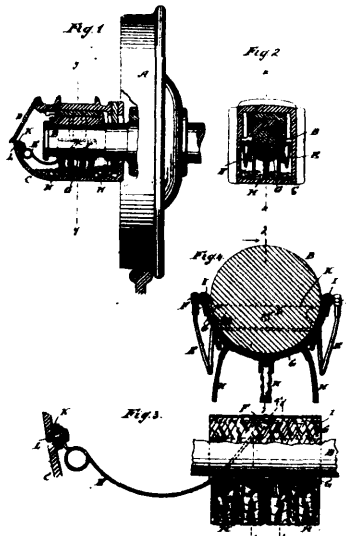
30589 Kelly's Radiator.



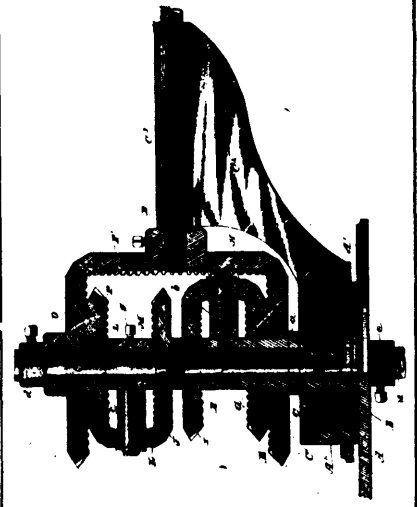
30590 Hart & Hendry's Railroad Frog.



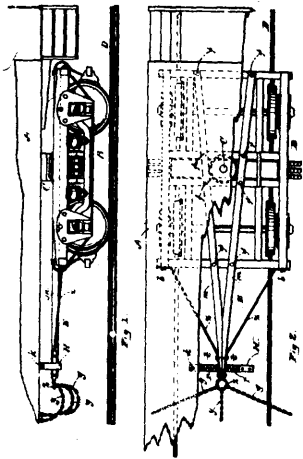
30591 Robinson's Attachment to Blacksmiths' Anvils.



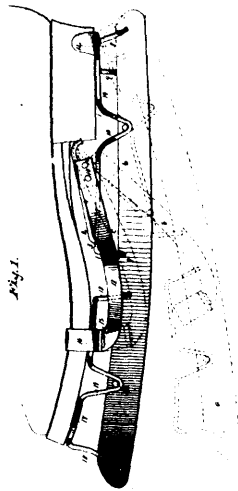
30592 Landau & Scharfberg's Apparatus for Raising or Lifting Heavy Weights.



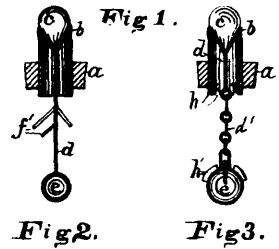
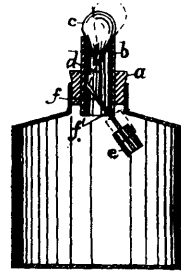
30593 Tuckwood's Balanced Gearing for Windmills.



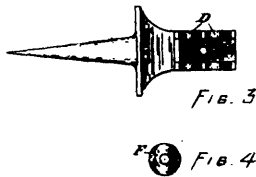
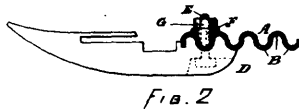
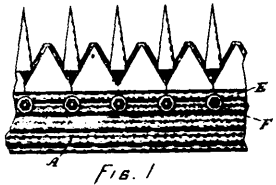
30594 Currier's Car Truck.



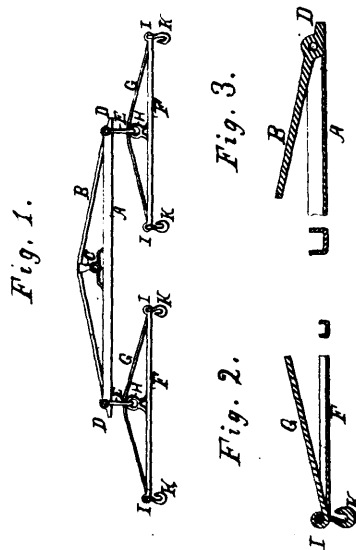
30595 Forbes' Skate.



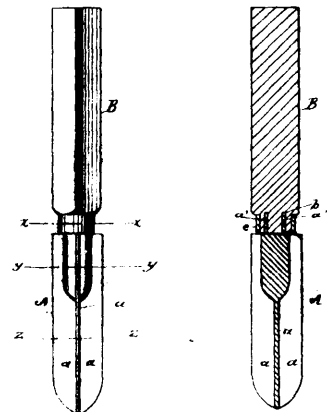
30596 Poole's Closing Can and Bottle.



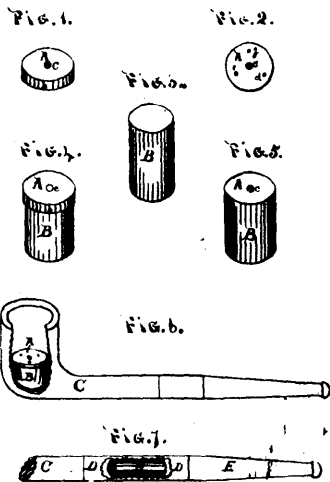
30597 Jackson's Mowing and Reaping Machine.



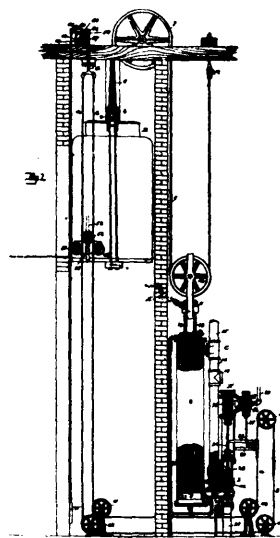
30598 Bear's Double and Whiffletree.



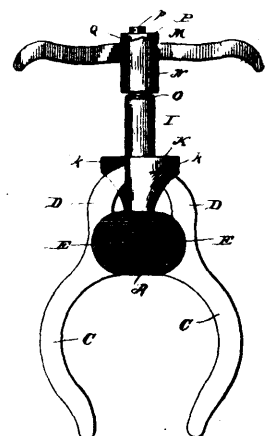
30599 Saxon & James' Fence Post.



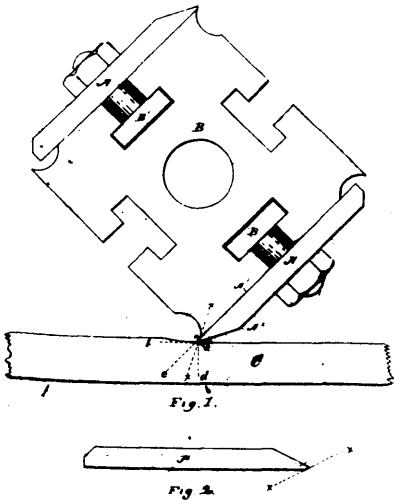
30600 Backus' Pipe for Smoking Tobacco, etc.



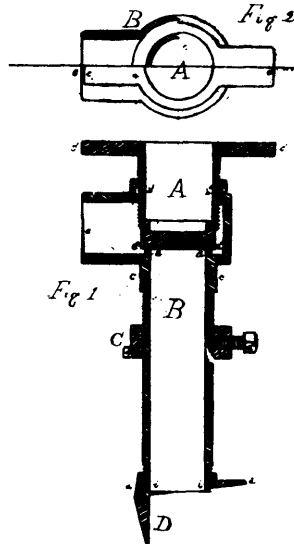
30601 Smith's Elevator.



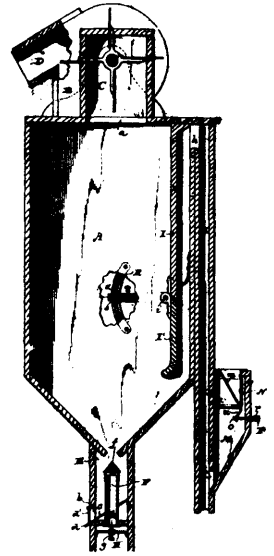
30602 Eisaman & Rome's Police Nippers.



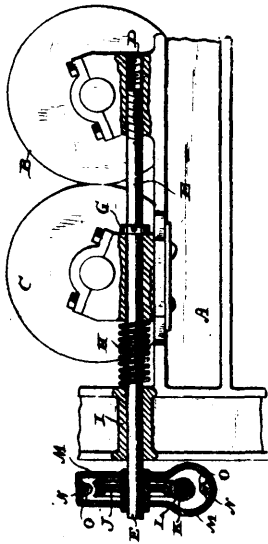
30503 Butters' Rotary Cutting Knife.



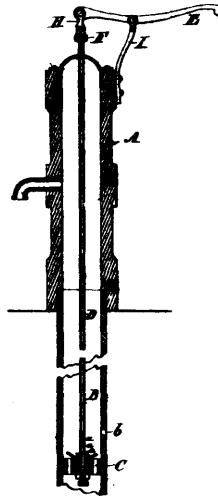
30603 Stafford's Faucet.



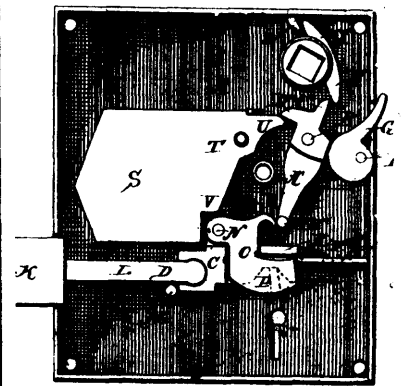
30605 Beynon's Elevator and Separator for Mills.



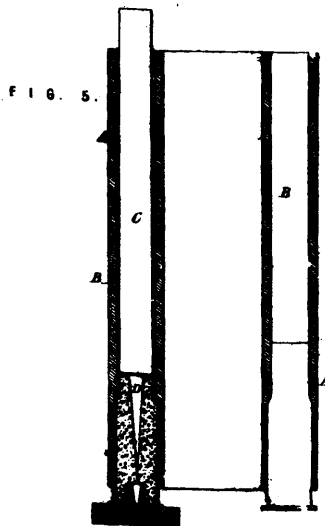
30606 Beynon's Roller Mill.



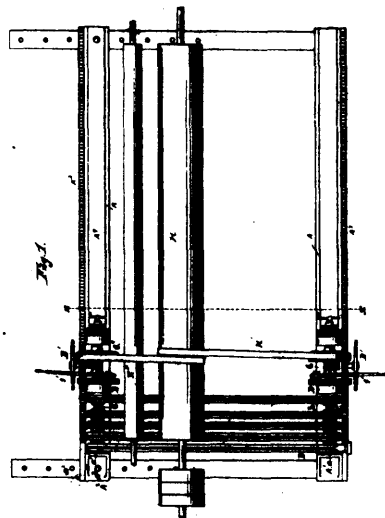
30607 McIntyre's Pump.



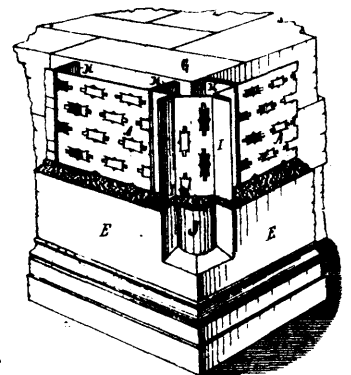
30608 Maynard's Latch and Lock.



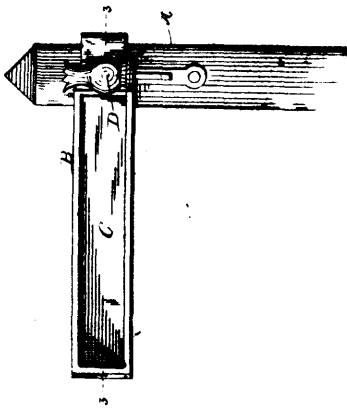
30609 Johnson & Borland's Ammunition, etc.



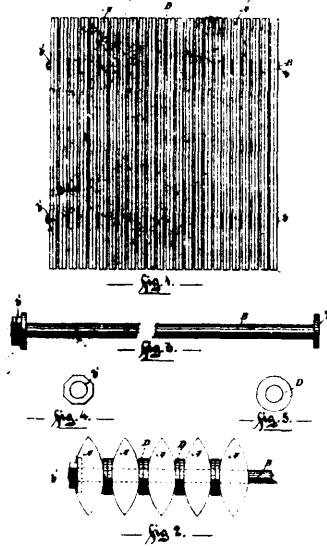
30610 Taylor's Machine for Assembling Radiator Loops.



30611 Haye's Fireproofing of Buildings.



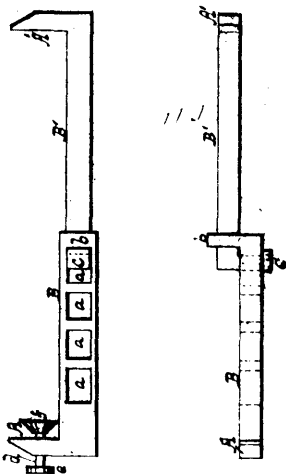
30614 Koyl's Signal for Railways, etc.



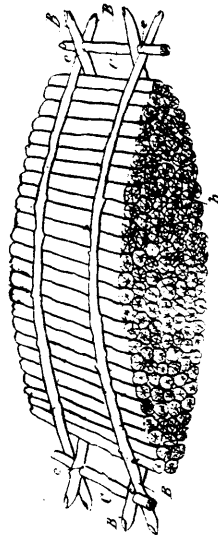
30615 Turnbull's Lime Tray.



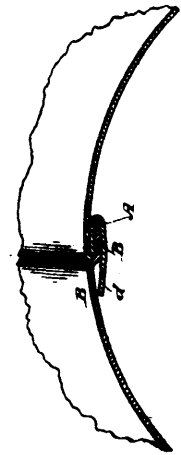
30616 Howitt's Laced Rubber Boot and Shoe.



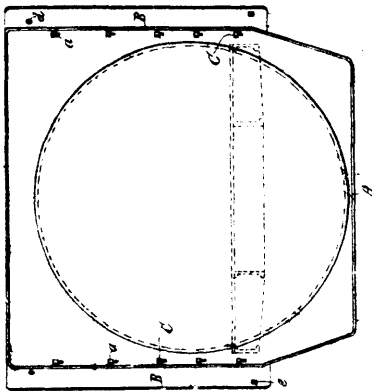
30618 Hawley's Clamp.



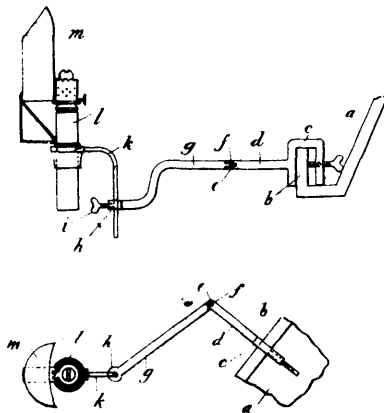
30619 Wheeler's Packing and Binding Wood.



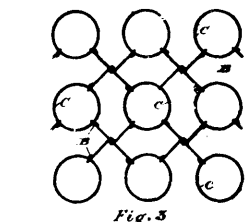
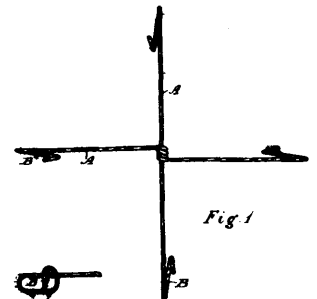
30620 Montross' Stovepipe.



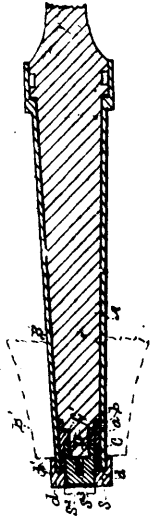
30621 Brown's Attachment to Rotary Snow Ploughs.



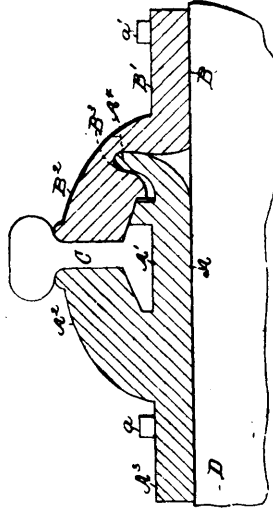
30622 Liebh's Lamp Holder.



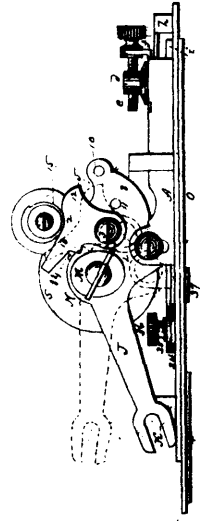
30623 Butterfield's Spring Stay.



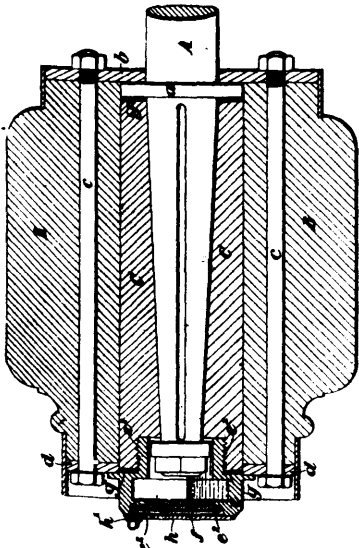
30624 Olmstead's Hub Attaching Device.



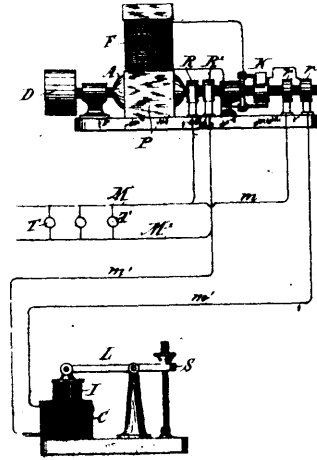
30625 Lowe's Rail Joint Union.



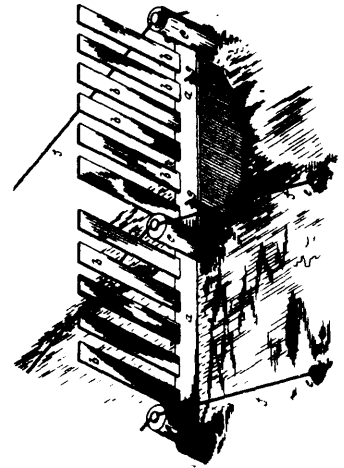
30626 Johnson's Button Hole Attachment.



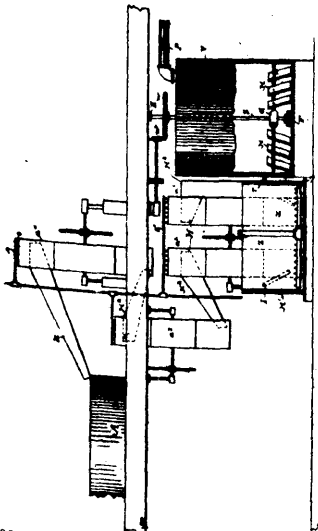
30627 Wilson's Axle Box.



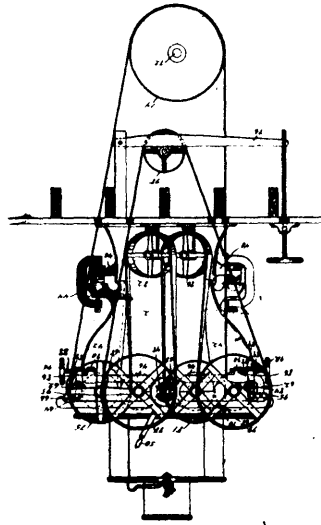
30628 Thomson's Current Dynamo.



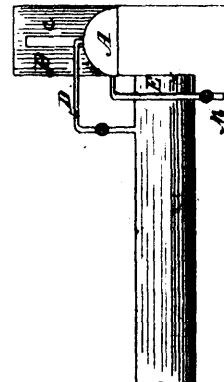
30629 Mace's Flood Fence.



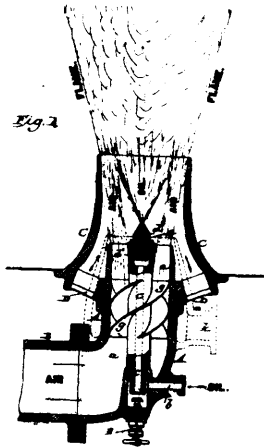
30630 Casamajor's Apparatus for Cleansing and Recovering Sawdust, etc.



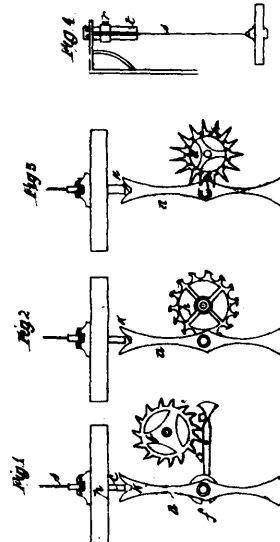
30631 McAnulty's Roller Mill.



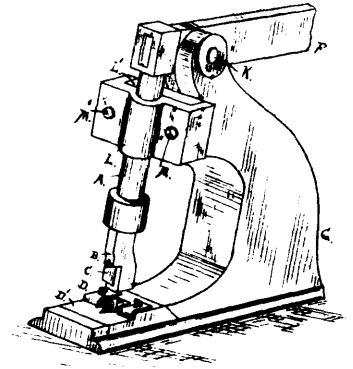
30632 Gosselin's Boiler Feeder.



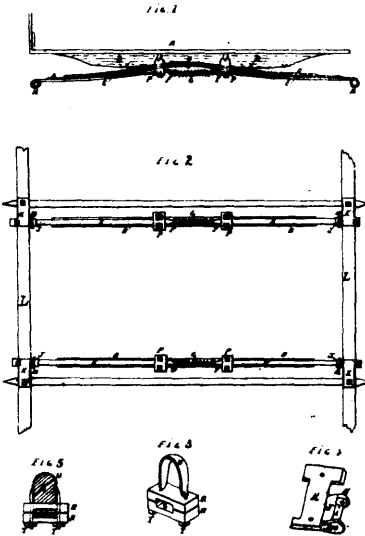
30633 Schutte's Oil Burner.



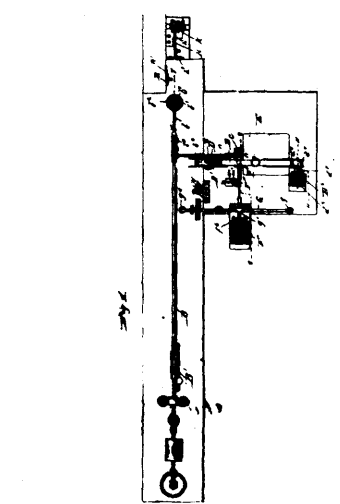
30634 Douglas' Clock Escapement.



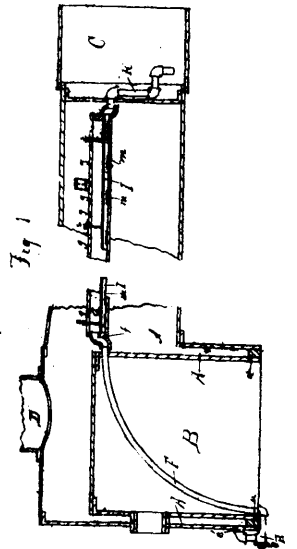
30635 England's Device for Sharpening Stone Cutting Tools, etc.



30638 Cook's Vehicle Spring.



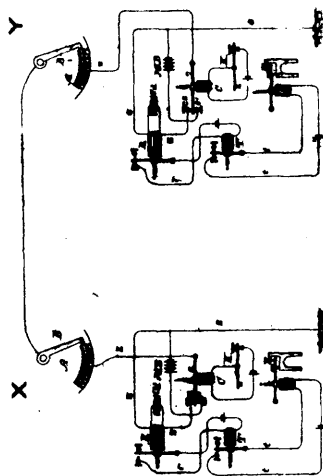
30639 Amet's Scale.



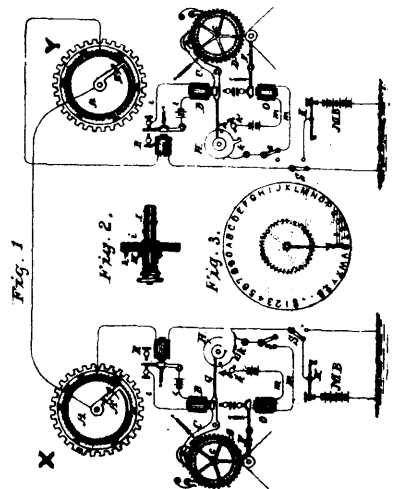
30640 Hackney's Steam Boiler.



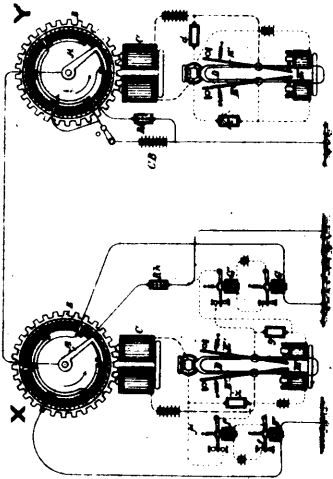
30642 Phillips' Grape Harvester.



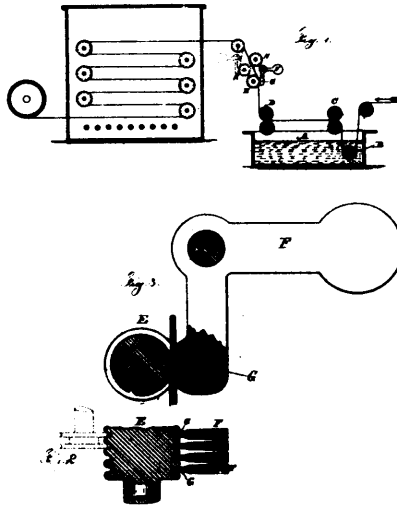
30643 Delany's Telegraphic Relay.



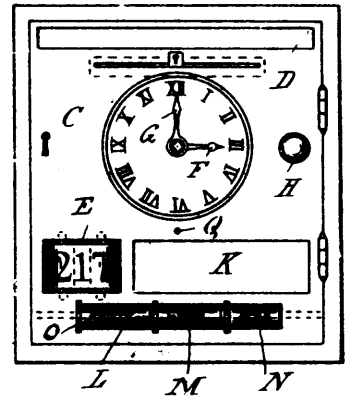
30644 Delany's Printing Telegraphy.



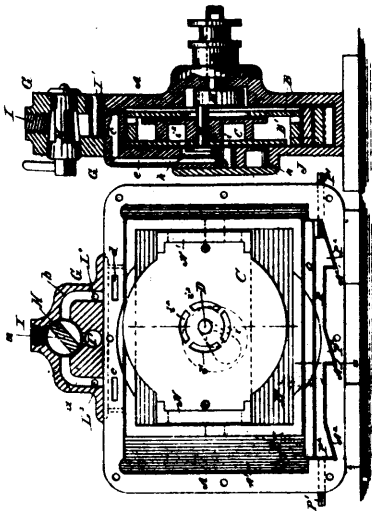
30645 Delany's Synchronous Movement, etc.



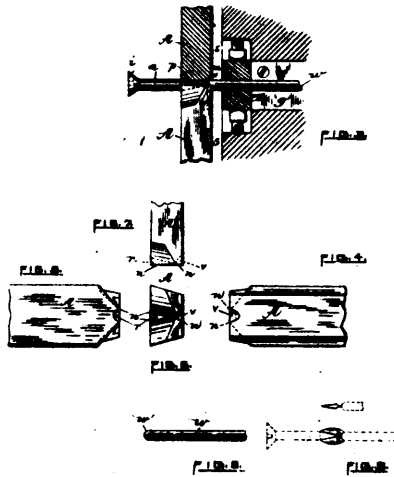
30646 Lyall's Twine, etc.



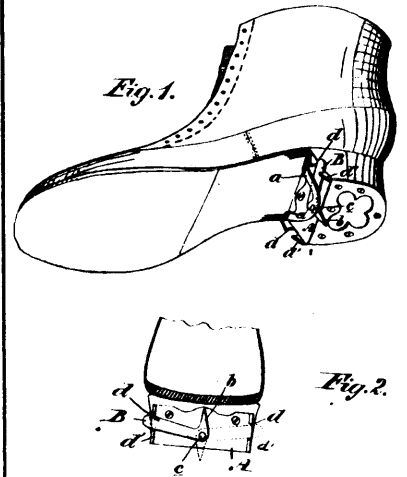
30647 Garcan's Indicator for Hotels.



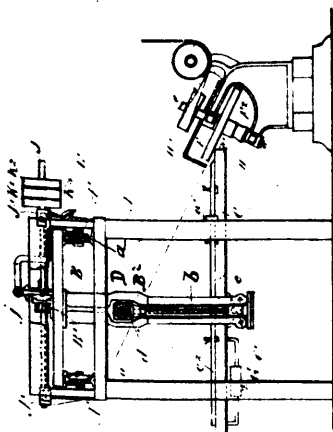
30648 Duke's Engine.



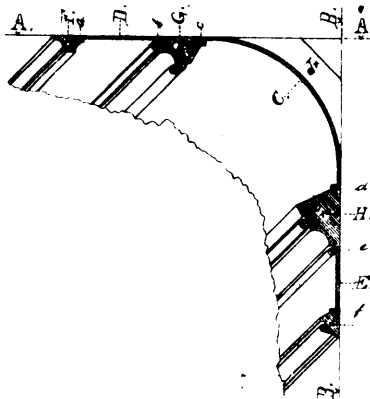
30649 Rogers' Die.



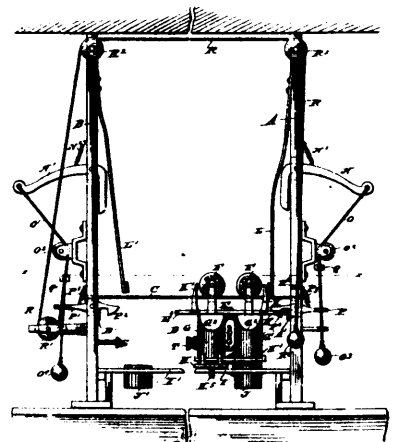
30650 Munro's Ice Creeper.



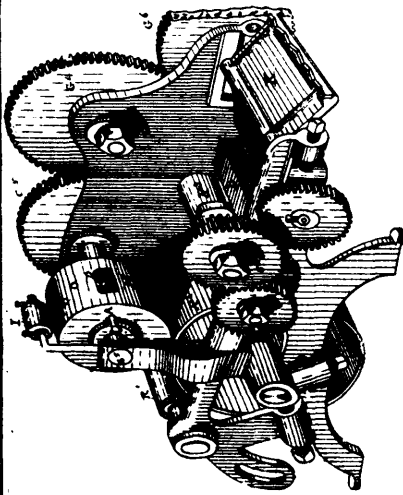
30651 Langlats' Glass Beveling Machine.



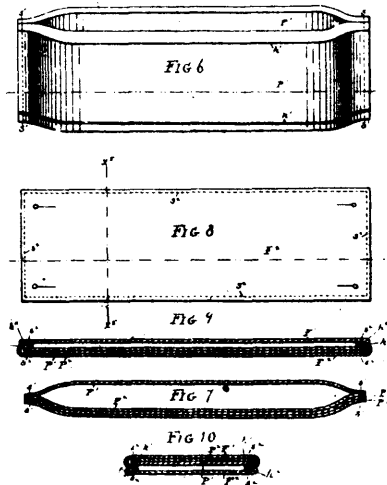
30652 Black's Cornice.



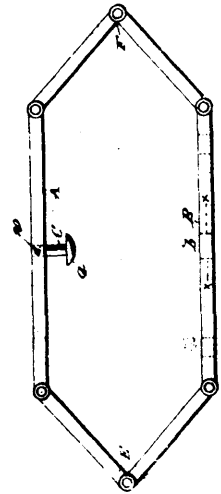
30653 Herbert's Store Service Apparatus.



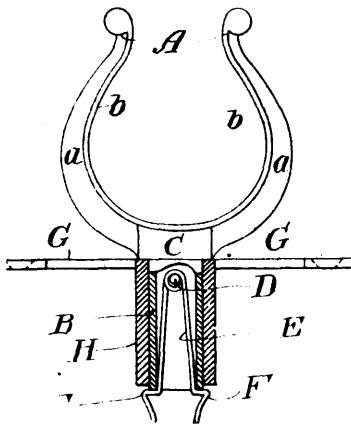
30654 Ide's Stamping Device.



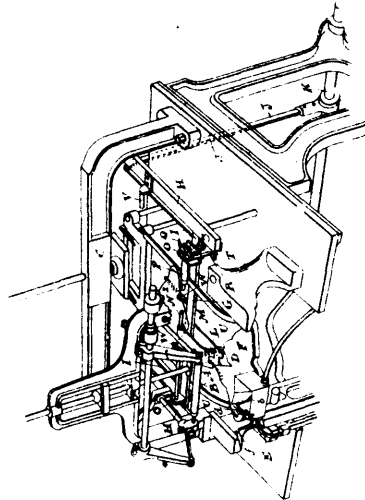
30655. Ide's Method of Making Cuffs.



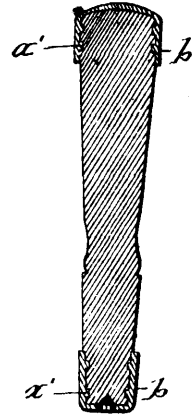
30656 Harrison's Bag Lock.



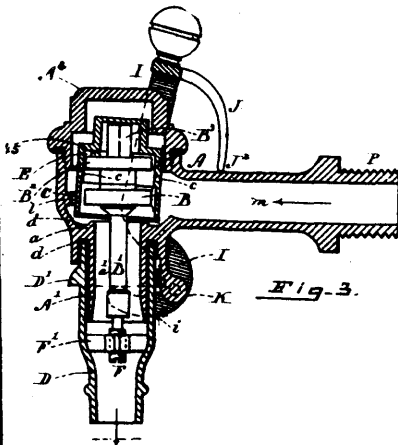
30657 Briggs & Lyon's Oar Lock.



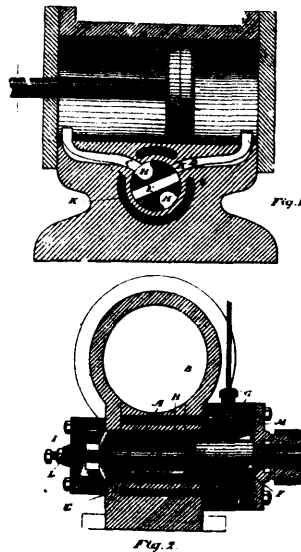
30660 Bouvier's Envelope Machine.



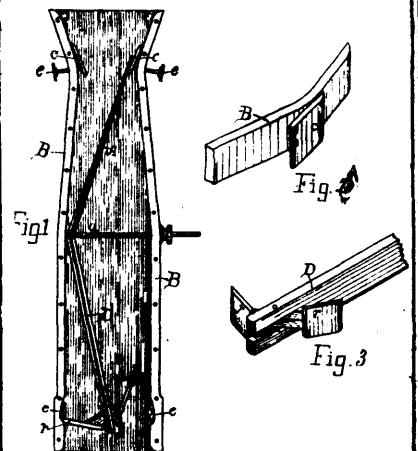
30661 Latulip's Tool Head and Handle.



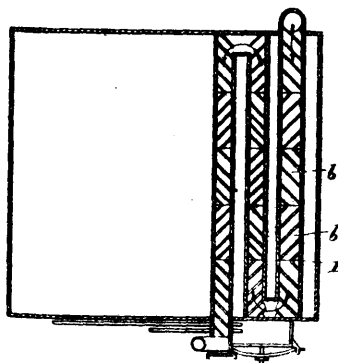
30662 Howes' Faucet.



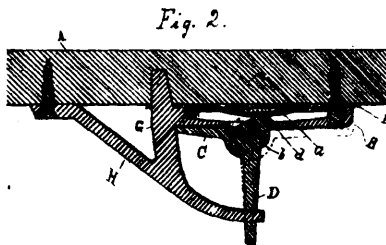
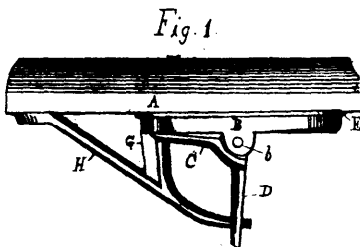
30663 Tolton's Steam Valve.



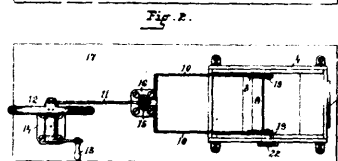
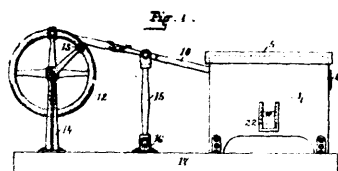
30664 Trumble's Water Motor



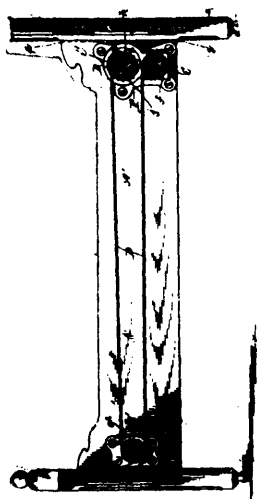
30665 Sutherland's Gas Apparatus.



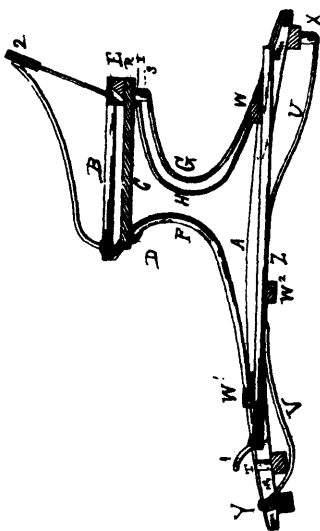
30666 Camp's Holdback.



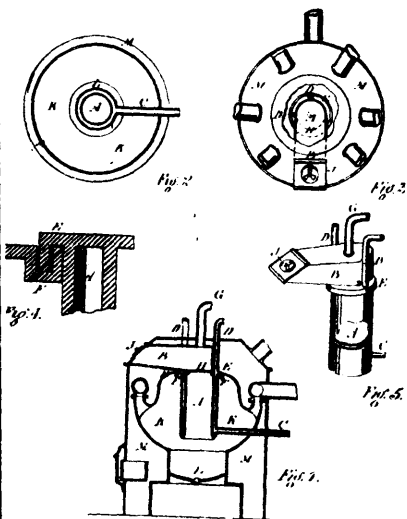
30667 Stowe's Cake or Bread Beater.



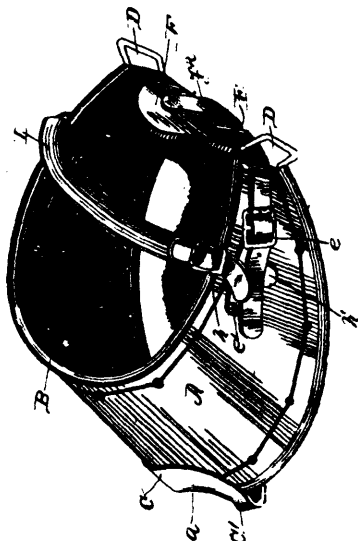
30668 Dixon's Bed Bottom.



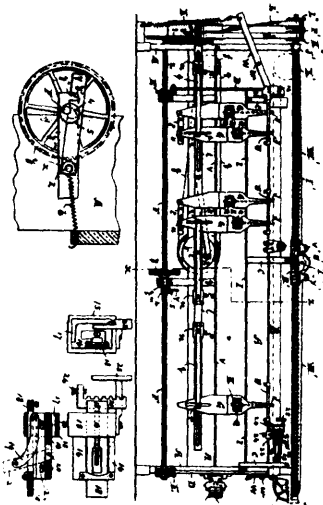
30669 Warren's Spring Seat, etc.



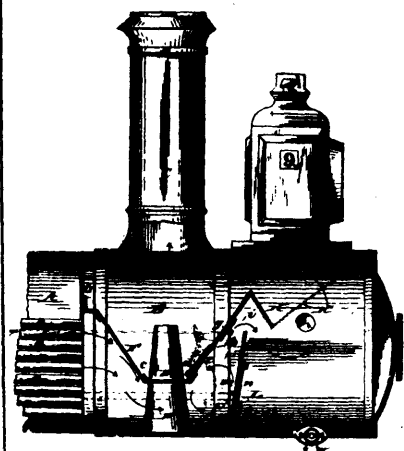
30670 St. Croix's Heating Furnace.



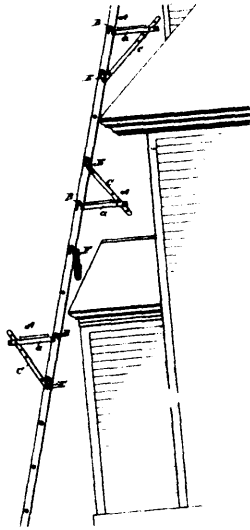
30671 Schild's Horse Boot.



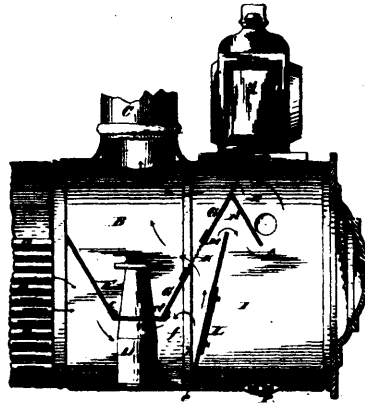
30672 Tibbetts' Wood Working Machine.



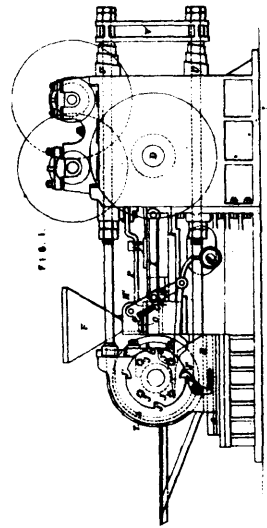
30673 Coleman's Spark Arrester.



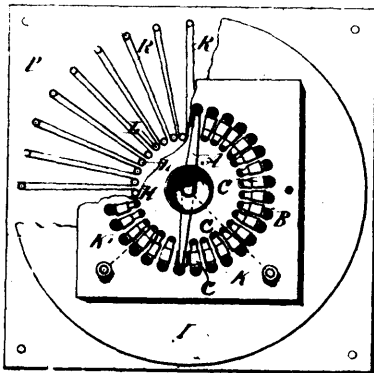
30674 Long's Scaffold Bracket.



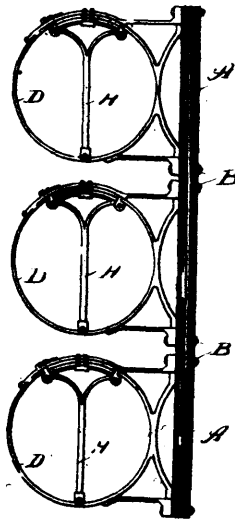
30675 Coleman's Spark Arrester.



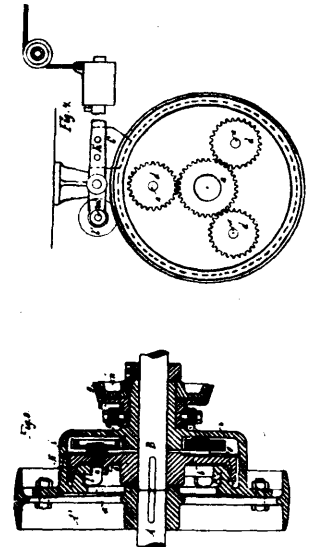
30676 Lindsay's Moulding Coal Dust, etc



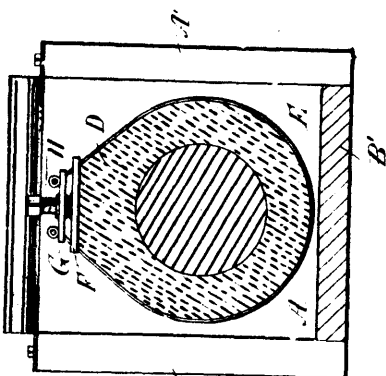
30677 Rice's Rheostat.



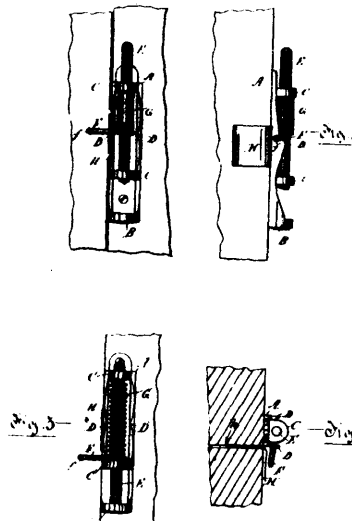
30678 Connitt's Hand Fence Machine.



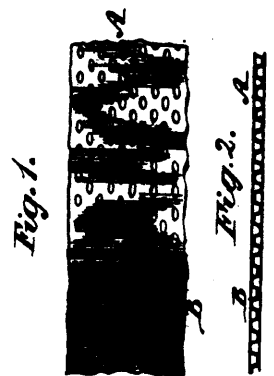
30679 Boehm's Friction Coupling.



30680 Goulloud's Dust Guard.



30681 Kimball's Burglar Alarm.



30682 Chase's Toilet Paper.

INDEX OF INVENTIONS.

Accountant: see Mechanical.	
Air: see Hot.	
Alarm: see Burglar.	
Alarm for grain elevators and analogous devices. J. B. Murphy.....	30,576
Ammunition and its manufacture. W. D. Borland et al.....	30,609
Anvils. Attachment to blacksmith's. B. E. Robinson	30,591
Artesian wells. Device for boring. M. Fontaine et al	30,586
Artificial stone or marble. Manufacture of. B. L. Mosely et al.....	30,570
Auriferous: see Ores.	
Auro-argentiferous: see Ores.	
Axle: see Wheel.	
Axle grease. V. Bedard et al.....	30,548
Axle boxes or bearings of carriages. D. Rylands.....	30,627
Bag lock. T. W. Harrison.....	30,656
Balanced gearing for wind mills. C. H. and W. Tuckwood.....	30,593
Barley flake and the process of producing the same. F. R. Farwell et al.....	30,537
Battery: see Electrode. Galvanic.	
Beater: see Cake.	
Bed bottom. S. J. Dickson.....	30,668
Belt: see Electric.	
Belt fastener. A. Coté et al.....	30,553
Bevelling: see Glass.	
Binding: see Packing.	
Blank supporting device for screw threading machines. American Screw Co.....	30,578
Boiler: see Steam.	
Boiler feeder. Automatic. C. Gosselin.....	30,632
Boot: see Horse. Laced.	
Boring: see Artesian.	
Bottle: see Glass. Stopping.	
Bottles: see Cans.	
Bottom: see Spring.	
Box: see Dust.	
Bracket: see Scaffold.	
Brick machine. H. Krutzsch.....	30,551
Burglar alarm. S. S. Kimball.....	30,681
Burner: see Oil.	
Button-hole attachment for sewing machines. S. Halliwell.....	30,626
Cake or bread beater. S. F. Stowe.....	30,667
Cans and bottles. Automatically closing. G. A. Poole.....	30,596
Car: see Dumping.	
Car truck. J. E. W. Currier.....	30,594
Carriage: see Axle.	
Cart: see Road.	
Chain link. H. E. Kelly et al.....	30,541
Chairs. Manufacture of. D. Hebner et al.....	30,530
Cigar holder: see Pipe.	
Circuit: see Rheostat.	
Clam extracts and process of making the same. A. H. Bailey.....	30,570
Clamp. W. D. Hawley.....	30,618
Clasp: see Shoe.	
Cleaning and recovering sawdust or similar hydrate substances from filtrates. Casamajor Filter Co.....	30,630
Clock escapement. W. H. Douglas.....	30,634
Closing: see Can.	
Coal: see Moulding.	
Composition: see Plastering.	
Cornices for the interior of dwelling houses and other public and private edifices. H. H. Black.....	30,652
Corsets. Manufacture of. J. F. G. Gunning.....	30,573
Coupling: see Friction.	
Creeper: see Ice.	
Cuff blank: see Stamping.	
Cuff holder. R. J. Newman.....	30,563
Current dynamo. Thomson-Houston International Electric Co.....	30,628
Cutting: see Pointing.	
Device: see Hub.	
Disintegrating fibrous substances. S. S. Boyce.....	30,617
Display rack. J. M. Laudick.....	30,554
Document: see Letter.	
Drawer: see Knitted.	
Dumping car. J. Duff.....	30,568
Dust guard for car axle boxes. Union Bearing and Lubricator Co.....	30,680
Dusting: see Powder.	
Dynamo: see Current.	
Electric belt. Pratt Electro Therapeutic Supply Co.....	30,544
Electric meter. J. A. Pentz et al.....	30,531
Electric meter. Thomson-Houston International Electric Co.....	30,513
Electrode for secondary batteries. C. H. Thompson.....	30,535
Elevator: see Alarm.	
Elevator. R. C. Smith.....	30,601
Elevator and separator for mills. J. B. Murphy et.....	30,605
Engine: see Rotary. Steam.	
Engine. Dake Engine Manuf'g. Co.....	30,648
Envelope machine. L. P. Bouvier.....	30,660
Escapement: see Clock.	
Expander: see Tube.	
Extracts: see Clam.	
Fastener: see Belt.	
Faucet. A. P. Howes.....	30,662
Faucet for regulating the discharge of liquids from vats, etc. A. Stafford.....	30,604
Feeder. Automatic boiler. C. Gosselin.....	30,632
Fence: see Flood. Hand.	
Fence post. S. J. Saxon.....	30,599
File: see Document.	
Fireproofing of buildings. G. Hayes.....	30,611
Flakes: see Barley.	
Flood fence. J. R. Wonscott et al.....	30,629
Friction coupling. Automatic. S. Lentner & Co.....	30,679
Frog: see Railroad.	
Furnace: see Hot.	
Furniture. J. T. B. Selman.....	30,550
Galvanic battery. D. Humphreys.....	30,532
Gas. Process of and apparatus for the manufacture of. A. M. Sutherland.....	30,665
Gearing: see Balanced.	
Glass bevelling machine. A. Langlois et al.....	30,651
Glass bottle. W. Ambler et al.....	30,546
Grape harvester. J. Phillips.....	30,642
Grease: see Axle.	
Hand fence machine. Gilchrist Manuf'g. Co.....	30,678
Harvester: see Grape.	
Heating apparatus. G. A. Barnard.....	30,561
Hinged and halved umbrella stand. J. Goodwin.....	30,557
Holdback. D. A. Camp.....	30,666
Holder: see Cuff.	
Horse boot. P. J., F. L. and C. C. Schild.....	30,671
Hot water and hot air heating furnace. Combined. W. St. Croix.....	30,670
Hub: see Wheel.	
Hub attaching device. A. T. Porter.....	30,624
Ice creeper. A. Hislop et al.....	30,650
Indicator for hotels. R. R. Gareau.....	30,647
Jar: see Stopping.	
Knitted drawer. Wilcomb Manuf'g. Co.....	30,580
Knitted undervest. Wilcomb Manuf'g. Co.....	30,574
Knife: see Oyster. Rotary.	
Laced rubber boots and shoes. M. Howitt.....	30,616
Lamp-holder for music stand. B. Tooke et al.....	30,622
Latch and lock. Combined. J. Maynard.....	30,608
Lead pigment and process of preparing the same. A. G. Fell.....	30,613
Letter and document file. J. Young.....	30,567
Lifting: see Raising.	
Lime tray for purifying gas. G. H. Turnbull.....	30,615
Link: see Chain.	
Liquid meter. G. Teidman.....	30,560
Loops: see Radiator.	
Lock: see Latch. Oar.	
Locomotive: see Spark.	
Marble: see Artificial.	
Mechanical Accountant. American Arithmometer Company.....	30,577
Medicine. C. E. & E. Bizzozero.....	30,659
Metal washers. Machine for making. S. J. Shimer.....	30,565
Meter: see Electric. Liquid.	
Mill: see Roller.	
Moulds for casting cellular electrodes. C. H. Thompson.....	30,538
Motor: see Water.	
Moulding coal dust or small coal into solid blocks and apparatus to be used for this purpose. W. H. Lindsay.....	30,676
Mowing and reaping machine. J. T. & T. Jackson.....	30,597
Nipper: see Police.	
Oar lock. F. C. Lyon et al.....	30,657
Oil burner. L. Schutte.....	30,633
Ores, auriferous, auro-argentiferous waste. J. Weirich.....	30,529

Oyster knife. C. B. DeLamarre.....	30,571
Packing and binding wood. T. V. Wheeler.....	30,619
Paper: see Toilet.	
Photographic plate to be developed in water. L. Backelant.....	30,641
Photographic process for printing in colors. J. S. Hösch.....	30,658
Pigment: see Lead.	
Pipe: see Stove.	
Pipe for smoking tobacco, etc. Cigar-holders, etc. S. Backus.....	30,600
Plastering composition. J. H. Fitzgerald.....	30,636
Plate: see Photographic.	
Plough: see Rotary.	
Pointing and cutting off dies. American Screw Co....	30,649
Police nipper. G. Rome et al.....	30,602
Post: see Fence.	
Powder dusting machine. E. A. Dodgson.....	30,562
Printing: see Photographic.	
Proofing: see Fire.	
Pump. W. H. McIntyre.....	30,607
Rack: see Display.	
Radiator. P. J. Kelly.....	30,589
Radiator loops. Machine for assembling. H. H. Taylor.....	30,610
Rail joint unions. S. Tappen et al.....	30,625
Railroad frog. J. F. Hart et al.....	30,590
Raisin seeder. J. E. Gammon et al.....	30,539
Raising or lifting heavy weights. Apparatus for. T. Laudau et al.....	30,592
Reaping: see Mowing.	
Relay: see Telegraphic.	
Rheostat resistance for electric circuits. E. W. Rice..	30,677
Road cart or two wheeled vehicle. W. B. Altick.....	30,558
Roller mill. J. A. McAnulty.....	30,631
Roller mill. J. B. Murphy et al.....	30,606
Rotary cutting knife. J. M. Butters.....	30,603
Rotary engine. E. Raymond.....	30,556
Rotary snow ploughs. Attachments to. Canadian Pacific Railway Co.....	30,621
Sawdust: see Cleaning.	
Scale: see Automatic.	
Scale for weighing cars and recording the weights. Automatic. E. H. Arrick.....	30,639
Scaffold bracket. J. A. Long.....	30,674
Screen: see Wire.	
Screw threading machine. H. H. Taylor.....	30,536
Seam for sheet metal. E. J. Dolan.....	30,549
Seat: see Spring.	
Seeder: see Raisin.	
Separator: see Elevator.	
Service: see Store.	
Sewing: see Button.	
Sewing machine. Singer Manuf'g. Co.....	30,585
Sharpening stone cutting tools. Device for. E. England.....	30,635
Shirt. H. W. Messer.....	30,552
Shoe: see Laced.	
Shoe clasp. J. L. Thomson et al.....	30,547
Signal for railway and other purposes. C. H. Koyl....	30,614
Skate. J. Forbes.....	30,595
Spark arrester. R. H. Coleman.....	30,673
Spark arrester. R. H. Coleman.....	30,675
Spring for vehicles. A. E. Cook.....	30,638
Spring seat and foot rest for vehicles. L. Warren....	30,669
Spring stay. G. N. Clark.....	30,623
Stamping device for cuff-blanks. F. B. Ide.....	30,654
Stand: see Hinged. Holder. Clamp.	
Stay: see Spring.	
Steam boiler. H. Hackney.....	30,640
Steam engine. J. T. Case.....	30,587
Steam engine valve. A. Tolton.....	30,662
Stone: see Artificial.	
Stopping bottles, jars, and other vessels. W. Shepherd.....	30,559
Store service apparatus. H. Herbert.....	30,653
Stove pipe. J. O. Thorn et al.....	30,620
Synchronous movements and telegraphy. P. B. Delany.....	30,645
Synchronous multiplex printing telegraphy. P. B. Delany.....	30,644
Telegraphic relay. P. B. Delany.....	30,643
Telegraphy: see Synchronous.	
Threading: see Screw.	
Toilet paper. C. D. Chase.....	30,682
Tools: see Sharpening.	
Tray: Lime.	
Tree. Double and whiffle. J. and B. Bear.....	30,598

Truck: see Car.	
Tube expander. A. B. Jardine & Co.....	30,575
Twine, and device for making the same. J. Lyall.....	30,646
Types. Art of forming justified lines of. Lanston Type Machine Co.....	30,581 30,582 30,583 30,584
Umbrella: see Hinged.	
Undervest: see Knitted.	
Unions: see Rail.	
Valve: see Steam.	
Valve. H. A. Goll.....	30,566
Vats: see Faucet.	
Vehicle: see Spring.	
Vehicle wheel. A. P. Ricard.....	30,588
Washer: see Metal.	
Water motor. H. E. Trumble.....	30,664
Waterproof and anti-corrosive compound for coating ships, etc. A. Andrews et al.....	30,555
Waterproofing compounds. C. T. Snedeker.....	30,612
Weight: see Raising.	
Wells: see Artesian.	
Wheel: see Vehicle.	
Wheel hubs and axle. Mechanism for detachably connecting. A. F. C. Garben.....	30,572
Windmill: see Balanced.	
Wire screw. J. Buckhardt et al.....	30,564
Wood working machine. S. F. Tibbetts.....	30,672

INDEX OF PATENTEES.

Altick, W. B. Road cart or two-wheeled vehicle.....	30,558
Ambler, W., et al. Glass bottle.....	30,546
American Arithmometer Co. Mechanical accountant.	30,577
American Screw Co. Blank supporting device for screw-threading machines.....	30,578
American Screw Co. Pointing and cutting off dies ...	30,649
Amet, E. H. Automatic scale for weighing cars and recording the weights.....	30,639
Andrews, A., et al. Water-proof and anti-corrosive composition suitable for coating ships, and such like purposes.....	30,555
Backelant, L. Photographic plate to be developed in water.....	30,641
Backus, S. Connection with pipes for smoking tobacco and other substances, cigar-holder, etc.....	30,600
Bailey, A. H. Clam extracts and process of making the same.....	30,570
Barnard, G. A. Heating apparatus.....	30,561
Bear, J. & B. Double and whiffletree.....	30,598
Beauchemin, J. E. Rotary engine.....	30,556
Bedard, V., et al. Axle grease.....	30,548
Beynon, J. R., et al. Alarm for grain elevators and analogous devices.....	30,576
Beynon, J. R., et al. Elevator and separator for mills.....	30,605
Beynon, J. R., et al. Roller mill.....	30,606
Blizzozero, C. E. & E. Medicine.....	30,659
Black, H. N. Cornice for the interior of edifices.....	30,652
Blondin, J. A. & F. H., et al. Device for Boring artesian wells.....	30,586
Boehme, E. Automatic friction coupling.....	30,679
Borland, W. D., et al. Ammunition and its manufacture.....	30,609
Bouvier, L. P. Envelope machine.....	30,660
Boyce, S. S. Disintegrating fibrous substances.....	30,617
Boyden, W., et al. Raisin seeder.....	30,589
Briggs, W. R., et al. Oar lock.....	30,657
Brown, F. R. F. Attachment to rotary snow ploughs.	30,621
Burkhardt, J., et al. Wire screw.....	30,564
Burroughs, W. S. Mechanical accountant.....	30,577
Butterfield, S. K. Spring stay.....	30,623
Butter, J. M. Rotary cutting knife.....	30,603
Calef, J. W. Raisin seeder.....	30,539
Camp, D. A. Holdback.....	30,666
Campbell, D. Manufacture of artificial stone or marble.....	30,579
Canadian Pacific Railway Co. Attachment to rotary snow ploughs.....	30,621
Casamajor Filter Co. Cleaning and recovering sawdust or similar hydrate substances from filtrates..	30,630
Casamajor, L. J. Apparatus for cleaning and recovering saw-dust or similar hydrate substances from filtrates.....	30,630
Case, J. T. Steam engine.....	30,587
Chambers, C., et al. Manufacture of artificial stone or marble.....	30,579

Chase, C. D. Tillet paper.....	30,632	Lanston Type Machine Co. Art of forming justified lines of types.....	30,581 30,582 30,583	30,584
Clark, G. N. Spring stay.....	30,623	Latulip, F. Tool head and handle.....		30,661
Coleman, R. H. Spark arrester.....	30,673	Laudick, J. M. Display rack.....		30,554
Coleman, R. H. Spark arrester for coal burning locomotives and other engines.....	30,675	Leniner & Co., S. Automatic friction coupling.....		30,679
Connett, M. F. Hand fence machine.....	30,678	Liebich, M. A. O. L., et al. Lamp holder for music stands.....		30,622
Cook, A. E. Spring for vehicles.....	30,638	Lindsay, W. H. Moulding coal dust or small coal into solid blocks, and apparatus to be used for this purpose.....		30,676
Côte, A., et al. Belt fastener.....	30,553	Long, J. A. Scaffold bracket.....		30,674
Currier, J. E. W. Car truck.....	30,594	Lowe, W., et al. Rail joint unions.....		30,625
Dake Engine Manufacturing Co. Engine.....	30,648	Lyall, J. Twine and device for making the same.....		30,646
Dake, W. F. Engine.....	30,648	Lyon, F. C., et al. Oar lock.....		30,657
Dalby, T., et al. Raisin seeder.....	30,539	McAnulty, J. A. Roller mill.....		30,631
DeLamarre, C. B. Oyster knife.....	30,571	McIntyre, W. H. Pump.....		
Delany, P. B. Synchronous movement and telegraphy.....	30,645	Mace, H. A., et al. Flood fence.....		30,629
Delany, P. B. Synchronous multiplex printing telegraphy.....	30,644	Maynard, J. Combined latch and lock.....		30,608
Delany, P. B. Telegraphic relay.....	30,643	Messer, H. W. Shirt.....		30,552
Detroit Stay Co. Garment stay.....	30,542	Miller, G. N., et al. Chain link.....		30,541
Dickson, S. J. Bed bottom.....	30,668	Montross, L. H. Stove pipe.....		30,620
Diehl, P. Sewing machine.....	30,585	Mosely, B. L., et al. Manufacture of artificial stone or marble.....		30,579
Dodson, E. A. Powder dusting machine.....	30,562	Munro, D., et al. Ice creeper.....		30,650
Dolan, E. J. Seam for sheet metal.....	30,549	Murphy, J. B., et al. Alarm for grain elevators and analogous devices.....		30,576
Doolittle, S. L., et al. Manufacture of chairs.....	30,530	Murphy, J. B., et al. Elevator and separator for mills.....		30,605
Douglas, W. H. Clock escapement.....	30,634	Murphy, J. B., et al. Roller mill.....		30,606
Duff, J. Dumping car.....	30,568	Newman, R. J. Cuff holder.....		30,563
Elsaman, A., et al. Police nipper.....	30,602	Oimstead, A. P. Hub attaching device.....		30,624
England, E. Device for sharpening stone-cutting tools, etc.....	30,635	Pentz, J. A., et al. Electric meter.....	30,581	30,541
Farwell, F. R., et al. Barley flakes and the process of producing the same.....	30,537	Phillip, G., et al. Belt fastener.....		30,558
Fell, A. G. Lead pigment and process of preparing the same.....	30,613	Phillips, J. Grape harvester.....		30,642
Fitzgerald, J. H. Plastering composition.....	30,636	Poole, G. H. Automatically closing cans and bottles.....		30,586
Fontaine, M., et al. Device for boring artesian wells.....	30,586	Porter, A. T., et al. Hub attaching device.....		30,624
Forbes, J. Skate.....	30,595	Pratt Electro Therapeutic Supply Co. Electric belt.....		30,544
Gammon, J. E., et al. Raisin seeder.....	30,539	Pratt, H. P. Electric belt.....		30,544
Garben, A. F. C. Mechanism for detachably connecting wheel hubs and axles.....	30,572	Ramsay & Son, A., et al. Glass bevelling machine.....		30,651
Gareau, R. R. Indicator for hotels.....	30,647	Raymond, E. Rotary engine.....		30,556
Gilchrist Manufacturing Co. Hand fence machine.....	30,678	Reckenzaun, A., et al. Electric meter.....	30,531	30,540
Goll, H. A. Valve.....	30,566	Rhines, F. P., et al. Barley flakes and the process of producing the same.....		30,587
Goodwin, J. Hinged and halved umbrella stand.....	30,557	Rhodes, J., et al. Glass bottle.....		30,546
Gosselin, C. Automatic boiler feeder.....	30,632	Rhodes, S., et al. Glass bottle.....		30,546
Goulloud, L. Dust guard for car axle boxes.....	30,680	Ricard, A. P. Vehicle wheel.....		30,588
Gunning, J. F. G. Manufacture of corsets.....	30,573	Rice, E. W. Rheostat resistance for electric circuits.....		30,677
Hackney, H. Steam boiler.....	30,640	Robinson, B. E. Attachment to blacksmith's anvils.....		30,591
Hallwell, S. Button-hole attachment for sewing machines.....	30,626	Rogers, C. D. Blank supporting device for screw-threading machines.....		30,578
Harrison, T. W. Bag lock.....	30,656	Rogers, C. D. Pointing and cutting off dies.....		30,649
Hart, J. F., et al. Railroad frog.....	30,590	Rome, G., et al. Police nipper.....		30,602
Hawley, W. D. Clamp.....	30,618	Rylands, D. Axle boxes or bearings of carriages.....		30,627
Hayes, G. Fire proofing of buildings.....	30,611	Samuel, E., et al. Stove pipe.....		30,620
Hendry, C. M., et al. Railroad frog.....	30,590	Saxon, S. J., et al. Fence post.....		30,599
Herbert, H. Store service apparatus.....	30,653	Scharfberg, S., et al. Apparatus for raising or lifting heavy weights.....		30,592
Hervien, C., et al. Axle grease.....	30,548	Schild, P. J., F. L. and C. C. Horse boot.....		30,671
Hibner, D., et al. Manufacture of chairs.....	30,580	Schutte, L. Oil burner.....		30,633
Hislop, A., et al. Ice creeper.....	30,650	Selman, J. T. B. Furniture.....		30,550
Hosch, J. C. Photographic process for printing in colors.....	30,658	Shepherd, W. Stopping bottles, jars and other vessels.....		30,559
Howes, A. P. Faucet.....	30,662	Shimer, S. J. Machine for making metal washers.....		30,565
Howitt, M. Laced rubber boots and shoes.....	30,616	Singer Manufacturing Co. Sewing machine.....		30,585
Humphreys, D. Galvanic battery.....	30,532	Smith, R. C. Elevator.....		30,601
Hunter, J., et al. Shoe clasp.....	30,547	Snedekor, C. T. Water proofing compounds.....		30,612
Hunter, W. B., et al. Flood fence.....	30,629	Stafford, A. Faucet for regulating the discharge of liquids from vats, tanks, cisterns, etc.....		30,604
Ide, F. B. Stamping device for cuff blank, hem-folding and cutting machine.....	30,654	St. Croix, W. Combined hot water and hot air heating furnace.....		30,670
Jackson & Co., W. H., et al. Wire screen.....	30,564	Stowe, S. F. Cake or bread beater.....		30,667
Johnson, A. W. Button-hole attachment for sewing machines.....	30,626	Sutherland, A. M. Process of and apparatus for the manufacture of gas.....		30,665
Johnson, D., et al. Ammunition and its manufacture.....	30,609	Taylor, H. H. Machine for assembling radiator loops.....		30,610
Jackson, J. T. & T. Mowing and reaping machine.....	30,597	Taylor, H. H. Screw-threading machine.....		30,356
James, W. H., et al. Fence post.....	30,599	Tappen, S., et al. Rail joint unions.....		30,625
Jardine & Co., A. B. Tube expander.....	30,575	Teideman, G. Liquid meter.....		30,560
Jardine, J. and P. Tube expander.....	30,575	Thompson, C. H. Electrode for secondary batteries.....		35,533 30,535
Kelly, H. E., et al. Chain link.....	30,541	Thompson, C. H. Molds for casting cellular electrodes.....		30,538
Kelly, P. J. Radiator.....	30,589	Thomson, E. Current dynamo.....		30,628
Kimball, S. L. Burglar alarm.....	30,681	Thomson, E. Electric meter.....	30,543	30,545
Kitchingham, E. L., et al. Water-proof and anti-corrosive composition.....	30,555	Thomson-Houston International Electric Co. Current dynamo.....		30,628
Koyl, C. H. Signal for railway and other purposes.....	30,614	Thomson-Houston International Electric Co. Electric meter.....	30,543	30,545
Krutzsch, H. Brick machine.....	30,551	Thomson-Houston International Electric Co. Rheostat or resistance for electric circuits.....		30,677
Landau, F., et al. Apparatus for raising or lifting heavy weights.....	30,592	Thomson, J. L., et al. Shoe clasp.....		30,547
Langlais, A., et al. Glass bevelling machine.....	30,651	Thorn, J. O., et al. Stove pipe.....		30,620
Lanston, T. Art of forming justified lines of types.....	30,581 30,582 30,583			

Tibbetts, S. F. Wood working machine.....	30,672	Weirich, J. Ores. Auriferous auro-argentiferous waste.....	30,529
Tolton, A. Steam engine valve.....	30,662	Wheeler, B. J. Garment stay.....	30,542
Tooke, B., et al. Lamp holder for music stands.....	30,622	Wheeler, T. V. Packing and binding wood.....	30,619
Trumble, H. E. Water motor.....	30,664	Wilcomb, F. Knitted drawers.....	30,580
Tuckwood, C. H. & W. Balanced gearing for wind mills.....	30,593	Wilcomb, F. Knitted undervest.....	30,574
Turnbull, G. H. Lime tray for purifying gas.....	30,615	Wilcomb Manufacturing Company. Knitted undervest.....	30,574
Union Bearing and Lubricator Co. Dust guard for car axle boxes.....	30,680	Wilcomb Manufacturing Company. Knitted drawers.....	30,580
Warren, L. Spring seat for vehicles, and spring foot rest or spring bottom for such vehicles.....	30,669	Wonscott, J. R., et al. Flood fence.....	30,629
		Young, J. Letter and document file.....	30,567

