



ILLUSTRATIONS.

Artificial leg, Schneider. 283
Ash sifter, Harlow. 186
Augers, machine for twisting, Grier and Boyd. 195
Axle gage, Bamberger. 217
Axles, lubricating, Parsons. 423
Bag holder, Corbin. 322
Bark mill, Thomas. 248
Barrel machine, Thompson. 381
Beehive, Taylor and Cox. 46
Boiler feeder, Cross. 215
Boiler feeder, Widgeon. 390
Boiler furnace, Clark. 302
Boiler, steam, Connery and Penny-packer. 15
Boiler, steam, Tanger. 6
Bolt cutter, Rodgers. 252
Boon and gaff, Manning. 228
Boot, ventilating, Perry. 194
Borer, earth, Carey. 194
Bracket for window shades, Nell. 91
Brick machine, Capron and Winchell. 220
Brick machine, Kneepke. 279
Brick machine, Wollstone. 83
Broom head, Spaulding. 66
Bullet, patched, Peck. 314
Cane knife and stripper, Comarroc. 228
Cane stripper, Bishop and Gladden. 86
Cannon, breech-loading, Miller. 286
Car truck, suspension, Strait. 348
Chair and table, Bernery. 819
Chuck jaw, Staub. 419
Churn, Bailey. 126
Churn, automatic, Wilson. 367
Churn dasher, Spencer. 400
Collar fastener, Hodgkins. 110
Connecting link, Thompson. 412
Cooking apparatus, Kasson. 229
Cotton-halt tie, metallic, Le. 330
Cotton clearer, Veber. 426
Cravat holder, Hart. 14
Coupling, car, Parsons. 70
Coupling, shaft, Kneegles. 113
Cultivator, corn, Stover. 113
Cutter, green-corn, McGill. 84
Drawer knob, Myers. 374
Drill chuck, Olmsted. 22
Drill rest for grinding, Strahan. 34
Drum or radiator, funnel, Ruth and De Long. 267
Elevator for mines, Williams. 363
Engine, caloric, McDonough. 19
Evaporator, sorghum, Riggs. 130
Flax breaker and dresser, Abbot. 390
Furnace, moist-warm-air, Whittingham. 245
Gag crock, Henk. 39
Gas-pipe tongs, Bannister. 78
Gate supporter and latch, Ketchum. 262
Grate bars, hollow, Nevins. 62
Gun and projectile, Broadwell. 166
Gun, revolving, Milbourn. 370
Hammer, dead-stroke power, Shaw. 134
Hammer, dead-stroke, Shaw and Justice. 383
Hat rack, Keener. 186
Hedge trimmer, Oliver. 278
Hoe, weeding or scuffle, Allen. 278
Hook and holder, Geschwind and Grether. 378
Horse collar, Durfee. 319
Hydrant, Biggs and Flinn. 54
Hydrant, non-freezing and non-wasting, Lark. 159
Husker, harvester, and stacker, Manlove and Gleason. 232
Journal box, self-lubricating, Rice and Miller. 38
Kerosene chandelier, Adair. 38
Knife and scissors sharpener, Russ. 270
Lamp chimney, Appleby and Gould. 90
Lamp top, Irwin. 150
Lattice, spoke-turning, Gleason. 142
Litter and ambulance, wheeled, Tompkins. 270
Lock, magnetic safe and bank, Sargent. 297
Loam, fancy, Duckworth. 177
Mangle, improved. 153
Millstones, bushing, adjusting, etc. Weston. 153
Mop wringer, White. 173
Movement, Rowell. 91
Nail Extractor, Hogan. 202
Needle gun, the Prussian. 163
Oil cup, Irwin. 163
Oil wells, device for, Christian. 119
Oiler, Holt and Thompson. 78, 118
Oiler, King. 184
Oiler, spring-top, Olmsted. 286
Piston packing, Jacobs. 70
Planing machine, Dixon. 162
Plug for steam boilers, fusible, Smith. 158
Potato washer, Williams. 356
Printing gage, Thynge. 332
Propelling steam vessels, Kinkel and Ebbe. 127
Pulley, Birdsall. 102
Pump, lifting and force, Andrews. 244
Pump, liquor and transfer, Tully and Reece. 178
Pump, rotary, Heald and Sisco. 304
Quartz stamp, patent. 31
Railroad switch, self-adjusting, Zinn. 244
Railway, elevated atmospheric, (aryl). 111
Regulator for steam engines, Douglas. 143
Roading, metallic, Becker. 150
Rudder ship's, Le Pelley. 315
Sad iron, Behorn. 374
Sash support, Elliott. 126
Sash support, Tschach. 102
Saw gummer, Dole. 14
Saw horse, Fay. 338
Sawmill cover, Litzberg. 318
Sawmill trestle, Doddington. 366
Screw driver, Eversol. 182
Screw plate, Zillier. 89
Shingle machine, Connett. 79
Ship, windlass and coil separator, McGill. 212
Shoe calks, adjustable, Litzberg. 244
Shoe cleaner, Newbury. 220
Station indicator, P. E. and J. P. Gruger. 314
Steam engine, combined, Huntton. 212
Steam generator, Bell. 419
Steam engine, portable, Bellows and Whitcomb. 3

Stopper and discharge spout, Myers. 108
Stove attachment, Elliott. 110
Stove tongs, Stilwell. 400
Stove-pipe furnace, Morse. 249
Swage for saw teeth, Emerson. 34
Table-leaf supporter, Cavender. 228
Toilet glass, Chappell and Godden. 50
Torpedo, petroleum, Roberts. 54
Towel rack, Hotchkiss. 46
Trap, animal, Ellis and Albertson. 236
Trap, animal, Pitman. 62
Tubecutter, Thomas. 386
Turning lathes, universal box for, Wolfenden. 392
Turntable pivot, Kinsey. 356
Tweezer iron, Bayliss. 419
Valve, balanced governor, White. 1
Valve, diaphragm, Allen. 6
Valve, float, Heald. 322
Valve, globe, Worcester. 335
Vice, governor, Snow. 352
Vise, parallel, Flora. 252
Wagon and carriage spring, La Baw and Campbell. 296
Wagon-bow fastening, Scott. 400
Wagon jack, Dunn. 216
Wash basin, Kneepke. 62
Washing machine, Davenport. 47
Water closet, Pettit. 236
Water elevator, Woodworth. 286
Water power, combination, Kratzer. 338
Water closet, Wellington. 419
Wheel, double-power, Wynkoop. 354
Wheel, turbine, Swain. 35
Wood-bundling press, Green. 194

MISCELLANY.

Abbot for New York. 120, 298
Acetic acid and acetates from wood vinegar. 387
Acids, test for. 228
Acids on steel, action of. 330
Acoustic phenomenon. 197
Age of stone in China. 212
Agricultural exhibitions. 132
Agricultural machines, trial of. 31, 48
Air furnace, trouble with. 53
Aluminum, home-made. 68
American antiquities. 184
American engines, English ship-builder on. 31
American fire-arms, the first. 264
American gun-makers, opportunity for. 284
American Institute—Polytechnic Branch. 215, 231, 283, 313, 371, 385, 421
American invention, progress of. 262
American railway wheels in England. 366
American Social Science Association. 283
American tools, let Americans use. 36
Anthlometer, or measurer of resistance. 370
Arm or plate fastenings. 196
Army, the Prussian. 98
Artesian wells, improvement in constructing. 196
Artists and artisans. 135
Atlantic cable. 34, 50, 79, 102, 162
Atlantic cable of 1865. 247
Atlantic cable, the broken. 236
Atlantic telegraph charges. 103 (2)
Atlantic telegraph—its present and probable uses. 237

Cementing tin and glass. 54
Chafing, to prevent. 19
Chemical notes. 82, 147
Children of mechanics. 65
Chilled iron, softening. 184
Chimney drafts. 232
Chimogene—a new anesthetic. 50
Cholera—sources of, and means of avoiding them. 138
Churn, Ryerson's. 101
Circle, squaring the. 301
Coal gas, inflammability of. 220
Coal, iron, and oil. 382
Coal—its origin and nature. 277
Coal, the combustion of—economy in fuel. 271
Coffee making. 52
Coffee and its adulteration. 426
Colors on the retina, persistence of. 283
Colors in relation to artificial light. 370
Combination tools patentable. 219
Combustion of coal in ships, spontaneous. 120
Commerce on the Atlantic, Steam ship. 248
Concrete for building purposes. 218
Cooper Union free school. 231
Correlation of the physical forces. 217
Correspondence, special. 80, 97
Corn crop. 161
Cotton, foreign. 114
Cotton Manufacture. 423
Counseling our enemies. 119
Cutting garments by machinery. 114
Cryptography. 55

Decision, important—Does "cash" mean gold. 313
Decision, important—Tanner's patent. 103
Decision in interference case. 69
Digits, a new system of. 49
Dining, the art of. 196
Disinfectant—carbolic acid. 167
Disinfectants, Crookes on. 146
Distilling, improved mode of. 388
Dress, on. 49
Dundas cultivator reissue. 351
Dyeing fabric and yarn. 146

Electric machine wanted, small. 351
Electricity, inclosing. 5-5
Enamel, waterproof, for card photographs. 22
Encourage the small things. 155
Engine, portable, the Wood and Mann. 204
Engines of the Rising Star. 185
Engines, the Lord Warden's. 86
Engineering, honors to mechanical. 5
Erie Basin Dry Dock Company. 356
Erie's transposing figures corrected. 336
Exhibition, Paris universal. 164
Exhibition, the Brazilian. 128
Experiments, duty of recording. 167
Explosion, a very singular. 348
Explosion of lamps, West Albany. 194
Exports of the world. 370

Farm, largest in the world. 14
Feed, long. 36
Fire-crackers should be prohibited. 55
Fire engines, improvement in. 178
Fire engines, steam. 132, 185
Fire in a coal mine. 284
Fire and sun-heat experiments. 284
Fire in a coal mine, burning of. 296
Fire lighting in olden times. 199
Filter, a disinfecting. 114
Fleas. 32, 132, 164
Flying machines. 63
Fogs, clouds, and rains in the atmosphere. 420
Foreign items. 84
Foreign scientific news. 16, 98, 216, 234
Forests—effect of their removal. 367
Forest rees, a cultivation and uses. 421
Forgings, heavy. 81
Franklin Institute. 296
Frigate C. catanooza, trial of. 38
Fuel, new steamboat. 4
Fuel, using—managing bituminous coal. 305
Furnace for chemical experiments, cheap. 14
Fumigating. 187

Galaxy, the. 30
Gages for iron work. 120
Gas for less than nothing. 120
Gas, new material for producing. 216
Gas, new method of generating. 298
Gas odors. 228
Gas project, new. 267
Gas purification. 280
Gas reports, clay vs. iron. 68
Gases in guns, transverse force of. 167
Gases, their wedging when confined. 131*
Goulding's Patent. 423
Glass, a new way of cutting. 234
Grain—how stored in New York. 132
Grain elevators—grain trade. 249
Granulation of blast-furnace slags. 81
Grasshopper scourge. 234
Gun barrels, bronzing. 296
Gun paper. 2
Gun, the Ames. 4
Gun, the non-recoil. 213
Gun, the faller. 298
Gunpowder, new kind of. 298
Gun trial in England. 143
Gun—why it heats on firing. 16, 115
Guns, English and American. 304
Guns, Fraser. 319
Guns, heating them by concussion. 34
Glass soluble. 371
Gut cord and belt. 132
Gutta serena, how obtained. 94

Ice pletcher, cheap. 47
Idea—associated effort, etc. 165
Improvements going on South. 131
Improvements, useful, not opposed to the harmony of nature. 221
Indigo, whence comes. 617
Inconsistency, a strange. 217
Infection, power of. 162
Inlaying. 267
Insurance. 70
Insurance against steam-boiler explosions. 132
Inventor, an unfortunate. 89
Inventor, the first to make his invention useful. 57
Invented wanted—copying paper. 192
Inventors and patentees, a word to. 203
Inventors' commission agency. 367
Inventors, important to Southern. 232
Inventors, their labors and rewards. 87
Inventors, unscientific. 200
Inventions patented in England by Americans. 235, 251, 269, 320, 373
Iron and copper resources of Great Britain. 197
Iron and steel. 301
Iron and steel, American. 233
Iron belt, the great. 374
Iron-clads, vulnerability of—the Shoeburyness experiments. 270, 300
Iron-clads, by a U. S. navy officer. 375
Iron mountain in Sweden. 213
Items from the British Association. 196
Inks, sympathetic. 302
Ivory, coloring. 387

Jamaica—a field for inventors. 355
Japan. 261
Journal, value of a scientific and mechanical. 427
Jungles on fire. 247
Just measure. 23

Kaolin works. 143
Kerosene oil, spontaneous explosion of. 330
Kerosene telegraph. 168

Labor, subdivision of. 119
Land slide, singular. 271
Lead pencils, manufacture of. 145
Leaves, the change of. 181
Law of Mariotte. 422
Letter from a "Reb." 232
Levees, the Mississippi. 190
Life-saving machine. 160
Lightning conductors. 234
Lighting, power of. 94
Lighting, protection against. 99, 118
Lighting-rod insulation. 148, 161, 320
Lighting-rod question. 235
Manufactures as a means of wealth. 284
Locomotive works, West Albany. 194
Lumber—securing it on wago.s. 194

Machinery of the Dunderberg. 144
Machinery vs. manipulation. 271
Machinery wanted for oil mining. 249
Madstone—a delusion. 299
Magnesium light, new. 36
Magnetic electricity. 36
Manganese, black oxide of. 200
Man holes and safety valves. 313
Manufactures as a means of wealth. 284
Manufactures, Austrian, injured by the war. 196
Manufactures in Hartford. 266
Manure, well-rotted. 146
Marine disasters, the late. 278
Marine, our commercial. 71
Mariner's compass—how to find its variation and attraction. 37
Measuring logs. 52
Meat, recipe for curing. 317
Meats, fresh—their transportation to market. 421
Meats, McCall and Sloop's process for preserving fresh. 323
Mechanics—his influence in politics. 271
Mechanics' and agricultural fair. 271
Mechanics, educated. 264
Mechanics' fair at Worcester. 246, 264
Mechanics needed. 218
Mechanical nonsense. 151
Medicine, modern. 391
Meerschaum and amber. 161
Metal, what is a. 194
Meteor, a green. 335
Meteors, the November. 319
Meteorological phenomenon. 293
Meteor shower, the triennial. 326
Metric system, the proposed. 50, 140
Minautomaton at Queenstown. 34
Millers, questions for. 68, 100
Mills for grinding paints and printers' inks. 84
Millstones, filling for. 162
Molds for casting iron, steel, etc. 314
Money standard, a uniform. 305
Monitor engines. 62
Monitors and heavy guns in Sweden. 230
Monitors, sea-going. 190
Mosquitoes. 34
Mutual dependence. 126

National Academy of Sciences. 131
Navy, a new. 113
Nitro-glycerin or our substitute for gunpowder. 2
Nitro-glycerin, experiments with. 55
Nitro-glycerin, use and abuse of. 385
Nitro-glycerin used in blasting rock. 196
Notes on new discoveries and applications of science. 34
Numerals, the Arabic, representative characters. 266, 323, 383

Oil Creek, a week on. 144
Oil districts of Canada. 214
Oil, first found in Pennsylvania. 113
Oil men and miners, interesting to. 3
Oils, weight of. 52
Ordinance, enlargement test for. 110
Organ at Plymouth church. 110
Osiers, cultivation and manufacture of. 214

Pacific railway, progress of. 356
Paper money, volume of. 214
Paris exhibition building. 391
Paris universal exposition. 252
Patent dealer, must he take out a license? 483
Patent case decided, important. 330
Patent Office decision, cultivators. 538
Patent swindling. 102
Patents, change in the style of. 357
Patents in Congress again. 7
Patent laws, Canadian. 32, 39, 7
Patents, legislation on. 253
Patents, the Commissioner of. 283
Peat manufacture. 163
Peat, manufacture and combustion of. 386
Peat, origin and composition of. 369
Pen, its construction and use. 145
Personal. 68
Petroleum and sperm oil as lubricators. 314
Petroleum formed from seaweed. 144
Petroleum, inflammability of. 151
Phosphorus, separating it from metals. 281
Photo-medallions. 68
Photography. 68
Photographic art. 314
Photographic slides for magic lanterns, coloring. 193
Photography, sublimine. 213
Photography and kaledoscope. 383
Photography, colors in. 330
Photography, statistics of. 351
Photographing a volcano. 63
Photographs, popular. 299
Photographing cannon balls. 132
Pickling castings. 143
Pier and warehouse system for New York. 427
Piston, its place when the crank is vertical. 307, 333, 423
Piston of a steam engine. 115, 163
Piston question. 250
Planer a four-foot. 23
Planing knives, long—hardening them. 161
Plants, useful. 2
Pumbago in Georgia. 388
Poisonous bites—madstones. 163
Polars and the Gulf Stream. 151
Pole, the north—Spitzbergen. 31
Porcelain and opalescent glass. 320
Porcelain process and developer. 215
Postal money orders, and bankers' drafts. 298
Power gained by a lever. 262
Prairie-wood on them. 164 (2)
Practical hints. 257, 368, 390, 426
Precipitation of metals by magnesium. 130
Preserving green peas. 382
Preserving meat, three processes for. 214
Printing surfaces produced by photography. 370
Printing of woven fabrics. 199
Public work in Holland. 374
Pulleys, large and small. 35
Pulleys, wrought-iron drums for. 65
Pyrophorus. 115

Quartz, auriferous, extracting the metals from. 290
Queen's portrait for Mr. Peabody. 66

Rags, importance of. 71
Rails, life of steel and iron. 426
Railroad disaster, an extraordinary. 167
Railroad in the Alps. 237
Railroad, Pacific, progress of. 316
Railroad tracks, iron and steel. 127
Railroads and telegraphs in South America. 168
Railway carriage signals, English. 198
Railway engineering in London. 333, 368
Railway, elevated, for New York city. 119
Railway enterprise, a great. 118
Railway over the Alps. 222
Railway tariffs, European. 424
Railway, the pneumatic. 298
Railway trains heating. 297
Railway wheels, chilled. 366
Rain gages and rain fall. 118
Raising vessels, experiments in. 234
Rebuilding Charleston. 128
Recipes. 67
Reissue of Letters Patent, law applicable to. 21
Reproduction of drawings, etc. 97
Rifle shooting. 66*
Rifle, Springfield, report on. 86
Rifles, breech-loading. 36
Rifle practice. 426
Rifles, the Lindner and Remington. 163
Rinderpest, pleuro-pneumonia and cholera. 39
Roads, common, building of. 39
Rose, the. 270
Rose-wine, the Bremen. 216
Russian railroads and the Krupp guns. 388

Safety valves. 165
Safe lock. 351
Safes, how burglars operate on. 79
Safes, iron, are they safe. 55
Salt, do animals require. 168
Salt, its uses and production. 146
Salt, usefulness of. 371
Salt works, the Onanaga. 262
Sawing lumber. 160, 181
Saw, how kept in order. 51, 83
Saw question, the circular. 253

Curtain: fixture 40, 90, 124, 186, 307, 396, 430	Faucet, basin..... 187	Gate hinge..... 291, 324, 325	Hearse..... 289	Ladder hook..... 275
Cushion and mattress..... 392	Faucet, beer..... 72	Gate latch..... 137	Heat radiator..... 170	Ladies' dresses, obtaining meas- ures for..... 394
Cushions of car seats, re dyeing..... 104	Faucet, diaphragm..... 340	Gage cock..... 9	Heat radiator attached to stove- pipes..... 378	Lagerbeer, manufacture of..... 74
Cutters for dovetailing machines..... 42, 394	Faucet, measuring..... 60, 272, 396	Gage for boilers..... 103	Heater for soldering irons..... 377	Lamp, 12, 24, 75, 122, 136, 173 (2), 241, 256 (2), 385, 480
Cutter for wood-planing machines..... 73	Feed bag..... 11	Gage, paper, for printing presses..... 42, 43, 104	Heater, steam-generating..... 410	Lamp and blow-pipe, soldering..... 123
Cutting board..... 171	Feed box, ration..... 306, 307	Gage, steam..... 42, 43, 104	Heating apparatus..... 106, 412	Lamp and candle stand and holder..... 123
Cutting machine, rotary..... 428	Feed cutter..... 306, 307	Gear cut..... 42, 43, 104	Heating stove..... 11, 40	Lamp bracket..... 72, 395
Cutting oval holes in boiler heads..... 171 (2)	Feed c. iter and box..... 273	Gear r., intermittent and expan- sive..... 308	Hedge trimmer..... 173	Lamp burner..... 122, 123, 341
Cutting rubber into threads..... 208	Feeding trough..... 56, 170	Gib for cross-head..... 327	Heel iron..... 274	Lamp chimney and shade..... 40
Cutting standing corn stalks, ma- chine for..... 188, 205	Fence, 26 (2), 74, (2), 105, 106, 121, 123, 136, 154 (2), 172, 189, 205, 207, 208, 225, 240 (2), 255, 290, 324 (2), 342, 379, 384, 410, 411, 414, 429	Glass bottles, c. nstruction of..... 327	Hemlock, portable..... 278	Lamp-chimney attachment..... 291
Cylinder for wool-burring and carding machines..... 41	Fence, field etc..... 105, 136, 190, 288, 307, 342, 139	Glass, ornamenting and lettering..... 428	Hemp, flax, etc., t. eating..... 419	Lamp-chimney cleaner, 42, 137, 170, 277
Cylinder, expanding..... 412	Fence, portable..... 27, 104, 188, 309, 324	Globe..... 288	Hides and skin, curing..... 325	Lamp cleaner..... 25
D				
Dam and levee..... 204	Fertilizer..... 25	Gold and silver ores, desulphuriz- ing..... 41	Hides, apparatus for working..... 104, 343	Lamp, etc., suspender..... 361
Damper stovepipe..... 283	Fibrous materials, picking and opening..... 275	Gold and silver separated from ores..... 392	Hides, skins, furs, etc., preparing for use..... 11	Lamp extinguisher..... 105, 190
Darning last..... 359	Fibrous material sizing..... 411	Gold heating apparatus..... 154	Hides softening dry..... 360	Lamp, fountain..... 152
Dental anesthetic instrument..... 359	File..... 208	Gold for dentists, preparing..... 154	Hinge..... 309	Lamp, locomotive..... 359
Dental drill..... 273	File blanks, machine for rol ing..... 359	Gold separator..... 90	Hinge, carriage..... 40	Lamp-shade supporter..... 40
Dental mallets..... 224	File-cutting machine..... 188	Gold with mercury, amalgamating..... 223	Hinges, machine for making..... 332	Lamp street..... 10
Dental mold..... 189	File, apparatus for stripping..... 105	Gong bell..... 272	Hinging device..... 137, 306, 412	Lamp ventilator and shade..... 106
Dentists, lamp stove for..... 289	File, repa ring..... 105	Goniometer..... 40	Hoe and corn planter..... 376	Lamp wick..... 11, 325, 378
Dentists' tool, plunger..... 289, 326	Filter..... 56, 290, 343, 414	Governor..... 121, 341 (2), 342 (2), 411	Hoes, manufacture of..... 376	Lamps, attaching burners to..... 105
Dentists' vulcanizer..... 132	Filter and cooler..... 257	Governor, hydraulic..... 173	Hog cholera, medicine for, 42, 254, 290, 392	Lamps, ratchet-wheel fixture for..... 43
Derrick for raising sunken vessels..... 132	Filter p. esa..... 140	Governor, vibrating..... 378	Hog trough..... 392	Lan e, spring..... 8
Diamond holder..... 57	Finger, scarf, and napkin rings..... 341, 359	Grab tool for oil wells..... 122	Hogs prevented from rooting..... 42	Lant rn, 25, 88, 89, 90, 138, 206, 207, 223, 238, 254, 292, 362 (2), 378, 410 (3)
Die box..... 430	Finger and burglar alarm..... 274	Grading instrument..... 428	Hoisting apparatus, 122, 171, 204, 223, 241, 309, 379	Lantern, street..... 187, 272
Die apparatus, rolling..... 543	Fire-arm, adjustable stock of..... 75	Grain, apparatus for weighing..... 10	Hoisting jack..... 375	Lap joint for belting..... 207
Die for beating sheet-metal..... 290	Fire-arm, breech-loading, 8, 11 (2), 73, 91, 10, 120, 140, 255, 257, 343, 353, 362 (2), 396	Grain separator..... 24, 27, 56 (2), 57, 59, 222, 274	Hoisting power, treadwheel..... 395	Lard boiler..... 340
Dirk knife, spring..... 205	Fire-arm, double-barreled..... 309	Grain-tallying machine..... 274	Hold back for carriages..... 154	Lard cooling..... 191
Dish washer..... 291	Fire-arm, magazine..... 123, 174, 191, 275 (2), 288, 291, 309	Grain-tallying machine..... 274	Hold back for carriages..... 154	Larder, ventilated..... 147
Dishes, drying..... 383	Fire-arm, revolving..... 11, 74, 156, 173, 204, 360	Grate..... 290	Hops, curing..... 394	Last, for open shoes..... 89, 120, 325, 340
Disinfectant..... 108, 139, 172, 224	Fire-arms, fitting lock plate to stock of..... 411	Grate and andiron, portable..... 393	Hops, curing..... 394	Latch fastening..... 308
Disinfecting, apparatus for cooling and..... 412	Fire-arm, telegraphic..... 307	Grate and andiron, portable..... 393	Hook and eye..... 394	Latch, stop-mortise..... 308
Distillation..... 324	Fire-arm, many-barreled..... 222	Grate and andiron, portable..... 393	Hook for dav. fall block..... 224	Lathe clutch..... 410
Distilling apparatus..... 379	Fire escape..... 40, 73	Grate and andiron, portable..... 393	Hoop lock..... 288	Lathe dog..... 413
Distributing table..... 289	Fire, extinguishing..... 324, 378	Grate and andiron, portable..... 393	Hoop skirt, 12, 40, 88, 106 (2), 138, 153, 273	Lathe dog-carrier..... 431
Dratching machine..... 59, 134, 188, 191, 255, 289, 320, 307, 310, 324	Fire, kindling..... 107, 190	Grate and andiron, portable..... 393	Hoop skirt, clasp for..... 237	Lathe for cutting screws..... 341
Documents, holding and filing..... 394	Fire, replacing, adjustable damper for..... 377	Grate and andiron, portable..... 393	Hoop skirt machine..... 362	Lathe for open handles..... 341
Door and gate spring..... 255	Fire shield..... 343, 360, 412	Grate and andiron, portable..... 393	Hoop skirt wire..... 362	Lathe for shafting..... 272
Door bell and burglar alarm..... 24, 377	Fire tester, carbon-oil..... 43	Grate and andiron, portable..... 393	Hoop skirts, frame for forming..... 292	Lathe, turning..... 189, 411
Door bolt..... 189, 173	Fire, extracting oil from..... 155	Grater or carrot and other vegeta- bles..... 139	Hoop s for casks, machine for shav- ing..... 190	Lathe rest for turning balls..... 11
Door fastener..... 341, 342, 360	Fishhook..... 255, 379	Grater, nutmeg..... 326	Hop-vino support..... 154	Lathe, rose engine..... 138
Door fastening, portable..... 291	Fishhook, spring..... 378	Grinding and polishing, composi- tion..... 121	Hops, curing..... 394	Lathe, wood-turning..... 288, 292, 414
Door key fastener..... 42	Fish to pass over dam..... 27	Grinding cutlery, etc., machine for..... 73	Horse collar..... 170, 273, 360, 396	Lathe, feed stock for..... 160
Door knobs fastened to shanks..... 360	Fishing apparatus..... 121	Grinding mill, 12, 25, 57, 91, 188, 190, 275, 333, 312, 311, 391, 396, 438	Horse collars, filling..... 362	Lead obtained from dross..... 308
Door latch..... 341	Fishing line sinker..... 107, 238	Grinding tools, etc., machine for..... 172	Horse collars, stretching..... 362	Leather, cement for..... 376
Door spring..... 189, 3, 8	Fishing lines, etc., making..... 309	Grindstone, journal box..... 288	Horse hoe..... 39, 139	Leather-chamfering machine..... 121
Doors and shutters..... 359	Fishing net..... 8, 342	Grindstone, tool rest for..... 257	Horse holder..... 329	Leather, clamping and stretching..... 154
Doors, closing..... 342, 361	Fishing reel..... 9	Grinding wheel, machine for..... 170	Horse hoisting..... 329	Leather, creasing..... 368
Double-cylindrical structures..... 170	Fishing rods..... 289	Grindstone, tool rest for..... 257	Horse power brake..... 258	Leather, creasing and skiving..... 368
Dough kneader..... 11, 42, 123, 272, 274	Fishway..... 138	Grinding wheel, machine for..... 170	Horse-power elevator for hay, etc..... 173	Leather, machine for cutting..... 240
Dough molder..... 205	Flange for privy bowls..... 411	Grinding wheel, machine for..... 170	Horse rake, 9, 24, 27, 56, 57 (2), 88, 122 (2), 170 (2), 171, 232 (2), 255, 274, 289, 309, 361, 413	Leather, machine for cutting..... 240
Draft attachment..... 40	Flask for casting steel ingots..... 72	Grinding wheel, machine for..... 170	Horse rake, 9, 24, 27, 56, 57 (2), 88, 122 (2), 170 (2), 171, 232 (2), 255, 274, 289, 309, 361, 413	Leather, machine for cutting..... 240
Drains, suppressing effluvia from..... 152	Flatiron..... 224	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Draft cock for soda-water appara- tus..... 104	Flax and straw breaker, cleaner, etc..... 343	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drag for vessels..... 414	Flax breaker and cleaner..... 343	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drawbridges, hydraulic spindle, etc., for..... 25	Flax gathering and loading..... 343	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dredging machine..... 122, 123, 204	Flax straightener and thrasher..... 343	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dress elevator..... 25, 171, 206	Flax thrasher..... 340	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dresses, cutting..... 72	Flood gate..... 122	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dresses, measuring and fitting..... 140	Flood gates, self-operating..... 204	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drill and blacksmith's songs..... 10	Floor covering..... 190, 224	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drills..... 360	Floor cover, manufacture of..... 190, 224	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drills, feed motion for..... 383	Flour bolt..... 320, 385	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drills, twist, tool for cutting..... 410	Flour packer..... 36, 90, 240, 378	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drill in and qu. rrying stone, etc..... 255	Flour sifter..... 59, 327	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drilling attachment for turning lathe..... 171	Flour sifter, mixer, and kneader..... 340	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drilling machine, 10, 27, 123, 191, 224, 191	Flour cleaner, revolving..... 410	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Driving-rein holder..... 191	Flour cover, manufacture of..... 190, 224	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drop doors in coal cars, fastening, etc..... 428	Flour bolt..... 320, 385	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drop hammer..... 290	Flour packer..... 36, 90, 240, 378	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drop of press..... 136	Flour sifter..... 59, 327	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drug crusher, portable..... 172	Flour sifter, mixer, and kneader..... 340	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dry dock..... 104	Flour cleaner, revolving..... 410	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drying apparatus..... 106	Flour cover, manufacture of..... 190, 224	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Drying house..... 137	Flour bolt..... 320, 385	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dumb waiter..... 206	Flour packer..... 36, 90, 240, 378	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dumping car..... 88, 105	Flour sifter..... 59, 327	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dumping car for coal mines..... 215	Flour sifter, mixer, and kneader..... 340	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dumping wagon..... 490	Flour cleaner, revolving..... 410	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dust brush and broom..... 40	Flour cover, manufacture of..... 190, 224	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
Dust pan..... 289	Flour bolt..... 320, 385	Grinding wheel, machine for..... 170	Horse shoe, 12, 40, 88, 106 (2), 138, 153, 273	Leather, machine for cutting..... 240
E				
Eave trough..... 8, 191	Fruit cans, expanding frames for soldering..... 88	Harvester, corn 25, 57, 137, 153, 154, 224, 240, 241 (2), 274, 414	Hydrocarbon liquids transmitting heat..... 298	Machine for pressing and molding pliable materials..... 9
Eave troughs, holding while sold- ering..... 173	Fruit cans, fastening for..... 27	Harvester, corn 25, 57, 137, 153, 154, 224, 240, 241 (2), 274, 414	Hydrometer..... 291	Magneto-electric apparatus..... 223, 362
Eave manufacturing..... 189	Fruit cans, sealing..... 25	Harvester, cutter..... 123, 137	Ice breaker..... 222	Mail bag, water proof..... 325
Eave, sealing fluids removed from bottles..... 140	Fruit cans, tin, mode of making..... 25	Harvester-cutter harpener..... 89	Ice cream freezer..... 24, 28, 341	Mail bags on railway cars, receiv- ing and delivering..... 206
Egg beater..... 21 (2), 72, 107, 224, 288	Fruit cans, top for..... 257	Harvester-cutter harpener..... 89	Ice cream freezer..... 24, 28, 341	Malt, condensed extract of..... 429
Egg beater and liquor mixer..... 173	Fruit can..... 72, 309	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Malt, kiln..... 307
Egg tester..... 154	Fruit cans, fastening for..... 27	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Malt-kiln floor..... 340
Electric telegraph, signal code..... 288	Fruit cans, tin, mode of making..... 25	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Malt-liquor cooler..... 340
Electromagnets, induction coils for..... 255	Fruit cans, top for..... 257	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Malt-shovel..... 156
Elevator..... 74, 275, 430 (2)	Fruit can..... 72, 309	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Mandrel, adjustable..... 10
Elevator bucket..... 72, 272	Fruit cans, expanding frames for soldering..... 88	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Mandrel, expanding..... 392
Elevator guide..... 470	Fruit cans, fastening for..... 27	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Maner, expanding..... 239
Electric machine..... 410	Fruit cans, sealing..... 25	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Map, geographical..... 288
Engine, electro-magnetic..... 262	Fruit cans, tin, mode of making..... 25	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Maps, constructing blocks for printing..... 124
Engine, hot-air..... 8, 28	Fruit cans, top for..... 257	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Marble, polishing machine..... 290, 375
Engine, hydraulic..... 48, 152, 171	Fruit can..... 72, 309	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Marine compass..... 12
Engine, rotary..... 290, 291	Fruit cans, expanding frames for soldering..... 88	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Mariner's compass scale..... 24
Engine, trunk..... 123, 138	Fruit cans, fastening for..... 27	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Match safe..... 239, 277
Engine, open..... 59, 173, 240	Fruit cans, sealing..... 25	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Match safe, pocket..... 278
Envelope, metallic seal..... 27	Fruit cans, tin, mode of making..... 25	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Mash machine..... 428
Eraser..... 73, 123	Fruit can..... 72, 309	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Matches, machine for framing..... 24
Eraser and burnisher..... 152, 274	Fruit cans, expanding frames for soldering..... 88	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	Mattress, spring..... 139
Eraser and pencil sharpener..... 238	Fruit cans, fastening for..... 27	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	
Eraser holder..... 154	Fruit cans, sealing..... 25	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	
Escapement, clock..... 153, 361	Fruit cans, tin, mode of making..... 25	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	
Escapement, watch..... 153, 361	Fruit can..... 72, 309	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	
Etching grounds, producing..... 72	Fruit cans, expanding frames for soldering..... 88	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	
Evaporating and distilling liquids..... 174	Fruit cans, fastening for..... 27	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	
Evaporator..... 42, 74, 80, 152, 153, 170, 171, 206 (2), 239, 240, 272, 274	Fruit cans, sealing..... 25	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	
Evaporator, sorghum..... 138	Fruit cans, tin, mode of making..... 25	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	
Evenser for poles to wagons..... 191	Fruit can..... 72, 309	Harvester, husker and sheller, corn..... 288	Ice cream freezer..... 24, 28, 341	
Excavator..... 57, 124, 1				

Measure, adjustable..... 299	Ores, treating with chlorine..... 88	Pocket-book protector..... 25	Rasp, machine for cutting..... 139	Seed planter..... 42, 272, 309
Measure, variable..... 324	Organ reed..... 188	Pocket, seamless..... 208	Raw hide prepared for various ar- ticles..... 154	Seed planter, hand..... 394, 412
Measuring distances, instrument for..... 289	Oven..... 254, 257	Pocket tablet..... 105	Reaping machine 26, 88 (3), 172, 274, 290, 340	Seed sower, hand..... 306
Measuring funnel..... 27, 359	Oxide of lead, reducing..... 90	Pockets, safety attachment for poker and tongs..... 223	Reaping and mowing machine..... 121, 206	Seeder and cultivator..... 138, 289, 377
Meat and vegetable cutter..... 59	Oyster dredging apparatus..... 377	Pole and post puller..... 205	Reed musical instrument..... 340	Seeding machine, 288 (2), 326, 360, 361
Meat cutter for sausages..... 138	Oyster rake..... 255	Police man's rattle..... 395	Reed plates or melodeons, etc..... 307	Seeding machine, mode of hitching horses to..... 136
Meat, etc., smoke furnace for cur- ing..... 377	Oysters, p. eerving..... 378	Polishing box..... 106	Reel..... 377, 395	Sep. rating crude emery from for- eign substances..... 256
Meat mangle..... 207	P	Polishing enameled paper, ma- chine for..... 74, 91	Reel, cord and line..... 254	Separating sand from water in wells..... 207
Meat, preserving..... 257, 325	Package case for plants..... 58	Pork, curing..... 139	Refrigerator..... 9, 42, 44, 190, 414	Sewing buttons to garments..... 30
Mechanical movement..... 72, 240	Packing for deep well tube..... 256	Post driver..... 393	Refrigerator building to preserve fruit, etc..... 188	Sewing clamp..... 342
Medical compound, 11, 26, 42, 83, 205, 289, 376 (3), 377	Packing for steam engine, fibrous..... 41	Postal wrapper..... 342	Register for regulating time-keep- ers..... 204	Sewing looped fabrics..... 376
Medical compound for foot-rot in sheep..... 378	Packing revolving joints..... 429	Post-off delivery box..... 170	Regulator for gas burners..... 136	Sewing machine bobbin..... 171
Medicated gas..... 324	Paddle wheel..... 12, 104, 107, 122, 205, 428	Potato digger..... 58, 72, 172, 239, 240, 258, 413, 428	Rein. over-check driving..... 90	Sewing machine, button-hole..... 10, 25
Medicated troches..... 394	Paddle wheels, driving..... 43	Potato drill..... 139, 254	Rein. work while stitched, hold- ing..... 223	Sewing machine, stop device for..... 121
Mediator, mechanical..... 240	Padlock..... 74 (3), 90 (2), 239, 431	Potato fork..... 254, 308	Rein. work while stitched, hold- ing..... 223	Sewing machine, waxed thread..... 309
Medicine..... 138, 153, 172, 223, 273, 308 (2)	Paint..... 59, 106, 289	Potato planter..... 429	Rein. work while stitched, hold- ing..... 223	Sewing machine, binder for..... 374
Medicine chest..... 308	Paint brush..... 105, 378	Potato masher..... 91	Rein. work while stitched, hold- ing..... 223	Sewing machine, feed motion for..... 176
Medicine for horses..... 325	Paint, composition for..... 255, 359	Potato washer..... 91	Rein. work while stitched, hold- ing..... 223	Sewing machine, feeding wheel for..... 157
Melodeon..... 170, 309	Paint for ship's bottom..... 256	Pouncing hats, machine for..... 139	Rein. work while stitched, hold- ing..... 223	Sewing machine, loop check for..... 361
Metal plates, grinding..... 411	Pantalon pro ctor..... 57	Power loom, concave and convex..... 272	Rein. work while stitched, hold- ing..... 223	Sewing machine, ruffling attach- ment for..... 254
Metals separated from ores, 289, 344 (2)	Paper boxes, cutter for..... 225	Power manual..... 309	Rein. work while stitched, hold- ing..... 223	Sewing machine, sharpener..... 173
Metals, composition for polishing..... 413	Paper boxes, making..... 392	Power press..... 12	Rein. work while stitched, hold- ing..... 223	Shackles for carriage tongues..... 90
Metal tubes, making..... 48	Paper, etc., 10, 24 (2), 89, 91, 105, 106, 107 (3), 133, 153 (2), 222, 282, 254, 257, 273, 277 (3), 281, 292, 307, 209, 326, 341, 342, 361 (2), 378, 392	Power, swinging..... 137	Rein. work while stitched, hold- ing..... 223	Shade for the eyes..... 291
Metals, compressing and extending..... 179	Parasol, feather-covered..... 104	Press, hydraulic, for peat, brick, etc..... 114	Rein. work while stitched, hold- ing..... 223	Shaft for m. chine rubber rollers..... 288
Metallic bindings..... 379	Parasol, folding..... 104	Press, tobacco..... 434	Rein. work while stitched, hold- ing..... 223	Shaft, upright, step for..... 359
Metallic characters on paper, etc., forming..... 10	Paring knife..... 57	Press, cooling glass..... 412	Rein. work while stitched, hold- ing..... 223	Shafting, straightening..... 173, 410
Metallic oxides, reducing..... 10, 209	Paris white and whiting..... 410	Press, embossing..... 57	Rein. work while stitched, hold- ing..... 223	Shafts, attaching to sleighs and carriages..... 393
Metallic rods, upsetting and form- ing articles from..... 342	Paste, prepared..... 256	Press, foot..... 361	Rein. work while stitched, hold- ing..... 223	Shaking table..... 289
Meter, hand and spirit..... 56	Paste, prepared..... 256	Press for cider mill..... 106	Rein. work while stitched, hold- ing..... 223	Shaving case, portable..... 104
Microscope..... 56	Patterns, puncturing machines for making..... 25	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shear..... 18
Milk and cheese rack..... 104	Pavement..... 59, 89	Press, hydraulic, for peat, brick, etc..... 114	Rein. work while stitched, hold- ing..... 223	Shears for cutting bolts..... 153
Milk can..... 12, 238	Pavement, Belgian..... 255	Press, foot..... 361	Rein. work while stitched, hold- ing..... 223	Shearing apparatus..... 299
Milk, cooling..... 105	Pavement, etc., composition for..... 341	Press for cider mill..... 106	Rein. work while stitched, hold- ing..... 223	Sheave, table block..... 42
Milk, preserving..... 189, 411	Pea sheller..... 275, 340	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sheep and cattle rack..... 204
Milk rack..... 170	Peg holders..... 106	Press, hydraulic, for peat, brick, etc..... 114	Rein. work while stitched, hold- ing..... 223	Sheep chair..... 413
Milk strainer..... 379	Pegging machine..... 379	Press, foot..... 361	Rein. work while stitched, hold- ing..... 223	Sheep holder..... 36, 289
Millstones, hanging..... 324	Pea, drying..... 170, 225, 379, 429	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sheep, machine for shearing..... 306, 369
Millstones, picking..... 411	Peat, grinding..... 430	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sheep-marking stamp..... 325
Miner's fuse lock..... 273	Peat for fuel, preparing..... 170, 257	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sheep rack and shed..... 207 (2), 394
Mineral water, preventing sedi- ment in..... 342	Peat machine..... 57, 90, 225, 429	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sheep shears..... 274
Mirror..... 104	Pen and eraser..... 74	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sheet metal, coated..... 359
Mirror, hanging..... 362	Pen, fountain..... 138, 275	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sheet-metal boxes, manufacturing..... 392
Mirrors, metalizing..... 362	Pen holder..... 40, 121, 272	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sheet-metal pans, making..... 140, 224, 309
Miter box..... 153, 308	Pen rack and bill holder..... 275	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sheet-metal strips, securing to- gether..... 75
Mitering machine..... 153	Pen rack, spring..... 254	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shells of metal, punching..... 274
Mold for plastic..... 414	Pen writing..... 170	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shingle machine..... 10, 90, 154, 273, 291
Mold, facing..... 106	Pencil case..... 23	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Ship windlass..... 275
Molds, jointed..... 190	Pencil holder..... 58, 223	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Ships, apparatus for trimming..... 191
Molder's clamp..... 395	Pencil, indelible..... 56	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Ships, bottoms, etc., coating..... 369
Molder's flask..... 205, 234	Pencil scale..... 414	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Ships, coating for..... 42
Molder's flasks, hinge for..... 292	Pencilum, clock..... 414	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Ships, construction of..... 153, 275
Molder's match plate s, composition for..... 56	Pencilum, double ball for..... 257	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shirt boom..... 223
Molding..... 191	Pencilum, etc., distilling..... 56	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shirt bosoms, fluted puffing for..... 307
Molding cohesive materials..... 75	Percussion-cap trimmer..... 75	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shirt-collar attachment..... 90
Molding, machine for making..... 272	Pessary..... 11, 359, 393, 414	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shirt-collars..... 360
Moldings, ornamenting..... 377, 411	Petroleum, car for transporting..... 24 (3), 239	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shoe and stove brush..... 138, 395
Moldings, plating..... 24	Petroleum cooker and heater..... 239	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shoe cleaner..... 136
Money drawer..... 256	Petroleum, distilling..... 58, 107, 238, 327	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shoe fastener with slide lacing..... 254
Mop and scrubber..... 189	Petroleum, double ball for..... 257	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shoe for car brake..... 298
Mop head..... 28, 274, 289, 327	Petroleum, etc., distilling..... 56	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shoe for stamping machinery..... 159
Mop holder..... 320	Petroleum, etc., purifying..... 56	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shoe nails..... 138
Mop dish..... 429	Petroleum, manufacturing gas from..... 107	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shoe shank..... 225
Mop wringer..... 359, 396	Petroleum, packing vessel for..... 239	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shoe-string fastener..... 106
Mortar mill..... 395	Petroleum, silt, alum..... 256	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shoe tips, securing..... 361
Mortising machine..... 106	Petroleum, etc., storing..... 256	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shoes, water-proof..... 342
Mosquito bar..... 49, 123	Petroleum tank..... 28, 170, 204, 228	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shovel and tongs..... 273
Mosquito canopies, frame for..... 239	Petroleum, treating..... 152	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shovel case..... 121
Motion, communicating..... 410	Photograph finishing roller..... 344	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Show case..... 121
Motion, reciprocating converted into rotary..... 138	Photographs, drying..... 207	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shutter fastening..... 139
Motion, transmitting..... 56, 188, 308	Photographs, tinting..... 121	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shut or hinge..... 9, 341
Moving machine..... 9, 26, 42	Photography, tinting..... 121	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shuttle binder for looms..... 152
Mules, self-acting..... 106	Photographic apparatus..... 10	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shuttle carrier for sewing ma- chines..... 173
Musical instrument..... 43, 204, 208	Photographic printing frame..... 136, 377	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shuttle in looms, operating..... 376
Musical instrument, keyed..... 292	Photographic process..... 344	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Shuttle winding, tating..... 370
N	Pictometer..... 13	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sickle set, ns, cutting..... 411
Nail and tack..... 43	Piano..... 138, 140, 172, 291, 292, 360	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sieve..... 26, 342
Nail hammers..... 107	Piano, cabinet, and bureau..... 155	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sifter..... 42, 380
Nail machine..... 224, 273, 365	Piano, double-action..... 155	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sifter, meal and flour..... 104
Nail, p. cture..... 27	Piano-forte action..... 310, 326	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Signal, illuminated..... 173
Nail-plate feeder..... 11 (2)	Piano-forte covers, etc., ornament- ing..... 352	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Signal, draw-bridge..... 75
Nails and tack, making..... 32	Piano-fortes, augmenting sound in..... 139	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Signal tower..... 88
Nails, drawing..... 361	Piano sounding board..... 283, 368	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Silicated liquid for soap, etc..... 240
Nails, harness, manufacturing..... 90	Piano stool..... 306, 362	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Silk-thread twister, stretcher, etc..... 255
Necktie..... 58, 190, 224	Pianos, metal frame for..... 189	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sill and weather strip..... 10
Necktie, collar and bosom..... 258	P.ck and ax..... 255	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Silvering mirrors..... 273
Necktie fastening..... 25, 56, 255	Picker arm for looms..... 28	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sink, culinary..... 57
Necktie, india-rubber..... 241	Picker motion for power looms..... 121	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sinking hollow piles..... 190
Necktie, knickerbocker..... 124, 137, 138	Picker for fibrous material..... 137	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Siphon..... 89, 240
Necktie, necker..... 155	Picture frame..... 89, 341	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sirup from corn..... 8
Necktie case..... 362	Pictures, attaching to frames..... 378	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sirup stand and soda fountain..... 288
Needle for caning chairs..... 73	Pie rimmer..... 207	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skate..... 26, 72, 153, 173, 222, 254, 255, 377, 378, 430
Needle for sewing machines..... 27	Pigment, manufacture of..... 140	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skate fastening..... 377
Needs threader..... 240	Pile driver..... 843	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skating floor..... 372
Needle wrapper..... 308	Piles, protecting..... 10	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skeleton tumbler..... 152
Nitrum and nitro-glycerin pack- ing..... 90	Pile, or wearing apparel..... 307, 439	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skid for supporting barrels..... 288
Numbering machine..... 361	Pipe coupling..... 333, 411	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skirt elevator..... 60, 222, 255, 291
Nut..... 43	Pipe joints, etc., lorging..... 324, 414	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skirt, lady's..... 189
Nut tapping machine..... 28, 42	Pipe tongs..... 171, 359	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skirt springs, forming and cutting..... 132
Nuts and washers, making..... 124	Pipes, mash-tub, preventing coat- ing of..... 170	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skirt supporter..... 9, 257, 260
Nuts, machine for making..... 42, 362	Piston for deep-well pumps..... 73, 303	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skate frame..... 288
Nut box, adjustable..... 362	Piston for steam engine, 73, 121, 174, 191	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Skate, school and family..... 158, 206
Nutmeg grater..... 273	Piston packing, 91, 104, 138, 139, 154, 206, 224, 238, 288, 310, 379 (2), 395, 429	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sled..... 107, 324, 407
O	Piston packing rings..... 124, 138	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sleigh..... 10, 324, 407
Oar swivel..... 254	Pitcher..... 123	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sleigh brake..... 206, 325, 429
O apparatus for distilling..... 153, 238	Pitman box..... 136	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sleigh knee..... 59
Oil barrels, lining for..... 254	Pitman connection..... 136	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Sledge bolt..... 159
Oil, burning it for fuel..... 254	Pitman, etc., hanging..... 152	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Slide valve..... 413
Oil can..... 40, 308, 430 (2)	Pitman, harvester..... 137, 324	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Silding slate for computation cards..... 129
Oil can and oiler..... 224, 410	Pitman head, etc., for harvester..... 59	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Smoke and drying house..... 104
Oil cup..... 393	Pitman for presses, punches, etc..... 90	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Smoke bells, making..... 136
Oil injector for steam engines..... 136	Plane, core box..... 412	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Smoke house, portable metallic..... 380
Oil, obtaining it from wells..... 138, 377	Plane, miter..... 223	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Smoking pipe..... 121, 91, 123, 343
Oil refining..... 43, 411	Plane, miter..... 413	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Snaphook, 9, 58, 91, 122, 133, 170, 204, 241, 344 (2)
Oil tank..... 273	Planing and sawing machine, dust and shaving conveyor for..... 256	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Snow and ice guard for roofs..... 255
Oil-well boring and pumping appa- ratus..... 240	Planing machine..... 11, 53, 88, 91, 138, 338	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Snow plow..... 42, 58, 188, 426
Oil-well drill..... 239	Planing machines, feed roller for..... 344	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Soap, cutting and stamping..... 256
Oil-well packing..... 327	Plants, transplanting..... 258	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Soap, s. aling wax, preventing its adhe- sion to molds..... 89
Oil-well tubing, stop water for..... 289	Planter..... 222, 256, 308	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Seed and desk..... 291
Oil wells, increasing capacity of..... 380	Plaster, etc., machine for sowing..... 327	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Seed distributor..... 173
Oil wells, pipe tor..... 273, 275	Plate for artificial teeth..... 189	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	Seed drill..... 222, 309, 326
Oil wells, removing obstructions from..... 207	Plate, hollow pressure..... 362	Press for manufacturing sugar..... 57	Rein. work while stitched, hold- ing..... 223	
Oil, treating..... 376, 395	Plow 10, 40 (2), 59, 72, 89, 106, 120, 137, 138, 153, 189, 190 (2), 205, 207 (2), 223, 224, 240 (2), 254			

Sofa bedstead.....	42	Stoves, hot water reservoir for.....	379	Truss pad.....	303	Water, purifying and softening.....	259	Hay press.....	75
So camera, vertical.....	342	Stove pipe, connecting and support- ing.....	275	Tube, grain-drill.....	222	Water, raised, & by steam.....	240	Holding apparatus.....	208
Solar camera.....	379	Stovepipe damper.....	72, 89, 106, 120, 122, 154, 172, 288, 299,	Tube-sheet cutter.....	191, 429	Water wheel, 10, 24, 26, 89 (2), 91, 104, 107 (2), 136, 191, 208, 238, 240, 290, 291, 327, 340, 378, 429, 430	Horse hay fork.....	315 (2)	
Solder-ca tting machine.....	273	Stovepipe drum.....	27, 74, 88, 105, 172, 190, 324, 341	Tube-thimble.....	121	Water wh el, sheet-metal.....	190	Horse rake.....	192, 208
Sole, india-rubber and leather.....	275	Stovepipe elbow.....	341	Tubes, metal, machine for mak- ing.....	89, 190	Water wheels, reaction, regulator for.....	395	Iron and steel, plating, tempering, and hardening.....	60
Sole, water-proof.....	340	Stovepipe top.....	104	Tubing, etc., fabric for.....	139	Weather strip.....	57, 106, 204, 343	Iron manufactured in imitation of bronze.....	208
Sorghum evaporator.....	290	Strap for garments, elastic.....	410	Tubing, manufacture of flexible.....	171	Weaving wire rope, machinery for.....	57	Journal box, railway.....	208
Sorghum mill.....	56	Strapping blocks.....	343	Tumbler washer.....	190	Weaving ho.....	191	Kindling fire, composition for.....	124
Sorghum skimmer.....	361	Stra w cutter.....	10, 73, 105, 137, 154, 222, 223, 288, 306, 342,	Turf, machine or cutting.....	136	Weighting car.....	27	Kneading dough, machine for.....	241
Sorghum stripper.....	172, 207, 325	Street cars, propelling.....	395	Turn table for baker's oven.....	89, 153, 171	Weighting or brazing.....	224	Knit ing machines, circular, take- up for.....	380
Sorghum stripper and cutter.....	73, 105	Street car, starting.....	206	Turner and planer.....	35	Well boiler.....	26, 274, 343	Label card.....	140 (2)
Sorghum sugar manufacturing.....	324	Street scraper.....	58	Turning lathe.....	124, 207, 359	Well packing.....	256	Lantern.....	140
Sounder magnet.....	73	Street washer.....	290	Twee r 42, 89, 130, 188, 221, 224, 239, 257, 258	Well tube.....	72, 188, 206	Latch, knob.....	225	
Sounding apparatus.....	206	Stretche r for silk, etc.....	123, 273	Twine and small cord.....	414	Lamp burner.....	414		
Sound ing board for pianos.....	189	Stretche r for wo ks for cloaks.....	204	Twine spool and stand.....	171	Lard, tallow, etc., rendering.....	328		
ower and drill.....	206	Stuffing.....	378	Twisting and winding fibers.....	58	Liquid cooler.....	23		
Sowing wheat and other grain.....	204	Stump extractor.....	24, 238, 360, 379, 429	Type-dressing machine.....	431	Loom.....	292 (2)		
Spade handle.....	411	Sugar and sirup, maple-flavored.....	91	Type separator.....	124	Looms, picker-stiff motion for.....	258		
Spading machine, rotary.....	258	Sugar-cane mill.....	205	Type-setting machine.....	124	Manual-power machine.....	124		
Spark arrester.....	205	Sugar-cane reating.....	170	Typog raphy.....	344	Melodeon.....	124		
Spectacle frames, manufacture of.....	293	Sugar mold.....	223	Umbrella.....	75, 137, 153, 238, 362	Mill plate-feeding machine.....	60		
Spectacles, manufacture of.....	373	Sugar granulating and drying.....	392	Umbrella tips, flattening and punching.....	140	Nuts, machine for making.....	108		
Speculum.....	393	Sugar, machine for draining.....	392	Umbrella tips, drilling, etc.....	57	Paper, manufacture of.....	241		
Spice box.....	155, 256	Sugar manufactured from corn.....	289	Urn cock, drop-handle.....	139	Paper pulp, bleaching.....	310		
Spider.....	256	Sugar-mold tip.....	26	Vacuum chamber, medical.....	341	Paper pulp, treating wood, etc., for pulp.....	310		
Spike.....	306, 273, 342	Sulky.....	342	Vacuum vessels for evaporating.....	24	Paring apples, machine for.....	124		
Spike drawer.....	290	Sulphate of alumina, manufac- turing.....	325	Valve, automatic steam.....	171	Pegging jack.....	124		
Splines, manufacture of.....	256, 257, 290	Sulphur, manufacture of.....	327	Valve, balanced.....	274, 308, 378	Pump.....	174		
Spladle for spinning frames.....	222	Sulphuric acid, after refining petro- leum, etc., recovered and puri- fied.....	344	Valve, battle.....	206	Railroad car brake.....	174		
Spindle step.....	307	Sun, protecting animals from heat.....	222	Valve, float, for cisterns.....	153	Railroad frog.....	414		
Spinning direct from cr d ing en- gines.....	309	Sunk vessels, raising.....	205	Valve for hulls of vessels.....	187	Reaping machine.....	174		
Spinning flyer.....	135	Superphosphate of lime, manufac- turing.....	338	Valve for steam hammers.....	344	Refrigerator.....	326		
Spinning lathe.....	223, 393	Supporters, uterine and abdominal.....	171	Valve gear, water press.....	11, 224, 344	Saddle, riding.....	363		
Spinning machine.....	223, 393	Surgical splint.....	224	Valve gear, cut-off.....	376, 379 (2)	Safe.....	344		
Spinning machine cleaner.....	9	Suspender.....	155, 342	Valve globe.....	222, 257, 278, 288	Saltometer.....	192		
Spinning machine, hand.....	89, 153, 208 (2), 412	Swaging heads of screw augers.....	108	Valve, governor.....	288	Sausage stuffer.....	124		
Spinning machines, bobbin for.....	291	Swaging machi e.....	12	Valve, governor stop.....	56	Saws, machine for grinding.....	13		
Spinning machines, ring for.....	344	Switch, railroad.....	11, 27, 42, 73, 188, 189	Valve, rotary.....	91, 340	Sewing machine.....	140a		
Spinning mill.....	43, 124	Syringe, ela-tic bulb.....	105	Valve, safety.....	9, 73, 207, 240, 257, 291, 292, 306, 309, 376	Sewing machine, cloth guide for.....	124		
Spinning top.....	323	Syringe for sprinkling gardens.....	105	Valve, steam 41, 122, 153, 171, 208, 289, 429	Valve, slide.....	72 (2), 107, 172, 306, 343, 395	Shield for breast straps, metallic.....	147	
Spinning wheel, hand.....	323	Table and stool.....	9, 90, 130, 306	Valve, steam-plug.....	3	Shirt-collar.....	60 (2)		
Spirit meter.....	223	Table and bedstead.....	128	Valve, steam-pump.....	171, 172	Shir-collar, paper.....	60 (2)		
Spirits, testing apparatus for pre- venting frauds in.....	411, 414	Table, extension.....	209, 341	Valve, water-closet.....	171, 172	Shoes, etc., punching and eyeleting.....	140		
Spirituous liquors, reining.....	379	Table, fol iog.....	256	Vapor, hydrocarbon oils, gener- ating, etc.....	152, 172	Shoulder-brace and suspender.....	60		
Spittoon for cars.....	11, 43, 73, 326, 378	Table fork.....	8	Vapor, medicated and aromatic, diffused.....	559	Soda water siphon, measuring.....	414		
Splinter bar, three-horse.....	309	Table-leaf support.....	25, 40, 393	Vapor, noxious, disinfected, from rendering houses, etc.....	429	Spinning machine.....	492		
Spoke shave.....	342	Table, revolving.....	340	Vari egated thread, producing.....	236	Steam boilers, preventing incrusta- tion of.....	258		
Spokes, tenoning.....	123, 342	Table, set-ting temple.....	393	Varnish.....	43, 83, 34	Steam engines, cut-off gear for.....	2		
Sponge cup.....	289	Table, set-ting, slides for.....	207	Vault cover.....	239	Steam engine, valve gear.....	15		
Sponge for stuffing mattresses, etc.....	369	Tack hammer.....	10	Vault light.....	171, 290	Steam gage.....	45		
Spools, ailing, man facture of.....	274	Tacks, leathering.....	324	Vault, ventilated, for wine, pota- toes, etc.....	123	Steel, making it dire t from.....	110		
Spools, manufacture of.....	59	Tacks, capping.....	58	Vault, ventilated, for wine, pota- toes, etc.....	123	Steel, making it dire t from.....	110		
Spring racks for vehicles.....	391	Tackle block for hay elevators.....	173	Vault, ventilated, for wine, pota- toes, etc.....	123	ore.....	92		
Spring bed.....	57	Tackle for raising and low- ring boats.....	205	Vault, ventilated, for wine, pota- toes, etc.....	123	Stove, heating.....	2		
Spring carriage.....	40, 153	Tag or label.....	26, 361, 430	Vault, ventilated, for wine, pota- toes, etc.....	123	Straw-cutter.....	38, 363		
Spring seat.....	56, 103	Tallow, apparatus for rendering, 136 (2)	272	Vault, ventilated, for wine, pota- toes, etc.....	123	Tanning.....	461		
Spring wagon.....	42, (2)	Tally-box for measuring grain.....	272	Vegetable cutter.....	136, 272	Threads, machine for dressing and finishing.....	60		
Springs, coiling.....	224	Tanning, apparatus for.....	324	Vehicle.....	369	Trip-hammer.....	344		
Springs, hardening.....	306	Tanning, master extracted from bark.....	189	Vehic le.....	369	Valves, cut-off, operating.....	292		
Springs, india-rubber, operating.....	174	Taps and dies.....	181	Vehic le.....	369	Valves, slide, in direct-action en- gines.....	225		
Springs, manufacture of.....	154, 411	Tap borer.....	423	Vehic le.....	369	Vault cover.....	10a		
Sprinkler and dredge.....	341	Tea and coffe pot.....	154	Vehic le.....	369	Wagon-shaft shackle.....	225		
Sprinkler for powder substances.....	411	Teapot.....	225	Vehic le.....	369	Washing and bleaching fibrous and textile substances.....	92		
Stamp gum, purifying.....	152	Teeth, instrument for cutting.....	393	Vehic le.....	369	Washing compound.....	241		
Stack boom and feed rack.....	157	Teeth, set-ting temple.....	393	Vehic le.....	369	Washing machine.....	258		
Staging.....	272	Telegraph cable.....	327	Vehic le.....	369	Whiffletree attachment.....	60		
Stair-rod fastening.....	379	Telegraph, electric.....	120, 123, 188	Vehic le.....	369	Whip-socket fastening.....	344		
Stalk cutter, field.....	28	Telegraph, electric.....	120, 123, 188	Vehic le.....	369	Wristband.....	60		
Stalk puller.....	73	Telegraph insulator.....	88, 272	Vehic le.....	369				
Stamp canceling press.....	341, 343	Telegraph magnet.....	430	Vehic le.....	369				
Stamp, hand.....	255	Telegraphic signals.....	340	Vehic le.....	369				
Stamp molder.....	343	Telegraph sander.....	124	Vehic le.....	369				
Stanchions for cattle.....	324, 361	Telegraphs, line wire for.....	376	Vehic le.....	369				
Stand and mirror.....	189	Tempering springs.....	208	Vehic le.....	369				
Stand, desk, and book-holder.....	27	Tenons, making.....	343	Vehic le.....	369				
Staples, wire fence, holding and driving.....	120	Tenoning machine.....	74, 377	Vehic le.....	369				
Starch, size, etc., preparing.....	72	Tenoning spokes, machine for.....	189, 41	Vehic le.....	369				
Stave jointer.....	154	Thill coupling.....	342	Vehic le.....	369				
Stave machine.....	10 (2), 120, 377	Thills attached to vehicles, 274, 338, 395, 414	338, 395, 414	Vehic le.....	369				
Stays, springs, etc., in wearing ap- parel.....	73	Threshing and hulling clover.....	89	Vehic le.....	369				
Steam and air ejector.....	325	Threshing machine.....	172, 241, 326, 341	Vehic le.....	369				
Steam boiler.....	289	Threshing-machine feeder.....	359	Vehic le.....	369				
Steam boiler non-conducting cov- ering.....	340	Threshing-machines, side gear for.....	305	Vehic le.....	369				
Steam boilers, preventing incrusta- tion of.....	376	Throttle-valve lever.....	305	Vehic le.....	369				
Steam boiler, removing incrusta- tion from.....	274	Ticket holder.....	360	Vehic le.....	369				
Steam carriage.....	188	Ticket register.....	154	Vehic le.....	369				
Steam, condensing.....	106	Tiles, etc., manufacturing.....	75	Vehic le.....	369				
Steam, decomposing.....	325	Tilling the soil, machine for.....	189	Vehic le.....	369				
Steam engine.....	57, 73, 139, 154, 191, 192, 274, 275, 289, 307, 308, 310 (2), 341, 343, 377, 392 (2), 413	Timber, machine for tenoning.....	360	Vehic le.....	369				
Steam-engine governor.....	120, 170, 256, 306, 396	Tin cans, opening.....	158, 41	Vehic le.....	369				
Steam-engine oil cup.....	155	Tinner's solder, flecting and mold- ing.....	255	Vehic le.....	369				
Steam engine, rotary.....	22, 238, 272, 324	Tinner's waste, utilizing.....	140	Vehic le.....	369				
Steam engine operating.....	139	Tire heater, rotary.....	58	Vehic le.....	369				
Steam engines, valve device for.....	321	Tire machine.....	58	Vehic le.....	369				
Steam generator.....	73, 105 (2), 106, 172, 174 (2), 208 (2), 224, 238, 272, 274 (2), 275, 289, 307, 308, 310 (2), 341, 343, 377, 392 (2), 413	Tire-shrinking mac ine.....	155, 170, 308	Vehic le.....	369				
Steam-generator feed-water heat- ers.....	172, 223	Tires of wheels, tightening.....	341	Vehic le.....	369				
Steam-generator furnace jet.....	208	Tires for wheels, measuring.....	88	Vehic le.....	369				
Steam-generator indicator.....	11, 235	Tires, upsetting.....	11, 232	Vehic le.....	369				
Steam heating apparatus.....	107	Tobacco bag, manufacture of.....	152	Vehic le.....	369				
Steam pipe and boiler covering.....	125	Tobacco, machine for cutting.....	25, 307	Vehic le.....	369				
Steam propeller for boats.....	361	Tobacco pipe.....	105, 106, 154, 322	Vehic le.....	369				
Steam pump.....	341, 344	Tobacco pipe, cigar holder.....	58	Vehic le.....	369				
Steam pipe.....	429	Tobacco pipe, stem for.....	307	Vehic le.....	369				
Steam trap.....	41, 173	Tobacco press.....	12, 27, 343, 376	Vehic le.....	369				
Steam, utilizing.....	24	Tobacco presser.....	152, 191, 343, 396	Vehic le.....	369				
Steam water power device.....	73	Tongs and poker.....	153	Vehic le.....	369				
Steamer, culinary, for boilers.....	139	Tool and rest-holder for lathes, 107, 113	107, 113	Vehic le.....	369				
Steaming vegetables.....	172	Tool for adjusting lathes to turn tapering shafts.....	56	Vehic le.....	369				
Steel, manufacture of.....	41	Tool for turning or planing.....	43	Vehic le.....	369				
Steel, tempering.....	154	Tool handle.....	376	Vehic le.....	369				
Steering apparatus.....	106, 288, 413, 414	Tool holder.....	72	Vehic le.....	369				
Stretch trap.....	91	Tool supporter.....	324	Vehic le.....	369				
Stencil numbering apparatus.....	24, 122	Top-sail reefing rig.....	37	Vehic le.....	369				
Step ladder.....	24, 122	Torpedo.....	380	Vehic le.....	369				
Stereoscope, convertible.....	122	Torpedo boat, submarine.....	274	Vehic le.....	369				
Still.....	395	Toy, mechanical.....	207	Vehic le.....	369				
Still apparatus, revenue fraud pre- vention.....	361	Toy sled.....	72	Vehic le.....	369				
stitching clamp.....	308	Toy, spring.....	428	Vehic le.....	369				
Stock compound for feeding.....	325	Toy, working figure.....	224, 410	Vehic le.....	369				
Stock yard.....	376	Trace connection.....	326	Vehic le.....	369				
Stone, artificial, manufacture of.....	376	Trace lock.....	313	Vehic le.....	369				
Stone-sawing machine.....	376	Trace, button and loop for.....	323	Vehic le.....	369				
Stone, channelling.....	378	Trap animal, 56, 145, 170, 239, 289 (2), 379, 383, 410	379, 383, 410	Vehic le.....	369				
Stools, adjustable back for.....	378	Trap to remove water from steam heat-rs, etc.....	328	Vehic le.....	369				
Stop cock.....	10, 12, 27, 29	Trapping wild fowl.....	392	Vehic le.....	369				
Stop cutters for continuous sheet- stop motion for brad ing machines.....	253	Travelling bag.....	106, 326	Vehic le.....	369				
Stop motion for looms.....	153	Travelling-bag frame.....	121, 155, 431	Vehic le.....	369				
Stop motion for spinning machines.....	253	Treadle.....	378	Vehic le.....	369				
Stop valve for steam-pipes.....	376	Tre protector.....	12, 306, 240, 360, 393	Vehic le.....	369				
Stopp ing for reefees feet.....	173	Trestle trees for vressels.....	107	Vehic le.....	369				
Store shelves, adjustable.....	73	Trunk.....	10, 74, 75, 234, 309, 326, 411	Vehic le.....	369				
Storing hydro-carbon liquids, etc.....	75	Trunk brace and hinge.....	104	Vehic le.....	369				
Stove and drum, radiating.....	259	Trunk molding.....	342	Vehic le.....	369				