

J. B. C., of Ohio.—On page 169, Vol. VI. Scientific American, you will find an instructive article on the subject of India-rub-ber rollers for washing machines. If you have any improvements upon which you wish to obtain patents, you will have no difficulty in obtaining the rollers from the Metropolitan Washing Machine Company, No. 2½ Deystreet. Youhave a right to alter the mechanical construction of your machine, so long as you do not change the

W., of Lowell .-- We do not think your improvement in torpedoes patentable. A similar water-proof joint has been applied to other uses, and its application to a torpedo would be a meredouble

Maple Sirup .- A. D. Smith, of Danby, Vt., is the manufacturer of a most excellent quality of maple sirup. We speak from

S. F., of Pa.—The 15-inch smooth-hore guns to which you refer are for the navy; the 12-inch rifled guns are for forts, one 12-inch rifled gun has been made already at the Fort Pitt works.

A. L., of Mass.-The chloride of lime is bleaching powder, and consists of dry lime in powder saturated with chlorine gas. It will not do to use it for whitewashing the walls of rooms. The lime whitewash, to which you refer, is made with common lime slacked in the usual way, to which is added about one pound of common salt to the ten gallons.

C. R. B., of Kansas.—You will find that it takes but little. if any, more fuel to keep your boiler 15 lbs. above the working pressure in your cylinder. Fuel is always wasted when the steam is allowed to run down. Much fuel may be saved by careful firing.

J. A., of Ill.—India rubber is not soluble in alcohol, but neither it nor gutta percha makes good vessels for containing alcoholic spirits. A small quantity of essential oil in these gums imparts a disagreeable taste and odor to spirits.

R. S. L., of Ohio. The quantity of water, in pounds, falling in one minute, multiplied into the perpendicular hight of your fall, and divided by 33,000, will give you its horse power, from which it is common to deduct one-third for friction leakage, &c. The water acts upon an overshot wheel by its gravity. If you multiply the area of your open pipe by the square root of its depth in feet, and by 200, it will give the cubic feet of water discharged per minute.

J. H. F., of Kansas.—If you wish to keep steam up in your boiler at a working pressure all night, to start your engine in the morning without kindling a fire, of course you must expect your boiler to wear out somewhat faster than otherwise. We prefer to use a damper in the smoke pipe so as to keep a low fire always under the boiler at night.

J. R. B., of N. J.-Dry loam or charcoal dust is superior to

SPECIAL NOTICE-FOREIGN PATENT.-The population of Great Britain, is 30,000,000; of France, 35,000,000; Belgium, 5,000,000, Austria, 40,000,000; Prussia, 22,000,000; and Russia, 60,000,000. Patents may be secured by American citizens in all of these countries. Now is the time, while business is dull at home, to take advantage of these immense foreign fields. Mechanical improvements of all kinds are always in demand in Europe. There will never be a better time than the present to take patents abroad. We have re-Nearly all of the patents secured in foreign countries by Americans are obtained through our agency. Address Munn & Co., 37 Park row, New York. Circulars about foreign patents furnished free.

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, June 18,

of N. Y., \$10; S. W., of Mass., \$25; J. H. & E. H. Md., \$15; P. A. S., of N. Y., \$40; T. D. L., of N. H., \$15; J. McK., of England, \$15; J. J. E., of N. Y., \$75; J. W. S., of N. Y., \$15; H. S. & In., of Iowa, \$15; U. H. S., of Ill., \$25; T. & R., of Ind., \$20; J. F. D., of Ind., \$15; W. W. K., of Pa., \$12; L. H., of Me., \$15; A. H. E., of N. Y., \$250; W. J., of Minn., \$15; A. & M., of Wis., \$40; G. D., of

Mass., \$25; W. E. S., of Wis., \$25; W. S., of N. Y., \$15; A. I., of Pa. Mass., \$25; W. E. S., of Wis., \$25; W. S., of N. Y., \$15; A. I., of Pa. \$25; N. B. P., of N. Y., \$45; A. Q., of N. Y., \$15; J. P. H., of N. Y., \$15; J. M. H. of Pa., \$20; R. J. M., of N. Y., \$15; H. H. of N. Y., \$30; D. L. B., of N. Y., \$15; F. G. S., of Mass., \$25; E. T., of Pa., \$25; W. B. S., of Mass., \$15; A. J. S., of Cal., \$15; W. S. M., of Md., \$25; J. C., of Mass., \$25; J. O. L., of N. Y., \$16; J. G., of N. Y., \$15; G. H., of N. Y., \$15; J. G., of N. Y., \$20; J. M. G. H., 61 N. I., \$15; H. J. H., 61 H., \$50; B. R., 61 N. I., \$20; J. M. B., of N. J., \$15; J. D. L., of N. Y., \$40; F. W., of N. H., \$15; C. K., of Iowa, \$15; R. H. C., of N. Y., \$15; S. H., of N. H., \$15; J. & T., of Wis., \$25; A. S. L., of N. Y., \$40; A. M., of N. Y., \$43; A. C., of N. Y., \$10; W. B., of L. I., \$33; J. S. W., of Va., \$20; L. H., of N. Y., \$20; W. R., of Mich., \$45; I. D. R., of N. Y., \$43; G. R. B., of Ill., \$20; J. W., of Iowa, \$20; A. C., of Cal., \$10; W. & F. K., of N. J., \$20; G. N., of Conn., \$20; B. D., of Conn., 20; J. M., of Pa., \$20; J. W. K., of Mich., \$20; A. L. W., of Mass., \$45; H. W. O., of Conn., \$20; Ime for spreading on the floor of a hen house. Old india-rubber shoes may be patched by the use of warm india-rubber cement, and patches of old rubberlaid on and pressed down with a flat iron.

W. M., Oldien, \$20; A. D. W. of M. Y., \$20; F. C. L., of N. Y., \$20; H. C., of N. Y., \$20; H of N. Y., \$25; G. P. P., of Conn., \$12; J. B. W., of N. J., \$15; J. W. P., of N. Y., \$25.

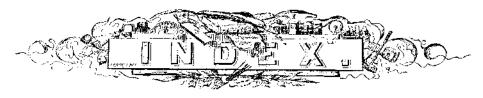
Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent

parties with the following initials have been forwarded to the Patent Office from June 11 to Wednesday, June 18, 1862:—
A. M., of N. Y.; W. B., of N. Y.; W. H. S., of Ill.; J. M. P., of N. Y.; C. W. B., of Mass.; S. W., of Mass.; H. B. B., of Mass.; C. S. I., of Ind.; J. B. W., of N. J.; G. P. P., of Conn.; L. S. R., of N. Y.; T. & R., of Ind.; W. W. K., of Pa.; J. B. Z., of Nebraska; J. C., of Mass.; F. G. S., of Mass.; E. T., of Pa.; W. S. M., of Md.; W. E. S., of Wis.; G. D., of Mass.; C. F. B., of R. I.; W. H. C., of N. Y., D. & R., of Iowa; D. C., of N. Y.; E. G. H., of Mass.; H. H., of N. Y.; J & T., of Wis.

TO OUR READERS.

RECEIPTS.—When money is paid at the office for subscriptions, a receipt for it will always be given; but when subscriber remittheir money by mail, they may consider the arrival of the first paper a bona fide acknowledgment of our reception of their funds.

(NVARIABLE RULE .-- It is an established rule of this office to stop sending the paper when the time for which it was pre-paid has expired.



ILLUSTRATIONS,

Ammunition box for army officers (Hirschbuhl) 272
Annunciator, telegraphic hotel (Bennett) 97
Armon plates (**)

buhl) 272
Annunciator, telegraphic hotel (Bennett)

97
Armor plates to war vessels, mode of fastening (Love) 176
Armychair, folding Hardy) 400
Balance, compensating spring (Squyer) 8
Beehive (Metcalf) 96
Beehive, patent (McGonnigle) 240
Blasting and splitting stumps with percussion cartridges (Norton) 212
Block, ship (Hussey) 384
Boller and steam generator, combined (Prindle) 56
Bood patterns (Forrest and Wheeler) 33
Bread and pastry board and flour chest combined (MeNamee) 72
Breech-loading gring board and flour chest combined (MeNamee) 72
Breech-loading gring (Herg) 344
Breechoading gring (Berg) 344
Breechoading rifles (Spencer) 49
Burner, gas (Monier) 200
Burner, star (Pratt & Rosceruns) 32
Burner, gas (Monier) 200
Candle molds (Ryder & Leonard) 129
Candle molds (Ryder & Leonard) 129
Candle molds (Ryder & Leonard) 120
Cantledge (Mayberry) 277
Carbureting apparatus (Bassett) 280
Carbureting apparatus (Bassett) 280
Carbureting apparatus (Fassett) 280
Carbureting apparatus (Fassett) 280
Carbureting apparatus (Fassett) 280
Chair, rairoad suspension (Leonard) 337
Chairs, improved railread (Hall) 356
Chair, rairoad suspension (Leonard) 37
Chairs, improved railread (Hall) 356
Chimneys, mode of securing lamp (Jacobs) 402
Clothes bar, portable (Willard) 152
Clothes bar, portable (Willard) 152
Clothes star, portable (Willard) 152

cobs) 442 Clothes bar, portable (Wilard) 152 Clothes dryer (McNeil) 288 Uniquess, army and travelers' (Hunter)

Clothes dryer (McNeil) 288
Chapass, army and travelers' (Hunter) 360
Coupling, automatic car (Birch & Noble) 224
Cranks (Grant: 285
Cut-oil, variable (Walbridge) 162
Detector, low-water (Blake) 113
Ditching and tile-laying machine (Foster & Chaffee) 136
Drains, forming cement (Watson) 53
Drawbridge for canals, &c., self-acting (Schneider & Montgomery) 186
E
Ericsson, Captain John (Portrait of) 209
Evaporator (Tufts) 264
Exhaust, variable (Lathrop & Co.) 266

Exhaust, variable (Lathrop & Co.) 200

F
Fagoting rails (Perry & Onion) 264
Pire alarm (Cooper) 302
Plywheels, mode of hanging, (Bryant) 114
Fractured limbs, relief for (Yerger) 148

G
Galema, iron-plated steamer (Corning,
Winslow & Co.) 244
Grain separator (Higley) 104
Grate, vibrating (Brown) 370
Gridstones and turning them true, rotatory machine for sharpening (Schuyler) 376
Gun, self-loading (Brady & Noble) 82

Gun, self-loading (Brady & Noble) 82 Guns, submarine (Page) 320

Hammer roller for making iron plates (Beach) 370 (Beac

Knife sharpener and scourer (Buckman) 88 Knife, budding (Gird) 160 Knife, fork, and spoon for the army (Neill) 232

Lamp attachment for carriages (Scheeper

Lamp burner, patent excelsior (Newman)

Lamp, patent kerosene (Mayhew) 112
Lamp, coal oil (Tritten) 120
Lathe, engine (Walbridge) 216
Lathe for turning irregular forms (Blanchard), 48
Lathes, centering chucks for (Keagg) 1
Lock for the nuts of railroad boits (Lawrence & White) 80

Merrimac, the early prototype of the (Gregg) 352
Merrimac, tront-plated rebel steamer, 192
Metallic packing for engine pistons (Horton) 184
Momentum cylinder brake (Ambler) 385
Mouitor, steam battery (Eriesson) 177

Nuteracker, spring ('lark) 37 Nuteracker, patent (Smith) 136 Ordannee and gunnery (Van Nostrand)

308 Oyster dredge (Force) 37

Oyster dredge (Force) 37

Paddle wheels, feathering (Kepner) 344
Pitch square (Iseman) 463
Planing machine (Whitelsey) 193
Planter, hand-corn (Shores) 272
Press, toggle-joint (Oyston) 289
Projectile (Rippan) 334
Propeller, light-draft (O'Hara) 340
Protector and reflector for glass-lamp chimneys (Colburu) 373
Pump, two-stream (Rodd) 466
Pumps, piston packing for 64
Rake, horse (Buckman) 8
Refrigerator, revolving (Ellicott) 184
Rotary engine (Cox) 257
Saw mill (Walbridge) 365
Saws, segmental circular (Hawley) 4
Scraper, road (Brooks) 248
Screen for flour bolts (Landis) 226
Seriem machine (Browne & Sharpe) 321
Scrubber, combination map (Price) 33
Sewing machine (Browne & Sharpe) 321
Scrubber, combination map (Price) 38
Sewing machine (Browne & Sharpe) 321
Scrubber, combination map (Price) 38
Sewing machine (Browne & Sharpe) 321
Scrubber, combination map (Price) 38
Sewing machine (Browne & Sharpe) 321
Scrubber, combination map (Price) 38
Sewing machine (Browne & Sharpe) 321
Scrubber, combination map (Price) 38
Sewing machine (Rowne & Sharpe) 321
Scrubber, combination map (Price) 38
Sewing machine (Atwood & Leigh) 565
Skate. spring (Goodyear & Sprague) 48
Sled. coasting (Brown) 296

Skate. spring (Goodrear & Sprigne) 40
Sled. coasting (Brown) 296
Staimp for past offices, railroads, &c.,
Band (Norton) 304
Stave muchine, nevent (Sisson) 362

Steam boilers, safety guard for (Mann) 168
Steam engine, improvement in the (Carpenter) 354
Steam engine, portable (Walbridge) 46
T
Tapping machine (Browne & Sharpe) 321
Telegraph, light (Colvin & Gardner) 328
Tent, army (Rankin) 86
Tent, army (Towns ed) 268
Ventilating apparatus for ships, hospitals, dining-rooms, &c. (Peteler) 126
Ventilator for houses (Williams) 336
Washing machine and planer (Gill, Palmer & Webb) 196
Washing machine and wringer (Smith) 24
Wheel, turbine (Russell) 273
Well curb (Shepherd) 292
Wool-washing apparatus (Turner & Robinson) 17
Wheel, water (Van Dewater) 232
Wrench and sawset, patent (Rawson) 88

MISCELLANY.

MISCELLANY.

A Aceteline, artificial 312
Adamas, the new material 291
Adamas, the new material 291
Advertisements 15, 31, 47, 63, 78, 94, 111, 127, 143, 159, 175, 196, 297, 223, 239, 255, 271, 287, 383, 319, 335, 351, 367, 381, 399
Agassiz, the life-work of 23
Agassiz and Oken dining on potatoes 53
Agassiz and Oken dining on potatoes 53
Agassiz as a lecturer 137
Agassiz to Dr. Bache, a tribute by Professor 355
Alpert, Prince 36
Albert, Prince 36
Albert, death of Prince 9
Albert, medical treatment of the late Prince 39
Air, suishine and health 119
Alleghany bitunamous coal field, &c. 405
Alloy, a new fusible 211
Amalgamating system, Piedmont gold mining and 298
American machines in England 52
American machines in England 52
American enterprise and Bruish jealousy 315
American steamer for Chuta—her steam engine 176
Analine color, pannting with 117
Analine a powerful remedy for nervous diseases such as St. Vitus's dance 49
Animal substances, preserving 388
Animals have daily exercise, let 311
Anchor lee 166, 214, 262
Annealing steel and hardening dental instruments 42
Anthractic fire, management of 76
Ants, scientific 187
Apple orchard, plant an 379
Armor plates, manufacture of 281, 229*
Armory, Northwestern 38
Arms, curious collection of 187
Arms, rifled small bore—Enfield's condemned 31
Arm day, jealousy between the 201
Art, a splenda work 67128
Note.—Articles with state are illustrated.

NOTE .- At ticles with stars are illustrated.

Artillery matches and signals 202 Artist, fortunes and misfortunes of an 87 Asteroid discovered, another 201 Astor hbrary—resignation of the librarian 54

Atlantic cable again 401

B
Ball, the motion of a 312
Balls to the right, deviation of 293
Bank suspensions 27
Banquet in a sewer, a 363
Barometer, the simple 70
Barometers, home-made 39
Barometers and hygrometers 150
Baskets, patent moss 313
Batterles, stationary and floating revolving iron-clad 279
Batterly, new marine 280
Beauregard and the Scientific American, ordered 394
Bee, the queen 107
Bees, wintering 39
Beet root, cultivation and sugar of 313
Belt on a quarter twist, to set a 358
Benzine in varnish making, dangers of 193
Benzine, dangerous character of 116
Benzole for making and sector of 116

Beet root, cultivation and sugar of 313
Belt on a quarter twist, to set a 338
Benzine in varnish making, dangers of 193
Benzine, dangerous character of 116
Benzole for making varnish, to purify 55
Bessemer process, secrets of the 297
Bessemer steel for gnns 11
Revels, rule for cutting 37
Billiards, how to play 132
Birds causing alarm, destruction of small 339
Blasting and splitting stumps with percession cartidages 212
Blasding, comprovements in 293
Blasding, and splitting stumps with percession cartidages 212
Blasding, comprovements in 293
Blood globules 247
Boilers, an improved farmer's steam 56*
Boilers, priming in steam—its causes and remedies 167
Boilers in Rhode Island, inspection of steam 38
Boilers in cities, steam 43
Bridge, Victoria 96
British in concluding the 59
Brakes in England, American railway 387
British and the Armstrong gun, the 275
British iron-clad navy, the 297
British ron-clad fleet, the 195
British ron-clad f

Bullets, experiments 342
Bunsby again 394
Business in general 303
Butier, extraction of 195
Butter in winter 108
Butter, preserving 338
C

California items 39 California workmanship, a splendid speci-men of—Hansbrow's pump 198

California, a kind word from 179
California, natural curjosities of 227
California statistics and progress 203
California, sheep in 206
California, sheep in 206
California woolen manufactures—sewing machiness—sugar grasses—grain cleaners 11
Cameo engravings 355
Camphor, uses of 116
Camphor on water, cause of the motion of 323
Canal dredging machines wanted 262

campuor on water, cause of the motion of 323
Canal dredging machines wanted 262
Canals in India, gigantic 363
Canals, steam on 404
Canaday, a launch of the 233
Candle manufactory—descriptions of the operations 263
Candles, manufacture of—important patents assessed in the control of the control of the control of the canades, improvement in 137
Candles for illuminating purposes, colored 169
Canes, why do men carry 604
Canes, why do men carry 604
Canes, why do men carry 604

Candles for illuminating purposes, colored 169
Canes, why do men carry 90
Canes, why do men carry 90
Cannon, efficiency of riffed 2
Cannon, weight of 286
Cannon, American steel 227
Cannon, Dr. Yenkel's mode of making 325°
Caunon, prevention of spikking 54
Cannon balls, the motion of 76
Cannon, at 1,000 pounder 282
Cannon balls, weight of 235°
Cannon manufacture at Putsburgh 163
Cannon, wrought-iron riffed 366
Cannon, strong—American built up guns 121
Carpets, manufacture of 379

Cannon, wrought-fron rifled 366
Cannon, wrought-fron rifled 366
Cannon, wrought-fron rifled 366
Cannon, strong—American built up guns 121
Carpets, manufacture of 379
Carpets, Oriental and French—French taste criticized 261
Carbonic oxide gas, poisonous effects of 379
Carbonic oxide gas, poisonous effects of 379
Cartridges, Richard's irage-wedes Cartridges, substitute for bring 316
Cartridges, their history 139
Cartridge manufactory, terrible explosion of a 235
Cartridges and shot, new 266
Cast-fron articles, timing 286
Cast-fron, mallableting 185
Carbonic oriental grocess, the results of the 339
Cast-fron moldings 314
Cast-tron, mallableting 185
Cament for the brass mountings of paraffine lamps 218
Cement for wood and glass 179
Cashmere shawls—their imitation 265
Cements for porcelain, marble, alabaster, glass, &c. 32
Central Park, conservatory in the 268
Cheese, varnishing 195
Chemical formulas, improvements in the 261
Chemical and physical modifications of the atmosphere consequent on habitation 231
Charcoal in medicine and as a disinfect ant 90
Chemistry of iron 378
Chemistry to the millitary art, application of 84
Chimneys, Cobarra's protector and reflector for glass 373
Chimness the construction of 64

of 94
Chimneys, Colburne's protector and reflector for glass 373
Chimneys, the construction of 64
Cement drains, forming 53
China, another steamer for 32
China, the new tunard steamer—American condensers 259
Chloroform, damer of 37
Chloroform, a 1 ew method of giving 134
Chioride of lime as an insecticide 332

Chlorine as a disinfectant 69 Chlorite as a disinfectant 69
Churning power wanted, new 326
Clatims, lists of patent 13, 29, 45, 60, 76, 93, 103, 124, 144, 156, 172, 183, 205, 220, 236, 252, 263, 252, 263, 300, 316, 332, 364, 348, 380, 396, 409
Clipher, ingenious plan for corresponding in 249
Clothes wringers—squeezers 264
Clover, cultivation of 135
Coal trade at Baltimore for 1861 34
Coal production of Pennsylvania 51
Coal sifter, Pratt's 217
Coal, the chemistry of 58, 68, 85, 100, 116, 132, 149, 165
Coal tart, the colors from 292, 300, 330 Lowin, the chemistry of 28, 68, 25, 108, 116, 132, 149, 165
Coal tar, the colors from 292 300, 33
Coal area of counties 7
Coal beds, theory of the 72
Coffee, to obtain the genuine flavor of 378
Color, a new yellow 16
Colors, printing in 361
Coli, the inventor, death of Samuel 57
Cotton coming forward 299
Columbus, its public buildings, &c. 374
Combustible agents, the grand jury and 155
Commerce of Egypt—cotton 187 155 Composition, welding and tempering 38 Condensers for steam engines, surface 20*, 36*, 52*, 68*, 84*, 100*, 116*, 132* Condensers for steam engines, surface 20% 36, 52%, 68%, 54%, 100%, 116%, 132% 245%

Condor, Agassiz on the 327
Contract, too large a 163
Copper and phosphorus 149
Copper and zure, metallurgy of 99
Comforts, old-fashioned 3
Corre boxes for casting, making 55%
Corn, preserving green Indian 359
Cosmetics, their use and manufacture 154
Corr price 135
Copper, Lake Superior 148
Copper mines, Lake Superior 232
Coral reefs, growth of 1918
Corruption in the Administration 9
Cotton sold at anction, South Carolina 51
Cotton seed, choosing 195
Cotton in Europe 365
Cotton arriving, Sea Island 9
Cotton from Peru 43
Cotton, perennial 22
Cotton, Itali in the price of 137
Cotton manufacture of England, the 260
Cotton, companies in England for cultivating 55
Cotton culture, Indian implements for 387
Cotton and sugar at the West 86 387 Annual Implements for Cotton and sugar at the West 86 Cotton, facts about 25 Cotton yarn and cloth, fine 388 Creation, the plan of 117*, 133* [251 Currents, testing the electrical strength of Cyclopedia 339 Death of a distinguished manufacturer 74 Doctors taking their own medicines 178 Defence of our harbor—prompt action needed 37 Development, a curious 219 Dictionary, Webster's great 339 Dalysis applied to the arts—silica in tanning and preserving stone buildings 234 Description of the control of the contro t, the great American—a novel en-rprise 400 Desert, the great American—a novel enterprise 400
Diamonds, a man guarding three millions worth of 3
Diptheria 38, 68
Directory City, May 1, 1862 the 387
Distances, instruments for calculating 310
Disunfecting agents 330
Discoveries of 1861, the 276, 285, 311
Dividends of manufacturing companies 80 Dying cordovans 309 Dying cordovans 399

E

Ear and cannon firing, the 147
Earth, the age of our 316
Earthwork. Warner's computation of 53
Ear ache, treatment of 113
Earth a burning caudidron, the 7
Ectioses for the year 1852 39
Eggs in the winter 3
Electric phenomena 150
Electric phenomena 150
Electric telegraph in Russia 178
Embalming the dead 375
End of our volume, the 497
Engineer sold for \$3,750, an 56
Engravings, new mode of copying 266
Engines, great pumping 400
English iron plates steamer Defrace 243
Enterprise, new—steam wagon for the
Western prairies 394
Engravings, photographic 394
England, our feeling toward 67
Engravings, on the cleaning and preservation of 389
Ericsson battery, splendid success of the
185
Ericsson, biography of Captain 309*
Ericsson, biography of Captain 309*
Ericsson, battery the Ericsson battery, splendid success of the 185
Ericsson, biography of Captain 2098
Ericsson battery, the 73
Eriching on glass or stone 263
Ether and chloroform 144
European armies and navies 134
Evaporator, Colburn's hot air 134
Exhibition, the great London 169
Exhibition, the fewdon 395, 492
Exhibition management, the London 393
Exhibition management, the London 393
Exhibition, open ing of the great—defective building 346
Exhibition, ordnance in the London 391
Exposives, one of the new 373
Eyes, how to saveyour 118

Factories in Lowell, additions to 219
Feeding domesticanimals 1
Females in industrial operations, employment of 377
Fighthetween the Merrimae and Manitor, the 181
Figures on december 182 the 181 frigures on dress parade, the 390 friles by machinery, manufacture of 243 files by machinery, cutting 218 fire, the great Troy—iron safes destroyed 345 Fire, the great Troy—iron safes destroye 365

Fire engines in London, American 288
Flax, the cultivation of 197
Fish pond, how to make a domestic 379
Flax pond, how to make a domestic 379
Flax culture at Illino's 131
Flax, and cotton macninery 249
Flax, sowing 267
Flax, American mode of raising 310
Flax, and linen trade of Ir-dand 7
Flax culture in Illinois 192
Flour, saving ten per cent of 19
Fleet over a river bar, how to pass a 85
Fortifications, appropriations for 147
Frogs live in a stone, can 218
Fruit borer, the 339
Fruit, how to pack 2
Fruits, amylaceous matter in 199
Fuel in steam boilers, waste of 21
Fulminating substances 163

Gate, anecdote of a 146
Gas bills, saving in 23 (374
Gas companies, complaints against the

Gas explosion in Paris, great 171 Gas, marsh 378 Gas, marsh 378
Gas-burning poisons 187
Galvinized wire rope, tests of 378
Galvinized wire rope, tests of 378
Gas works, waste products of 394
Geology of Michigan, the 153, 214
Geology al history of North America, lectures on (continued) 4
Giass for chemists' bottles, blue and red 6
Glass, water 25
Gold deposits of California, were found at 194
Gold deposits of California, were found at 194
Gold deposits of California, were found at 194
Gas and the continue of California were found at 194
Gold deposits of California were fo

Gold fields of Nova Scotia, moreaboutthe 106
Gold deposits of California were found, the way the 346
Gold fields, the Nova Scotia, 230
Gold, jewelers' 160
Gold and silver, comparative value of 122
Grand Admired, the Russian ship of war 7
Grain separator, improved 193*
Grain trade of Chicago 11
Grain in store at the Lake ports 226
Grain trade on the Lakes 39
Grape vines for city gardens 197
Graves, new use for 230
Gravity and the pendulum 118*, 150, 166
Great Exister, the 198, 218
Great exhibition, the 259
Great exhibition, the new building for the
42
Great exhibition building, cost of the 70

Great exhibition, the 289
Great exhibition building, cost of the 70
Great exhibition building, cost of the 70
Great exhibition, Americans at the 361
Great exhibition, Americans at the 361
Great guns is made, the ore from which the iron of our 211
Grease spots, removing 40
Griddle cakes, corn 125
Gun cotton be used for army purposes, can 203
Gulf Stream, extent of the 54
Gun, another monster 259
Gun powder, compressed 266
Gunboats proposed new iron 137
Guns by means of mirrors, aming 230
Guns and iron plates, great experiments with heavy 91
Gunpowder, the explosion of 105
Gold mines of Nova Scotia 7
Guns hollow, casting—their length 390
Guns ordered, more 2379
Guns and powder, Large Europeat. 251
Guns pats. Western 217
Gun barrels, rolling 24
Guns, bronze 183
Gun on board the Naugaback burst, why the 382
Guns, manufacture of large 393
Gunpowder, discussion on 101

Gun on board the Nangeluck burst, wh the 362 Guns, manufacture of large 393 Gunpowder, discussion on 101 Gunpowder, safe 402 Gunboats, new fron-clad 98 Gun, the best 345 Gun, the best 345 Guns, revelving turrets for barbette 361 Guns, revelving turrets for barbette 361 Guns, revelving turrets for barbette 361 Guns, the last phase of the 297 Guns submarine 329 Guns and shot—penetration and construction of war vessels 67 Guns, shot for the big 309 Gypsum and salt in Pennsylvania 252

Gypsum and salt in Pennsylvania 262

H

Hair snakes, the affection of 99
Hair springs of watches, how to make 54
Hams, curing 51
Harbor defences 263
Harbor defences. New York city appropriations for 211
Harbors, new plans for defending our 291
Hay and corn, shrinkage by drying 240
Hearing trumpets 69*
Health, signs of 327
Heat—working and superheating steam
153

Heata-working and superheating steam 153
Heatand chemical combination, specific 267
Heifers for milking, breaking 197
Hen and how to preserve eggs, how to set a 247
Hellographic art in Europe and America 103, 119, 135
Hight of vertical iets of water from fire

Heliographic art in Europe and America 163, 119, 135
Hight of vertical jets of water from fire engines or fountains 22
Hight of vertical jets of water from fire engines or fountains 22
Hight 5 our subscribers 406
Hog crop, the 373
Hog packing in Cincinnat 1228
Hopper, how to cut a bevel for a 528
Horn, white, yellow and in Imuation of sets in mode of coloring 195
Horses, feeding and watering 356
Horses feeding and watering 356
Horses stating in the street 90
Horses, steam against 376
Horse power 250
Horse power 250
Horse power of high pressure engines, nominal 149
Horse railroads and snew 144
Horses, culpable loss of army 105
Hose couplings, excitement on 202
Horses in war, mechanical substitute for 53
Horse's scent, power of a 23
House keepers, birt to 236
House keepers, birt to 236

Hose's scent, power of a 23
House keepers, hint to 230
How long has the sun shone, and how long will it continue to shine 136
Human mind with the divine, affinity of the 149*
Hungary improving 36

the 149*
Hungary improving 36

I Ice, saw dust for packing 118
Ice houses and storing ice 16
Indelible writing 154
India rubber, valcanizing, influence of the occupation upon health 69
India rubber patent extension (Goodyear's) 152
Infernal machines in the Mississippi 210
Initringements previous to ressue 179
Iniks, gold and silver 114
Injectors, Griffard's—themachine business in Philadelphia 378
Insects, increase of 300 insurance, a good move in 361
Invention of the Queen of France, an 379
Invention wanted, an 5
Inventions, trial of warlke 57, 102
Inventions, trial of warlke 57, 102
Inventions in time of war, value of—what they have done for England 27
Inventions abroad, progress of American 251
Inventions lost to the country, good—importance of engangements

251
Inventions lost to the country, good—importance of encouraging inventors—what Congress should do 313
Inventions, recent American 12, 28, 44, 58, 75, 92, 198, 124, 140, 156, 171, 128, 214, 220, 232, 252, 267, 283, 300, 316, 331, 347, 362, 378, 395, 468

201, 201, 202, 202, 201, 203, 200, 310, 331, 347, 362, 378, 395, 488
Inventions and discoveries, notes on foreign 25, 44, 59, 75, 92, 108, 140, 219, 109, 130, 331, 385
Inventions, Wisconsin—improvement in railroad brakes 347
Inventors, commission on military 5
Inventor and the national crisis, the 138
Inventor of revolving or iron turrets of naval and land batteries, the 248
Inventors, by a 377
Inventors, the greatest field for 347
Inventors, the greatest field for 347
Inventors, the greatest field for 347
Inventors, renewed activity among 121
Inventors relating their experience 375
Inventors answered, two suggestions to 262
Inventive genius at the South 73

Ireland, distress and impending famine old rolled 40 Iron, cold rolled 49
Iron masts 55
Iron, tinning 289
Iron, tinning 280
Iron, case-hardening wrought 219
Iron and steel by electricty, manufacture of 181
Iron telegraph wires passing foundries
10
Iron, great product of 208
Iron, improvements wanted in 184
Iron for ships, importance of good quality of 180
Iron strength of franklinite 279

Iron fur ships, importance of good quality of 2 of 2 of 2.

Iron, strength of franklinite 279
Iron and suspension bridges 152
Iron and suspension bridges 152
Iron and suspension bridges 152
Iron and steal, improvements in 44
Iron for ships, importance of good quality 2 of 150
Iron for ships, importance of good quality 2 of 150
Iron charmeting 166
Iron, testing ship 37
Iron charmeting 166
Iron charmeting 167
Iron charmeting

Iron plating, late experiment with 218 Iron plating—is the Warrior a failure? 154 154 Iron plating for ships 179 Iron plated ships invulnerable, are 329 Iron plated ships, Mr. McKay's letter on

Iron plating for saus 122
Iron plated ships, Mr. McKay's letter on 217
Iron plated ships, the excitement in relation to 297
Iron plated ships, the excitement in relation to 297
Iron plated ships, the first 371
Iron plated ships, the first 371
Iron plated ships, what we ought to do in relation to 497
Iron plated ships, what we ought to do in relation to 497
Iron sides, the new 355
Iron ships, English and French 52
Iron ships, English and French 53
Iron trade, Scottish 179
Irun-ciad turret ship, new 401
Iron; substitute for 331
I vory dexible, to rend 415
Jewelry, enameling 156
Japaning and varnishing 388

Konsington, the iron-clad frigate 266
Kentucky and Tennessee, map of 115
Kjeekkenmoedding 170
Knapsacks of the French and German armies 41
Knapsacks, about 67
Lake Superior iron mines 37

Lake Superior iron mines 37 Lamp, Platt and Resecrans's 70 Lanterns, painting the slides of magic 294 Lead for cannon balls 239 Lead pipe, practical mode of soldering 199 Lead pipe, practical mode of soldering 246

246
Lead pipe, a substitute for 246
Length, weight and measure 341
Letters, to copy 244
Lift-saving association 91
Lift, statistics of human 253
Light, improvement in the oxyl
357

Light, improvement in the oxyhydistip, improvement in the oxyhydistip, increased in relation to 23 Linen, giossing 296 Locomotive, novel light 4 Locomotive, new 120 Locomotives, mode of turning 55 London correspondence 405 Lords and locomotives 134 Lubricating substances 245 Lubricating substances 245 Lubricating substances 245 Lubricating substances 245 Lubrications for bullets 192 Lubrications for bullets 192 Lubrications for bullets 192 Lubrications for bullets 192 Madagascar, resources of 211 Magnetic experiments, some 342 Mail-clad vessels and American guns cussed in parliament 266 Mailaria, the causes of 17 Mat in Germany, medical use of 390 Mannfacturing industry—census ret 147 Mannfacturing news, 11, 131 Mannfact

Mannfacturing news, 11, 131
Manufacturing news, Maine 2
Manufacturing news, Massac
150

Manufacturing news, Maine 232
Manufacturing news, Massachusetts 100, 150
Manure, saving 359
Maple sap 115
Mason and Slidell war fever, the 9
Materials in their invisible state 175
Mathematical mechanical scale, Chishom's 52
Metallurgy of copper and zine 51
McClellan's report on the armies of Europe 2
Meenancal productiveness, our 155
Meerschaum 494
Meerschaum 494
Meerschaum mania 29
Men on the future, influence of 35
Merrimac and Momitor, the fight between the 181
Merrimac, Armstrong guns on the 203
Merrimac, interesting facts about the 355
Merrimac, the armament of the 275
Merrimac, the armament of the 275
Merrimac, the ion-clad steamer 192*
Metal, valuable substitute for 340
Metallic veins 40
Mitk sickness, cause of 56
Miller, another answerto a young 293
Miller, still another answerto a young 279
Millers, another answer to questions for 262
Millers, practical information wanted from 358

attlers, another answer to questions for 262
Millers, practical information wanted from 358
Millers, another answer to 246
Millers, questions for 179, 230
Military and naval affairs, notes on 2, 18, 34, 50, 66; 82, 98, 114, 130, "146, 162, 178, 194, 210, 226, 242, 258, 274, 290, 306, 322, 338, 370, 386, 494
Millitary training in common schools 58
Millitary tommission to Europe, reports of our 329
Mills, the backlash in saw 374
Mill stones, American and English patent for 319

Mills tones, American and English patent for 310 Mills tones, American and English patent for 310 Mines, Lake Superior iron 294 Minks as insect catchers 283 Mirror, ancient Roman 5 Molasses, fresh maple 75 Money received 14, 31, 47, 62, 78, 94, 110, 126, 142, 159, 175, 190, 206, 222, 238, 254, 270, 226, 302 318, 334, 354, 350, 366, 352, 393, 411 Money receipts, the plan of taxing 342

Moon's influence on rain, the 155 Mortar fleet and mortars, the 128

Mortars, firing the 226
Mortars at Cairo, interesting experim with heavy 131
Mother, a wooden 20
Muskrats predict a mild winter 34
Naphthalling colors 165

Naphthaline colors 168
Nails, cast-iron 122
Notional Quoterly Realize, the 42
Navai intelligence 162
Navai department, imbecility in the 185
Navai expansively 294
Navy a year ago, our 236
Navy defence of the secretary of the 214,

Navy a year ago, our 239
Navy defence of the secretary of the 214, 217
Navy department and iron-clad war steamers 242
Navy, our—who is to blame? 201
Navy, secession compliment to our 171
Navy yard, operations at the Brooklyn 314
Navy yard, the Washington—testing heavy artillery, &c. 275
Navies, the British and American 20
Needle in iron ships, variations of the 341
Newbern, the reason why the artillery was not in the battle of—improvement in signals suggested 233
New England manufactures 35
New Hampshire factories 100
New York, population and sanitary condition of 53
Newspapers and inventors say, what 59
Newspapers, British 11
Norton and the Scientfield American, Captin 377
Notes and queries 11, 30, 46, 62, 78, 94, 110, 126, 142, 158, 174, 190, 206, 222, 228, 254, 270, 286, 302, 315, 331, 330, 366, 382, 383, 411
Nut cracker, spring 37*
Nuts, serewing on 98

Nut cracker, spring 37* Nuts, screwing on 98

0

Oak and iron-clad ships—zincked holts 267 Ocean mail steamers, the French 136 Ohio, the physical man of 219 Oil in England, rock 88 Oil in boxes 294

ocean man iscamers, the French 136
Ohio, the physical man of 219
Oil in England, rock 85
Oil in boxes 294
Oil conflagration, terrible rock 371
Oil, uses for light rock 84
Oils, disinfecting 72
Oidest house in Boston, the 6
Omnibus, an India rubber 361
Ordnance and gunnery 308*
Overland mail, complaints in regard to the 262
Oyster dredge 37*
Oxen, quantity of food for 3
Oxphydrogen light—the magnesia light arborescent crystallization on photo graphic plates 343
Ozone, restoring old books by 12
Paint, rock oil for 54
Paradox, the land of 227
Paralline 313
Patent, does an ervor in the oath affect the legality of a 74
Patent infringement—hat manufacturers in the court 307
Patent law amendment, the 104
Patent law amendment, the 104
Patent law is England for artists, new 296
Patent office, affairs at the 91
Patent offic

Petroleum, historical and scientific facts about 71
Petroleum region, the—rock oil 1 m - 182
—extent and sources of stiphay, that 122
Phenomenon

Phenomenon, curious 21*
Phenomenon, curious 21*
Phosphorrscence 4
Photographers, suggestions to 179
Photographic albums 216
Photographic art, recent progress of the
234

Photographic art, recent progress of the 234
Photographic discoveries, Chevreul on St, Victor's 90, 229
Photographing in natural colors 246
Physician? Who is not a 55
Pilot house, suggestions for a 214
Planets, comparative size of the 3
Plants when the dew is on, cultivating 394
Plating porcelain and platinum 181
Polishing metals 403
Pork speculation, Western 150
Posts, how to preserve telegraph and fence 5
Potatoes at sea, how to preserve 6
Potatoes at sea, how to preserve 6
Potatoes, how to store a large quantity of

Potato, cultivation of the 200 Potatoes at sea, how to preserve 6 Potatoes, how to store a large quantity of 5 Potatoes, setting sweet 326 Potatoes, how to store a large quantity of 5 Potatoes, setting sweet 326 Potatoes, setting sweet 326 Potatoes, and the same and the state of Potatoes and Same an

Rebel obstructions on the Neuse river— plan of the battle ground in the vicini-ty of Newbern 211* Reusselear Polytechnic institute—milita-ry education 43 Revenue from taxation, estimated amount

Revenue from taxation, estimated amono of 195
Rice, Hawaiian 32, 249
Rice hullers wanted in Mexico 70
Rifte, the 283
Ritle barrels, steel 289
Ritle question, the 166
Riftes and how to shoot 6
Riles, large and small bore 54
Rockets, the motion of 38, 85, 134, 135
Rooms, the sounding properties - 125-1
Rooms, zine wash for 337
Rubber works burnet, extensive 137

Rooms, zine wash for 337
Rubber works burnet, extensive 137

Salt in Michigan, mannfacture of 18
Salt and horses? feet 136
Salt in Kansas 67
Saltings treets—the science of the question 107
Sand stone from scaling off, to prevent 54
Sant in Kansas 67
Santings treets—the science of the question 107
Sand stone from scaling off, to prevent 54
Sant prancisco steam rail cars 80
Sans Francisco steam rail cars 80
Savages of Europe, the ancient 198
Saw dust in manure 197
Saws, practical hints for dressing 21
School grounds, adorument of country 310
Science and allooning 267
Scientific American, result of having engravings published in the 9
Scientific American, complimentary allusion to the 43
Scientific knowledge, practical value of 33
Scient the new American steamer 377
Sereen, changealle for 291
Screw propellers 2
Screw propellers 6
Seads, changing 37
Sewing machines in England 291
Shell, destructive fire 25
Sheep skins with the wool on, to care 100
Ship bulding, notes on—description of one of the new gunboats 11
Ship planding on the lakes 219
Ship, raising a sunken 20
Ship on war, Donald McKay on our 215
Shipping at New York harbor for 1861
Shot, learning to—Wesson's breech loading rifle 58
Shot for light guns, too heavy 195

Ship and fort question, General Totten on the 34
Shipping at New York harbor for 1861
34
Shoot, learning to—Wesson's breech loading rifle 58
Shot for light gaus, too heave 192
Shower, a considerable 166
"Shunt" gau, the 7
Signais, Ward's semaphoric color 291
Significant fact, a 54
Silk culture in America 178
Silk, washing 337
Silver smelting in San Francisco 102
Silver in the arts, substitute for 36
Silver ware manufactory, a great 408
Silver in the arts, substitute for 36
Silverware manufactory, a great 408
Sonal-pay, remedy for 373
Smulf-taker, incotine found in the viscera of a 211
Solder, how to apply 244
Soldiers bear the winter, how our 74
Soldiers bear the winter, sold the soldiers in Soldiers and Soldiers, forther of 371
Sorghum analysis in lecture rooms 167
Spectral analysis, new discovery by 23
Spontaneous combustion, shange 367
Spontaneous generator 343, 363
Stalagmite, the age of a 118
Steam expansion and the American experiments, Professor Rankine on 249
Steam and water power, comparative economy of 106
Steam bollers, incrnsation of 334
Steam bollers in new York, important to those who use 328
Steam modeliers in new York, important to those who use 328
Steam and other heat engines, theory of 53
Steam for locousative bollers 362
Steam and other heat engines, theory of 53
Steam for locousative bollers 362
Steam superiments, criticism on 43
Steam bollers in new York, important to those who us

steam objects in New 1701, important of those who use 32 of the six of the si

Basaca e cheek 300
Balance s 32
Ballance s 32
Ballance pass 223
Ballance pass 224
Ballance pass 225
Ba Baggage alteck 393 Balance's 352 Balling and Sudings for involved instruments, por 157 Study, bours of 188 Sus account topostoes, infernal involvings Sun observe temperary, infernal involving-161 Stage 138 Sugar from Narthern cane 75 Sugar, maple 247 Sugar, maple 247 Sugar, maple 247 Stages, maple 233
Stages, maple 233
Stages and attent, California 22
stages and as a discrete than 106
Stages and the stages and stages at the a
talendar and stages and stages as a formation of not
Post and the set of the formation 223
Tay attent and stages and stages as a set of not
Post and the set of the stages are set of not
Stages and stages and stages are set of not
Tries and companies, Tay of the stages and
Technique to the remarks and
Technique than the formation 27
The set of the set of the set of the set of the set of
The set of the set of the set of the set of
The set of the set of the set of the set of
The set of the set of the set of the set of
The set of the set of the set of the set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of
The set of the set of the set of the set of
The set of t Trans a right e 28

Trans of the 28

Trans of the 28

Trans of the account of the 18

Trans of the 18

Tran James 19 prevent that the destinant of 123 and the property of prevent that the destinant of 124 and the the street of 124 and the the property of the propert Make gas—light waried 933
Walter for soldling on coast it lambs, distly
234
Walter for soldling on coast it lambs, distly
bad 367
Anne wheels, history of a.4
Water as a streamfail for
Water as a streamfail for
Vater we streamfail for
Vater wheels, history of a.4
Water as a streamfail for
Vater wheels, history of a.4
Water as a streamfail for
Water as a streamfail for
Water and act ser, history of a lamb at a lamb and a lamb a Yzwikows delier, a 225 PATENTS CLAIMS, A caratrag (a) 1 bs. approach 5 for 2 se Aerial machines (be) Air, earthured (a) 332. A form case 333. All strates, and proceed a Annoen Caratra Annoen (a) and proceeding the Annoen (a) and a form of the Annoen (a) and At our case 335.
V.Bones, over grander 364.
Anningmater and ere errished 198.
Anningmater and ere errished 198.
Anningmater and ere util 313.
Anningmater and ere and survey 104.
Anningmater 305. Anemometers 125 Aniline (colors, dyeing and printing with 253 Aniline colors, dyeing and printing with 253
Anklet, design for a 3:33
Ankelt, design for a 3:33
Annealing and cooling cast-iron var wheels 301
Ammunition box, military 156
Annunciator, hotel 12
Apples, Tachline for packing 3:33
Apple-parer 337
Arastras 268
Arm.chair, design for an 3:33
Armor for water and land batteries defendensive 285
Armor plates, ships: 17:3
Armor plates, for vessels 3:1
Armor plates, defensive 3:0
Armor for ships, defensive 3:1
Armor plates for marine or other bat Armor plates for marine or other bat Button halos, stitch for 157

Cab, brakesmants 257
Cages, bit d 398
Catenbers, particle 332
Camers absents 284
Camer and braterial 247
Camer dest 18
Camer does 18
Camer d Amor plates for marine or other but teries, means of constructing metallic 349
Ascertaining position and direction on land and sea 124
Ash. sifter 285
Augers, hollow 172
Augers, speke tenen 76
Automatic machine for weighing grain 172
Axes, 1900 motive 77
Axles, 1000 motive 77
Axles, anode of lubricating 221
Axies, railrand 316
Axles, splicing bar for 93
Axles for wheel vehicles 141 55° or plates for marine or other bat cries, means of constructing metallic

Company, mountherman of 125
Concern 202. Concern and All rolls, cosens for truns
Conflict makines, allower guides for 172
Conflict makines, allower guides
Conflict makines, allower guides
Conflict makines, allower guides
Conflict makines, and for guides
Conflict makines, and for guides
Conflict makines, and for guides
Conflict makines, allower guides
Conflict makines, and for guides
Conflict makines, and for guides
Conflict for guides
Confli Compact, insurfactors of 125 Content 29 Corrective Control of the Contro C. area manufacts 33;
C. area manufacts 34;
C. area manufacts 35;
C. area manufacts 35;
C. area manufacts 36;
C. area manufacts 36; Composition metal of from zone, and copposition for when principle composition for when principle death, lentage, Ac, 381.

Contentage and arrived from 265.

Contentage for attention of all death of the first content and the metal 36 contents for the first and the writer 36 contents for the first for the first process of 192 contents for the first for the first process of 192 contents and freezing, agriculture for 26 contents for the 30 contents with 30 contents for state of the 30 contents for state and 190 contents for state and 1 Corking bottles, apparatus of the combined 157
Cort, preserving pressures 234, 356
Cort, planters 410
Cort, planters 410
Cort shalters, 23, 193, 237, 239, 507, 132, 338, 410
Cort shalters, 23, 193, 237, 239, 507, 132, 338, 410
Cort on combing machines for ten Corton, machinery for cisonitic 141
Corton, machinery for cisonitic 141
Corton, machinery for ginding 317
Cortoning machine 256
Coording machine 256
Coording machine 256
Corpling, and machines 385
Corpling, and machines 385
Corpling, and cortonic part 256
Corpling, and cortonic part 257
Corpling for double part 125
Corpling, ser 13, 144, 144, 144, 184, 384

Constrops of harring as the of sets for a strope of the first part of the first part

Point Alexander 171
Form the side of the form of the side of the first form of the f Galvanic butteries, liquids for exciting Gaiters 16
Galvanic believers, liquids for exciting 205
Galvanic soles 205
Galvanic soles 205
Gardents, mode of conservering 187
Gas, apparatus for carbureting 187
Gas, apparatus for carbureting 188
Gas, apparatus for the manufacture of illinimaling 237
Gas compensator 189
Gas bights, means of extinguishing 409
Uns, manufacture of illuminating 365
Gas, process of manufacturing illuminating 77
Gg mills 46
Glass formaces 364
Glass furnaces 364
Glass furnaces 364
Glassware in bas-relief, manufacture of 396
Glassware, manufacture of hollow 140, 396
Glassware, manufacture 188
Gardent and the office of the control of the formation of th Downs for revealerance and choracter the constituent of the construction and dryers, floating 285 that revealerance and choracter the constituent of the construction appears to the population vessels.

Deals reflect and anyther constituent 125 thousands appears to the population vessels.

Deals reflect and anyther constituent 125 thousands appears to the population vessels.

Deals grain 400 the constituent of the population vessels.

Deals grain 400 the constituent of the constituent Even lope s, alternates for darying pasted
Recorphysis of curried ose for declarance of Recorphysis of curried ose for declarance of Recorphysis of Cavelling, 1999-1998 for Strategies of Cavelling, 1999-1999 for S

Carnel's, stop that s for Carneling indes, checks, &c., device for 293 Camillos, machine for making mold 380 Camillos, feks 206 Crea with control of communities (1) | Capillosifeks 296 | Cana chair and study convertible UI | Cannon, breech loading 139 | Cannon, mounting and maneuvering PS

India rubber, making hellew articles of 301
Indian cern preserved green 269
Indianters, railread station 109
Injector, Giffard's 410
Injector, mode of operating Giffard's 13
Ink stands 124, 237, 396, 397
Iren, manufacture ef 349
Iren and steel, precess of making 13
Iren cutters er sleighs 93
Irening and fluting machine 332
Irening machine 300
Iren ships and ether navigable vessels means for covering and repairing 76 Jacks, lifting 60, 172

Journals, relling of frictionless 284

Journal bexes 29

Journal bexes, composition for 381 Jeurnal bexes, composition for 381

Kettles, dies for manufacturing brass 141
Kitchen ranges 61
Kinapsacks 109, 125, 188, 237
Knapsacks, hospita161
Knapsacks, slinging 109
Knife, fork and spoon, combined 60, 61, 221
Enife and fork, construction of 125
Knife, fork and spoon cleaning machine 236
Knife, touding 125
Knife, budding 125
Knife cleaning bex 365
Knives, hay 141
Knitting, burrs for 410
Knitting machines 93,253

L
Ladder, step 61 L Ladder, step 61 Ladders and staging for artizans 124 Ladies' dresses, instruments for drafting 348 Ladies' dresses, springs for (see Springs) Lamp burners, coal oil 409 Jadies' dresses, springs for (see Springs)
Lamp burners, coal oil 409
Lamp chimneys 409 (2)
Lamp reflector and chimney protector409
Lamps, burner for coal oil 409, 410
Lamps for railway care, coal oil 409 (2)
Lamps 13, 46, 600 x, 75, 109, 414, 156 (2),
173, 185, 205, 237, 269, 284, 333, 365
Lamps, coal oil 25-3, 332, 410
Lamps, coal oil 25-3, 332, 410
Lamps, miners 342 269, 317
Lamps, mede of securing chimneys to 348
Lamps, burners for 332
Lamp formers, for 332
Lamp chimneys, or as oil 253
Lamp chimneys, oil 332
Lamp chimneys, oil 332
Lamp chimneys, or as oil 336
Lamp chimneys, bolder for 268
Lamps, chimney coal 336
Lamp chimney, can oil 336
Lamp chimney, can oil 336
Lamps, chimney for 121, 236
Lamps, chimney for 121, 236
Lamps, reflectors for 13
Lamp burner 236, 300 Lamps, chimney for 121, 236
Lamps, mede of attaching chimneys to
253
Lamps, reflectors for 13
Lamp burner 236, 300
Lamp, night 332
Lamps, shade for 253
Lamps, shade for 253
Lamps, shade for 253
Lamps, shade for 253
Lamps, shade holders 237, 260
Lamp, vaper 60
Lamp, vaper 60
Lamd, machines for marking and furrowing 316
Lantern, design for a 221
Lantern, guards for 157
Lantern lamp 330
Lantern lamp 330
Lantern for marine telegraphs 364
Lapping, printers' 317
Lantern lamp 340
Lard and tailow, process of rendering 13
Laying stone, &c., under water 221
Leather, composition for dressing 173
Leather, nachine for pricking 173
Leather, machine for pricking 173
Leather, machine for pricking 174
Leggings, saddle 20
Leathering tacks, machines for 172
Lotters, device a prevent opening without discovers 355
Letters on street railroad cars, mode of collecting 364
Leveler, land 253
Lettler handle, design for 94
Lighthouses, piers, &c., construction of foundations for 172
Lottor, device construction of foundations for 172 Leveler, land 253
Lift or handle, design for 94
Lighthouses, piers, &c., construction of
foundations for 172
Lights for lometives, head 397
Link metion of steam engines 319
Liquids from kettles and other vessels,
apparatus for discharging 255
Liquors from becoming flat, apparatus
for preventing mait 221
Leading ceals, &c., machine for 364
Locks 12, 157, 380
Locks, guardattachment for 12
Locemeitive engines, mechanism of 316
Looms, apparatus for operating shuttle
boxes of 365
Looms, paparatus for eperating shuttle
boxes of 365
Looms, picker metion for 205
Looms, pickerstaff for 380
Looms, sedign for top rail for weavers'
260
Loom heddles, apparatus for varnishing heddles, apparatus for varnishing Lubricating axles of wheels 332

M
Mandrel for leading case shet, &c. 46
Mangle 364
Manure, machines for spreading 237
Marble, imitation 236
Matches, friction 205
Mattress 284
Measures, liqual 173
Measures, graduated glass 156
Measures, graduated glass 156
Measures, graduated glass 156
Measures, restaing 300
Meat-cutting apparatus 173
Meidedons, &c. 300
Meidedons, &c. 300
Meidedons, c. supling for colaves, &c. Meat-cutting apparatus 173
Melodeens, &c. 300
Meridian instruments 13
Metal, architectural sheet 93
Metallic melds, weast of casting metals, preparing (see Custing metals)
Metallic melds, weast or ceating for 221
Meters, water 60, 76, 253
Meters, wet gas 220 (2)
Miasmatic diseases, medicine for 300
Microscopes 156
Mik, cencentrating and preserving sweet
349
Mik cooler 10
Mills, apparatus for feeding 108
Mills, flouring and grist 76
Millstor crushing apples, sugar cane, &c. 124
Mills, fanning 396 (2), 409
Mills, wind 317
Millstones, machines for dressing 237
Mills, metallic grinding 301
Mills, aburm indicator for grist and flouring 76
Millstone dressing 60
Millstone dressing 60
Millstone dressing 60
Millstone, balancing 322

ing76
Millstone dressing 60
Millstones, balancing 333
Millstone picks 234
Mining drills 284
Molding, weather strip 157

Moldings, machinery for making 365
Monuments, construction of 349
Monument, design for a 94
Mop head 220
Mortising machine 364
Motion, crank 236
Motion, mode of converting 189
Motion, mode of transmitting and arresting 93
Motion, changing a retary into a reciprocating 317
Mowing machines 29, 77, 2:16, 349
Mowing machines, track clearers in 93
Musket balls, machines for compressing 253 Nails for sheathing 173
Needles, knitting machine 349
Needles, machines for polishing the of 13
Night signals, mode of firing 316
Nutmeg grater 333 Night signals, and Numeg grater 333 Numeg grater 333 Odorizer of kerosene oil 188 Ott, apparatus for distilling coal 93, 141 Otherizer of Kerosene oil 188
Oil, apparatus for distilling coal 93, 141
Oil cans 173
Oils and fat for rendering them more userial for burning lamps, Lorenating machinery and other purposes, mode of treating 409
Oils, nethod of storing 157
Oil presco 332
Oil tank 141, 156
Ordinance 205, 332, 396
Ordinance, berech-loading 29, 46, 109, 236, 316, 344, 380
Ordinance, construction of 124, 172, 285
Ordinance, bot prejectites for 93
Ordinance, hot prejectites for 93
Ordinance, revolving 48, 77
Ordinance, revolving automatic 409
Ordinance revolving automatic 409
Ordinance info 46 of 000
Ordinan Ovaters, steaming 409

P
Packing cans for transportation 173
Packing for steam and other engines 109
Paddlocks 300
Pads, truss 77
Paneling machines 61
Pans for evaporating saccharine juices
(see Saccharine juices)
Paper, machiner for folding 3:9
Paper, printing and cutting 189
Paper, machiner for for drying sized 317
Paper pulp, machinery for drying sized 317
Paper pulp, machinery for drying sized 317
Paper stuff, preparation of 237
Paper stuff, preparation of 237
Passenger cars, arrangement of steam
engines for propelling street 61
Peat, impreved mode of preparing 141
Pegging machines 77, 142, 238
Pegging machines for boots and shoes
125, 141
Peeling willow, machine for 93
Pencils, incans of attaching rubber to 365
Pennilser 285
Pens, de, bexes, cases and cards for 333
Percussion powder 397
Percussion caps, machine for varnishing
77
Photographs, &c., press for 173 Percussion pewder 397
Percussion pewder 397
Percussion pewder 397
Percussion caps, machine for varnishing 77
Phetographs, &c., press for 110
Phetographs, &c., relier press for 173
Phetographs, &c., relier press for 173
Phetograph preserver, design for a 125
Plane 172
Plane orchestra 397
Planos with incleden attachment 409
Planes, ren frames for 397
Planefortes 61, 93
Picker metion (see Leoms)
Planefortes 61, 93
Picker metion (see Leoms)
Pins, manufacture of deniists' 189
Pipes, composition for lining tobacco 61
Pistol with a sword, combining a 205
Piston packing 236, 268, 349, 359, 396
Pistons for steam engines 173
Pitchforks, herse 124
Plane stacks 109
Planing machine 77
Planier, feet com 365
Planters, corn 77, 268, 349
Planting machines 410
Plastering surfaces 61
Plate-holder, phetographic 348
Plew beam 332
Plows 60, 61, 93, 141, 301, 317, 349, 331
Ploys, combined iron and steel 109
Plows, corn 366
Plews, retary 348
Plews, retery 348
Plews reversible 396
Plews, retary 348
Powter, plasting 205
Presses 285
Presses 285
Presser 295
Presses 285
Presser 296
Press hand priorities 76 14, 46
Pulverliser and seed sewer 60
Pulverliser and seed sewer 60
Pumps 13, 60. 61 (2), 172, 205, 221, 252, 301, 316 (2), 317, 344, 349, 306, 409 (2)
Pumps for deep wells 167
Pumps, metallic molds for casting 237
Pumps, rotary 13, 330, 396 (2)
Pumps, chain 409
Punching boiler plates, machines for 29 Quartz crushers, stamp head for 29

Radiaters, steam 205 Rack and treugh for feeding stock, or bined 39 Raising or lifting weights 284 Raising carriages, machine for 156 Railread cars, mode of collecting fares 12 Raising carriages, machine for 156
Railread cars, mode of collecting fares on 12
Railread chairs and rails 409
Railread cars, running gest of 173
Railread cars, running gest of 173
Railread thritables 76
Railread thekets, cases for 108
Railways, construction of 333
Railways, street 224
Rauges, cooking 93
Rakes for harcesters 268, 285, 349, 365
Rakes, hay 233
Rakes, hay 243
Ratica, hay 243
Ratica, hay 243
Ratica, hay 243
Ratica, hay 243
Ratica Reefing, metallic 109
Reefing, the 205
Rollers, composition for printing inking Resting, tile 205
Rollers, composition for printing inking
332
Relisfor relling piles of railroad iron 349
Rollery engines 235
Rubber, restering waste 124
Rudders, apparatus for shipping spare 237
Running gear of cars for street railways
345 348
Running gear carriages 140
Ruits on highways, machinery for filling
wagon,71 Wagen,71

S
Sabet fer explesive shells 284
Sacharine juices, apparatus for evaporating 237, 285, 301, 397
Sacharine juice, apparatus for evaporating 237, 285, 301, 397
Sacharine juice, evaporating pans fer 157, 172, 205, 236, 365
Saccharine juices, evaporators fer 316 (2), 348
Saccharine and ether juices, construction ef pans fer evaporating 109
Saccharine liquids, evaporating pans fer 13, 108
Sadels, military er ether riding 125
Safes, burgiar-preef 381
Salt, apparatus fer the manufacture ef 140, 220
Salt, manufacture ef commen 221 (2)
Salt, manufacture ef commen 221 (2) Seeding machines 76, 236, 253, 284, 364, 396
Seeding machines 13, 62, 109, 1252, 285, 332, 381
Sewing machines 13, 60, 109, 125, 156, 236, 237, 269 (4), 285, 333, 349
Sewing machines, tension regulator for 410
Seed planters 301
Sewing machines, needle gage and adjuster for 252
Sewing machines, setting and threading needles in 156
Sewing-machine needles 188
Sewing-machine reame, design for a 397
Sewing machines for a setting and threading needles in 156
Sewing-machine needles 188
Sewing-machine reame, design for a 397
Sewing thread, machinery for dressing 316
Sewing-work cases, portable 252
Shackles for connecting thills to axles 332
Shackles for refired cars 345
Shadie-helders for gas burners or lamps 365
Shading, connecting and disconnecting 172 Shafting, connecting and disconnecting | Shafting, connecting and disconnecting 172 |
Shears, sheep 333 |
Sheet metal, architectural 93 |
Sheells for ordnance, explosive 60, 237 |
Shells for ordnance, explosive 60, 237 |
Shells for rifled ordnance 108, 109 |
Shells for rifled ordnance, explosive 409, |
Shingle machines 141, 221, 349, 364 |
Shingle machines 141, 221, 349, 364 |
Shingle machines 141, 221, 349, 364 |
Shingle machine preductive by 93 |
Ships, sheathing metal for 157 |
Ships or other substances under water, chopping 93 |
Ships of war and other navigable vessels, cattraction of 778 |
Ship building 141 |
Shirts 300 |
Shoet acks, machinery for rolling metal 151 |
161 |
162 |
163 |
164 |
165 |
166 |
167 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 |
168 | Shirts 300 metal for 125 metal Shutters for the pert.heles of vessels, &c. 317
Shuttles, 109
Shuttle boxes of looms, apparatus for operating 365.
Sifters, ceal 172, 409
Silicates, preparation of soluble 254
Skate assteining 268
Skate fastening 268
Skins, depliating and bating 364
Skirt, saketten 77
Skirt, sheetten 77
Skirt, hoop 93
Skirts, skalles 188
Bleds, boys' 268

Sindes of steam engines, increase a strong 288
Siding grates (see Grates)
Sing 10 carrying blankets and overceats Smoothing 100 172
Smut machines 221
Snow from right addracks, mode of cleaning 190
Snow plows for railroads, 316
Soap 332
Soap, benzole 3-40
Soap, manufacture of 284
Soap, manufacture of 284
Soap, manufacture of 284
Soap, control of the manufacture of paper stock, process of recovering 13
Sed water apparatus 292
Soft stock in the manufacture of paper stock, process of recovering 13
Sed water apparatus 292
Soft stock in the manufacture of 364
Soldering trong 277
Spindles for spinning 322
Spirit levels, combined 364
Spiliting kindling wood, machines for 252
Spirit levels, combined 364
Spiliting kindling wood, machines for 252
Spiriting strong of trees, timber, &c., mode of 15.
Speois, machines to label thread 410
Spools for seving thread 397
Spool-holding device 142
Spoon, camp 125
Spoon, sheet metal 109
Spoons, sheet metal 109
Spoon of fork handles, design for 190
Springs, car 205
Springs, car 205
Springs, carrugated spiral car 284
Springs for carriages, wagens, &c. 173
Springs for vehicles 316
Springs, carrugated spiral car 284
Springs for laddes' dresses 173
Springs for vehicles 316
Springs, serrugated spiral car 284
Springs for laddes' dresses 173
Springs for laddes' dresses Steves, feet 172
Steves, the tair 237
Steve dampers 205
Steve granter 409
Steves, parler 409
Steves, parler 195, 142, 285 (2)
Steve, design for a parlor 398
Steve, design for a 125, 142, 285 (2)
Stove plates, design for 254
Steve, design for a lates of a 62
Steve, design for a coek's 62 (8), 238, 285, 317
Steve deers 410
Steve, design for a gas burner 285
Steve design for a gas burner 285
Steve design for a gas burner 349
Straw carriers and grain separators for thrashing machines 29
Straw cutters 188, 317
Straw cutters 188, 317 Sugar, apparatus for manufacturing cube Sugar melds, carriage for 220
Sugar melds, carriage for 220
Sugar, retining and crystallizing 29
Sugar, retining and crystallizing 29
Sugar, retining and crystallizing 29
Sugar, sugar, sup bucket for the manufacture of maple 410
Sun dials 348 Sun dials 348
Supporter, female 253
Sweeping machines 220
Sweeping machines, street 380
Sweeping machines, street 380
Sweet potate, articles of food made of 141
Swine to prevent them from rooting, cutting the noses of 141
Sword and pistol combined 236, 316
Switches, railroad 60, 61, 141, 173 Table, extension 76
Table and camp chest 60
Table and sink, combination of 332
Tablet, writing 29, 205
Tanks, vacuum 333
Tanning 189, 220
Tanning, apparatus for 253
Tanning for moreceo and other grait finished leather 252
Tanseltops, design for 410
Tea and coffee pots 396
Teeth, manufacture of artificial 193, 317
Teeth, setting artificial 189
Telegraphs, alphabetical 172
Telegraphs, aphabeticial 172
Telegraphs, paphametical 172
Telegraphs, paphametical 172
Telegraphs, paphametical 172
Telegraphic paphas paratuments 6 of 364
Telegraphic cables 183
Telegraphic cables 183
Telegraphic cables 183
Telegraphic cables 183
Telegraphing by light 205
Telestopes for measuring distances 189
Tensuing machines 253
Tensuing machines 253
Tensuing machines 183
Tensuing machines 184
Tensuing machines 185
Tensuing machines Т and other grain Tents, mode of attaching beus to not tent fixtures 13
Terra-cetta reeing 332
The Tewn Pump, design for statuary 381
Thermometers 13
Thrashers and separators, grain 76 (3)
Thrashing clover (see Clover)
Threstles for a pinning cotton 236
Ticket recorders 254
Ticket stamp, railroad 141
Tips for fishing rods 365

Sled and sleigh runners 317 [269]
Sleigh be lis to straps, mede of attaching Slide valves of steam engines 316
Slide valves of steam engines 316
Slide valves of pressure, relieving 109
Slides of steam engines, method of oiling 268
Sliding grates (see Grates) [285]
Sling jev carrying blankets and overceats Smoothing iron 172
Smut machines 221
Snew from rullroad tracks, mode of cleaning 191
Sing log carrying blankets and overceats 318
Tobacco pioches 364
Teles 156
Teles 156 317
Teel posts for helders 205
Top-sait rig 259
Teurniqueis 61
Trace fastening 396
Tracter metive engines 157
Trademark en sword blades, design for a 157
Train or fusees, design for a 62
Train or fusees, construction of 60
Trap, steam 410
Trap, rat 157
Trap rat 157
Trap rat 157 Trellis frame 125
Trucks, car 300
Trucks for locemetices 141
Trunk stays, device for drawing in 236
Truss girders for bridges 124
Truss pads 29
Tobes for condensers, method of setting
13 Valve for air, gas, &c. regulator 317
Valve gear for steam engines 316
Valve regulators 124
Valves, governor 173, 349
Valves, variable cut-self 220
Valves, means of operating cut-off 220
Valves, means of operating cut-off 220
Valves to steam engines 285, 333
Valves to heaters for cheese vats 380
Valves steam engines, method of opening and closing the 109
Valves steam engines, method of opening and closing the 109
Valves of steam engines, method of opening and closing the 109
Valves of steam engines, method of opening and closing the 109
Valves of steam engines, method of opening and closing the 109
Valves of steam engines, method of opening and closing the 109
Valves, team engines, method of valves of the 100
Valves, capacity of the 130
Venitales, construction of 173
Veneers, machines for cutting 141, 188, 355
Vent heles for ordnance 300
Venitales team 129 Veneers, machines for cutting 141, 188, 365

Venet heles for ordnance 300
Ventilator, tent 13
Ventilator, tent 13
Ventilator for petroleum oil lamps 301
Ventilators for railroad cars 29, 268
Vensels, tavigable 348
Vessels, tavigable 348
Vessels, apparatus for bracing the yards of 29
Vessels, apparatus for bracing the yards on enemy's 61
Vessels, &c., grappling and raising sunken 332
Vessels, tren.ciad 221

"Village Schoolmaster," design for statuary of the 381
Vinegar, apparatus for making 156
Vinegar by the quick process, apparatus for making 173
Violins, tail-piece for 349
Vise for holding and swaging horse-shoca 237

Wede for evaluate. Wass fer erdnance and ether fire-arms 349
Wagens 380
Wagens, pleasure 140
Wagen wheels while leading, apparatus for helding 173
Wagens, running gear 109
Wagens, shifting hinge, joint or coupling shafts of 173
Walls of buildings, construction of 124
War vessels, arming 333
Washbeard 60
Washer, windew 316
Washers for paper pulp 93
Washer, gold 256
Washing machines 61 (2), 124, 125, 141, 172, 173, 189, 220, 236, 252, 253 (2), 265 (3), 300, 301, 332, 333, 348, 364, 380' (2), 381, 409, 410
Watchand lecktcases 188, 285
Water by steam, device for raising 252
Water closets 61
Water condensers, pertable 300 300, 301, 323, 333, 338, 384, 380 (2), 381, 409, 410, 409, 410 Watchand locket cases 188, 285 Water by steam, device for raising 252 Water closets 61 Water condensers, pertable 300 Water fitters 156 Water-pref coating for cloth, felt, &c. 284 Water-gas, apparatus for making 205 Water-preof tabric 156 Water meters 77 Weather strips 78 Weather strips for doors 381 Weighing apparatus 141 Weits for boots and shoes, machine for cutting 77 Water strips 348 Weather strips for doors and shees, machine for cutting 77 Wheels, water 60, 76 (2), 172 (2), 221, 253, 317, 348, 380 Wheels and grinding surfaces, forming emery 61 Wheels, water 60, 76 (2), 172 (2), 221, 253, 317, 348, 380 Wheels, cast-metal car 284 Wheels, carriage 76, 124 Wheels, water-current 189 Wheels, carriage 76, 124 Wheels to axles, mode of securing 172 Wheels, water-current 189 Wheels, carriage 76, 124 Wheels, herizontal water 77 Wheels, wind 348 Wheels, cast attachment 46 Whiffletree attachment 46 Whiffletree attachment 46 Whiffletree attachment 47 Wheels, wind 348 Winders, cord 284 Winders, cord 284 Winders, such and solve 108 Window sash and setting glass therein 108 Windows, double 173 Wire, machiner for binding 349 Wire machiner for binding 349 Window sasn and schools 2.

108
Windows, double 173
Wire, machine for binding 349
Wood, saw frames 284
Wood, machines for spiuning 248
Wood, &c., machines for drying, 253
Wood screws, machines for threading 381 Wood, &c., machines for drynig, 253
Wend servex, machines for threading 381
Wend-barding machines 381
Wood-bending machines 381
Wood and other substances for the manufacture of paper pulp, process of separating the fibers of 188
Wood, machinery for drawing and spinning 348
Wringing machines 268, 410
Wringing machines 268, 410
Wringing machines, rollers for 76, 125, 349
Writing desk and checker board 77
Writing desk (see Desk) Yarns for warps 349
Yarns to the action of liquids, submitting

Xinc method of working silicions and other columbia ares of 76