

HINTS TO CORRESPONDENTS.

No attention will be paid to communications unless accompanied with the full name and address of the

Names and addresses of correspondents will not be given to inquirers.

We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number

Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

Persons desiring special information which is purely of a personal character, and not of general interest, should remit from \$1 to \$5, according to the subject, as we cannot be expected to spend time and labor to obtain such information without remuneration.

office. Price 10 cents each.

Correspondents sending samples of minerals, etc. for examination, should be careful to distinctly mark or label their specimens so as to avoid error in their identification.

(1) Curious writes: In my house, into which I have recently moved, one of the rooms appears to be highly charged with electricity. The room is the back parlor, on the west side of the house, situated over the kitchen, which is on a level with the ground. Upon touching the gas fixtures, the heater, or any piece of metal in the room, a spark is produced and a stinging sensation is experienced by the person who touches. These effects seem to be more powerful with me than with any other member of my family. If I walk across the room and back to the fireplace heater, and attempt to touch any part of the heater with a poker or my finger, a spark about balf an inch long, accompanied by a loud snap, is the result. Nothing of this kind is noticeable in other rooms in the house. There are no water pipes or other connections with the ground, excepting gas pipes, in this room. Can you explain the mystery (as it is to me), and say what effect, if any, the peculiar condition of the room would have upon persons who occupy it frequently? A. This phenomenon is common in houses heated by furnace; all of the conditions necessary to the generation of frictional electricity are present, and the friction of the feet on the carpet, and even of the clothing, one garment upon the other, generates electricity, while the body, being fairly insulated by the shoes and dry carpet, acts as a Leyden

(2) G. L. G. says: Can you tell me of any gum or article of any kind that can be applied in a liquid form to fill the openings of wire cloth, so as to make a partially transparent sheet which will stand the weather? My idea is to obtain a substitute for glass in hotbed sash. A. Possibly gelatine may answer, in following proportions: Water, 50 ounces; gelatine, 3 ounces; hichromate of potash, 2 ounces. The latter renders the gelatine insoluble when exposed to light.

(3) J. M. L. writes: 1. I have a pump in a well 1,000 feet deep, and the tubing we pump through is 3 inches inside diameter. My neighbor has a similar well, just the same in every particular as mine. I use a 11/2 inch pump and my neighbor uses a 21/2 inch pump. I claim to only raise a 11/2 inch column of water and my neighbor claims that I raise a 3 inchcolumn. My pump will run at 40 pounds steam and bis will stop at 40 pounds. I claim to raise a 1% inch column and that he raisesa 21/2 inch column, and that the size of the tubing has nothing to do with the labor of the pump-that all depends on the size of the pump. A. You are right as to size of columns; in other words, you have a column 11/2 inches and your neighbor one of 21/2 inches and 1,000 feet high. The weight of these two columns are as 176 to 491. 2. What is the weight of a column of water 136 iuches by 1,000 feet? Also the weight of a 21/2 incb column by 1,000 feet? A. 1½ inches diameter, 767 pounds; 2½ inches diameter, 2,127 pounds.

(4) J. B. G. asks what fire bricks are made of, and how long it takes to burn them. A. Fire bricks are made of a kind of clay that has hut very little iron, hence its light color. The clay is burned in a potter's kiln, then ground into fine sand by passing it through a grinding mill or rollers. It is then mixed with just enough fresh clay to make the bricks mould easily, when it is moulded and dried upon a warm floor of tile, under which there is a flue from a furnace; then piled in a potter's kiln and brought to a white heat, occupying from a week to ten days. The clay and ground backed clay make the best brick, and they do not shrink in baking. There are several grades of fire brick. The poorer kinds are sun dried and burned in the same way as red brick.

(5) J. writes: Will you please inform me, through the columns of your paper, in regard to the power that it is possible to transmit through an 8 inch belt from the engine, there being a 30 inch pulley as a driver, the pulley making 156 revolutions per minute? Please give me as near as you can. A. 111/2 horse power easily; or say 15 horse power with tight belt and favorable conditions.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined, with the results stated:

S. P. C.-The specimen is not a mineral, but a rock probably a porphyritic variety of no value.-J. P.-Sample No. 1 is a sandstone, and No. 2 is a conglomerate. If patentable when made into bricks is a question which can only be answered by examining the Patent Office records.—C. W. S.—The specimen is slate, and is of no value.-D.-Quartz, coated with a malachite.

COMMUNICATIONS RECEIVED.

On "That Snake Trap." By J. T. H. On Flying. By J. S.

(OFFICIAL.)

INDEX OF INVENTIONS

FOR WRICH

Letters Patent of the United States were Granted in the Week Ending

February 27, 1883,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A printed copy of the specification and drawing of any patent in the annexed list, also of any patent issued since 1866, will be furnished from this office for 25 cents. In ordering please state the number and date of the patent desired and remit to Munn & Co., 261 Broadway, corner of Warren Street, New York city. We Any numbers of the Scientific American Supple- also furnish copies of patents granted prior to 1866; MENT referred to in these columns may be had at this | but at increased cost, as the specifications, not being printed, must be copied by hand.

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Clothes wringer, J. Todd 212.990
Clothes wringer, bench, E. A. Jones 272.885

 Clutch, W. D. Ewart
 272,947

 Coat, waterproof, J. Maguire
 273,115

 Cock, compression basin, J. H. Solis
 273,177

Cock, compression dasin, J. H. Solis. 273,218
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Coloring matter to fibrous material, machine for applying, H. W. Vaughan . 273,198
Cocking cabinet, A. Segal . 273,169

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 Core box, R. M. Johnson
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 Corset, Doolittle & Sherwood
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 Cotton gathering machine. B. J. Curry
 273,035

 Cotton gin building. B. F. Ferguson
 273,048

 Cotton pickers, vehicle for, J. T. Reid
 273,157

Coupling. See Car coupling. Tbill coupling. Ve-	273,080	Lar Lar
hicle reach coupling. Crane and derrick, traveling, J. Thompson	272,987	Lat
Crane, derrick, traveling, etc. J. Thompson	272,988 273,102	
Cultivating machine, J. A. Kay	273,101	Les
Cultivator and bean barvester, W. Carver Cultivator, band, L. A. Budlong	273,224	Let Let
Cultivator, wbee!, Steelman & Maynard Curtain fixture, M. Pepper	272,915	Lif
Cutter. See Fodder cutter. Fruit and vegetable cutter. Harvester cutter. Leather cutter.		láf Lif
Meat cutter. Cutter head knives, gange for, C. Buss		Lig Lig
Cutting corsets, rags, etc., machine for, L. & J. C.	272.856	Lig
Damper regulator, R. Thompson		Loc
Dirt loading machine, J. J. Melville Dish washer, M. C. Mason Dough breaker, self-acting, J. Mackinnon.	272,894	Log
Draught equalizer, A. Wickey Dredge, roller, A. J. Burr	273,210	Ma Ma
Drill. See Rock drill. Eaves trough support, W. R. Wilcox		Ma Me
Egg or batter beater, S. Short Electric call, J. B. Currier	273.173 272,862	Me
Electric elevator, S. S. Wheeler Elevator. See Electric elevator. Hod elevator.		Me Me
Elevator, G. Mitchell Elevators, actuating mechanism and safety brake	3	Me
for, C. S. Longstreet		Mit
Evaporator. See Fruit evaporator. Exercising device for planists, finger, A. G. Gard-		Mit Mo
ner	272,951 272,952	Мо
Faucet, G. F. Coomber	273.116	Mo Mu
Feed water heater, J. J. Hoppes	273,084 273,219	Mu Mu
Fence, portable, E. H. Alden	272,923	Na
Fencing, manufacture of barbed metallic, T. V. Allis	272.985	Ne Nu
Fencing, metallic strip blank for barbed, T. V. Allis.	•	Nu Nu Nu
Fertilizer distributer, J. W. Alverson. Filtering water, apparatus for, C. Houghton	273,002	Oil Oil
Finger ring and toothpick, combined, M. C. Stone Fire alarm purposes, indicator for, M. G. Crane	272,985	Oil
Firearmsafety hammer, A. D. Hart. Fish, preserving, R. S. Jennings	. 273,094	Ore
Flood gate, G. W. Francis Foddercutter, J. J. Johnston	273.237	
Folding table, C. L. Shattuck. Forging anchors, machine for, J. Nock Fork, J. S. & A. Ray.	273.135	Par
Frame. See Skylight frame. Fruit and vegetable cutter, J. T. Walker		Pe
Fruit evaporator, C. B. Irisb Fruit evaporator, J. & J. S. Williams.	273,091	Per
Furnace. See Heating furnace. Ore furnace.		Per
Smoke consuming furnace.		Pbo
Furnaces, gas seal for blast, E. A. Uebling Furnace or stove door latch, E. J. Shields		Pbo Pbo Pip
Furnaces, gas seal for blast. E. A. Uebling Furnace or stove door latch. E. J. Shields Gauge. See Pressure gauge. Gauge for curved work, feed table, J. Wrigley	273,172 273,000	Pho Pip Pip
Furnaces, gas seal for blast. E. A. Uebling	273,172 273,000 272,954 272,848	Pho Pip Pip Pip Pis
Furnaces, gas seal for blast. E. A. Uebling Furnace or stove door latch. E. J. Shields Gauge. See Pressure gauge. Gauge for curved work, feed table, J. Wrigley Garment clasp, C. E. Granniss	273,172 273,000 272,954 272,848 272,983	Pho Pip Pip Pis Pla Pla Pla
Furnaces, gas seal for blast. E. A. Uebling Furnace or stove door latch. E. J. Shields	273,172 273,000 272,954 272,848 272,983 273,068	Pho Pip Pip Pis Pla Pla Plo Plo
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Furnaces, gas seal for blast. E. A. Uebling Furnace or stove door latch. E. J. Shields	273,172 273,000 272,954 272,848 272,983 273,230 273,186 272,940 272,946 273,092 272,945	Photopics Potential Process Principal Process Principal Process Principal Process Principal Process Principal Process Principal Principal Process Principal
Furnaces, gas seal for blast. E. A. Uebling	273,172 273,000 272,954 272,848 272,983 273,068 273,230 273,186 272,940 272,946 273,092 272,945 273,011 273,089	Photopics Potential Process Principal Process Principal Process Principal Process Principal Process Principal Process Principal Principal Process Principal
Furnaces, gas seal for blast. E. A. Uebling	273,172 273,000 272,954 272,983 273,068 273,230 273,946 273,945 273,089 273,089 273,089 273,089 273,174 273,089	Phot Pot Pre
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Furnaces, gas seal for blast. E. A. Uebling. Furnace or stove door latch. E. J. Shields Gauge. See Pressure gauge. Gauge for curved work, feed table, J. Wrigley Garment clasp, C. E. Granniss Gas, apparatus for manufacturing, G. W. Billings Gas burners, clock holding attachment for, C. H. Shaw Gas, manufacture of illuminating, S. Hanford Gas, process of and apparatus for manufacturing J. Hanlon et al Gate. J. E. Strong Gear wheel. B. F. Bergh Glass lamps. ornamenting, G. H. Chinnock. Globe, automatic time, A. Jackson Gloves, etc., fastener for, D. T. Chambers Gold and silver from their ores, apparatus for extracting, R. Barker Grain binder, R. M. Hunter. Grain binder, R. M. Hunter. Grain cleaning machine, C. F. Shumaker Grate. L. Bannister Grappling device, A. J. Gosnell Grinding mill, D. C. Stover Guard. See Hatchway guard. Gun carriage, J. Vavasseur. Gun magazine, J. Nemetz Gunpowder, manufacture of, N. Wiard. Halter clasp, F. A. Thomas. Hame, L. E. Jones. Handle. See Tool bandle. Hanger. See Sbaft hanger. Harness, carriage, W. Mulloy. Harrow, J. Kenton Harrow, J. Kenton Harrow, J. Barker Harrow, J. Barker Harrow, riding, T. Van Ostrand Harrow, spring tooth, A. O. Bement Harrow, riding, T. Van Ostrand Harrow, spring tooth, A. O. Bement Harrow, J. Barker Harrow, J. Kenton Hartow, spring tooth, A. O. Bement Harrow, J. Barker Hartow, spring tooth, A. O. Bement Harrow, J. Barker Hartow, spring tooth, A. O. Bement H	273,172 273,000 272,954 272,848 272,983 273,068 273,230 273,186 272,946 273,092 272,945 273,011 273,089 273,191 273,199 273,191 273,096 272,945 273,191 273,096 272,983 272,287 272,897 272,897 272,898 273,105 272,893 273,191 273,096 272,893 273,191 273,096 272,893 273,191 273,096 272,893 273,191 273,096 272,893 273,191 273,096 272,893 273,191 273,096 272,893	Pho Pip
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Furnaces, gas seal for blast. E. A. Uebling. Furnace or stove door latch. E. J. Shields Gauge. See Pressure gauge. Gauge for curved work, feed table, J. Wrigley Garment clasp, C. E. Granniss Gas, apparatus for manufacturing, G. W. Billings Gas burners, clock holding attachment for, C. H. Shaw Gas, manufacture of illuminating, S. Hanford Gas, process of and apparatus for manufacturing. J. Hanlon et al Gate. J. E. Strong Gear wbeel. B. F. Bergh Glass lamps. ornamenting, G. R. Chinnock Globe, automatic time, A. Jackson Gloves, etc., fastener for, D. T. Chambers Gold and silver from their ores, apparatus for extracting, R. Barker. Grain binder, R. M. Hunter. Grain binder, R. M. Hunter. Grain cleaning machine, C. F. Shumaker Grate. L. Bannister Grappling device, A. J. Gosnell Grinding mill, D. C. Stover Guard. See Hatchway guard. Gun carriage, J. Vavasseur. Gun magazine, J. Nemetz. Gunpowder, manufacture of, N. Wiard. Halter clasp, F. A. Thomas. Hame, L. E. Jones Handle. See Tool bandle. Hanger. See Shaft hanger. Harross, carriage, W. Mulloy. Harness tail piece and rein protector, C. H. Mead. Jr. Harrow, J. Kenton Harrow, J. Kenton Harrow, riding, T. Van Ostrand Harrow, spring tooth, A. O. Bement Harrow, pring tooth, A. O. Bement Harrow, spring tooth, A. O. Bement Harrow, pring tooth, A. O. Bement Harrow, pring tooth, A. O. Bement Harrow, pring tooth, A. O. Bement Harrow, spring tooth, A. O. Bement Harrow and stalk cutter or roller, combined rotary, J. Barker Harrow, pring tooth, A. O. Bement Harrow, pring t	273,172 273,000 272,954 272,848 272,983 273,068 273,230 273,186 272,946 273,092 272,945 273,011 273,089 273,191 273,192 273,193 273,191 273,096 272,945 273,105 273,105 273,106 272,939 273,191 273,096 272,939 273,191 273,096 272,939 273,191 273,096 272,939 273,196 272,939 273,196 272,939 273,196 272,939 273,196 272,939 273,196 272,939 273,196 272,939 273,196 272,939 273,196 272,939 273,196 272,939 273,197 273,199 273,199 273,199 273,199 273,191 273,006	Pho Pip Pip Pip Pip Pip Pip Pis Pla Pla Pla Plo Pool Pool Pool Pre Pri Pri Pri Pri Raa Rai Rai Rai Rai Rai Rai Rai Rai Ra
Furnaces, gas seal for blast. E. A. Uebling. Furnace or stove door latch. E. J. Shields Gauge. See Pressure gauge. Gauge for curved work, feed table, J. Wrigley Garment clasp, C. E. Granniss Gas, apparatus for manufacturing, G. W. Billings Gas burners, clock holding attachment for, C. H. Shaw Gas, manufacture of illuminating, S. Hanford Gas, process of and apparatus for manufacturing. J. Hanlon et al Gate. J. E. Strong Gear wbeel. B. F. Bergh Glass lamps ornamenting, G. R. Chinnock Globe, automatic time, A. Jackson Gloves, etc., fastener for, D. T. Chambers Gold and silver from their ores, apparatus for extracting, R. Barker Grain binder, R. M. Hunter Grain binder, R. M. Hunter Grappling device, A. J. Gosnell Grinding mill, D. C. Stover Guard. See Hatchway guard. Gun carriage, J. Vavasseur Gun magazine, J. Nemetz Gunpowder, manufacture of, N. Wiard Halter clasp, F. A. Thomas Hame, L. E. Jones Handle. See Tool bandle. Hanger. See Sbaft hanger. Harness, carriage, W. Mulloy. Harness tail piece and rein protector, C. H. Mead. Jr Harrow, J. Kenton Harrow, J. Kenton Harrow, riding, T. Van Ostrand Harrow, riding, T. Van Ostrand Harrow, spring tooth, A. O. Bement Harrow and stalk cutter or roller, combined rotary, J. Barker Hartow, pring tooth, A. O. Bement Harrow, pring tooth, A. O. Bement Harrow and other head wear. R. F. S. Heath Hatchway guard. elevator, J. Addie Heating furnace. G. P. Randall Hod elevator, safety, L. Atwood. Holder. See Feed water heater. Heating furnace. G. P. Randall Hod elevator, safety, L. Atwood. Holder. See Candle holder. Carboy holder. Knife blade bolder. Lead or crayon holder. Pencil or crayon bolder. Shade holder. Holops from poles, machinery for sawing barrel. Williams & Bowker Hordinal Marrow, Bowker Hordinal Marrow, Bowker Hordinal M	273,172 273,000 272,954 272,848 272,983 273,068 273,230 273,186 272,946 273,092 272,945 273,011 273,089 273,174 272,953 272,917 273,199 273,191 273,096 272,945 272,897 273,105	Pho Prip Pip Pip Pip Pis Pla Plo Plo Pot Pot Pri Pri Pri Pri Pri Pri Pri Raa Rai Rai Rai Rai Rai Rai Rai Rai Ra
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Furnaces, gas seal for blast. E. A. Uebling. Furnace or stove door latch. E. J. Shields Gauge. See Pressure gauge. Gauge for curved work, feed table, J. Wrigley Garment clasp, C. E. Granniss. Gas, apparatus for manufacturing, G. W. Billings Gas burners, clock holding attachment for, C. H. Shaw. Gas, manufacture of illuminating, S. Hanford. Gas, process of and apparatus for manufacturing. J. Hanlon et al Gate, J. E. Strong. Gear wheel. B. F. Bergh. Glass lamps. ornamenting, G. H. Chinnock. Globe, automatic time, A. Jackson. Gloves, etc., fastener for, D. T. Chambers Gold and silver from their ores, apparatus for extracting, R. Barker. Grain binder, R. M. Hunter Grain cleaning machine, C. F. Shumaker. Grate L. Bannister. Grappling device, A. J. Gosnell. Grinding mill, D. C. Stover Guard. See Hatchway guard. Gun carriage, J. Vavasseur. Gun magazine, J. Nemetz. Gunpowder, manufacture of, N. Wiard. Halter clasp, F. A. Thomas. Hame, L. E. Jones. Handle. See Tool bandle. Hanger. See Shaft hanger. Harness, carriage, W. Mulloy. Harness tail piece and rein protector, C. H. Mead. Jr. Harrow, J. Kenton. Harrow, J. Kenton. Harrow, and stalk cutter or roller, combined rotary, J. Barker. Harvester cutter, H. L. Hopkins	273,172 273,000 272,954 272,848 272,983 273,068 273,230 273,186 272,946 272,945 273,011 273,089 273,174 272,953 272,917 273,199 273,191 273,096 272,896 273,105 273,106 272,983 272,893 272,893 272,893 272,893 272,893 273,107 273,107 273,109 273,119	Pho Pip
Furnaces, gas seal for blast. E. A. Uebling. Furnace or stove door latch. E. J. Shields Gauge. See Pressure gauge. Gauge for curved work, feed table, J. Wrigley Garment clasp, C. E. Granniss Gas, apparatus for manufacturing, G. W. Billings Gas burners, clock holding attachment for, C. H. Shaw Gas, manufacture of illuminating, S. Hanford Gas, process of and apparatus for manufacturing J. Hanlon et al Gate. J. E. Strong Gear wheel. B. F. Bergh Glass lamps. ornamenting, G. R. Chinnock. Globe, automatic time, A. Jackson Gloves, etc., fastener for, D. T. Chambers Gold and silver from their ores, apparatus for extracting, R. Barker Grain binder, R. M. Hunter. Grain binder, R. M. Hunter. Grain cleaning machine, C. F. Shumaker Grate. L. Bannister Grappling device, A. J. Gosnell Grinding mill, D. C. Stover Guard. See Hatchway guard. Gun carriage, J. Vavasseur. Gun magazine, J. Nemetz. Gunpowder, manufacture of, N. Wiard. Halter clasp, F. A. Thomas. Hame, L. E. Jones. Handle. See Tool bandle. Hanger. See Shaft hanger. Harross, carriage, W. Mulloy. Harross tail piece and rein protector, C. H. Mead. Jr Harrow, J. Kenton. Harrow and stalk cutter orroller, combined rotary, J. Barker Harrow, riding, T. Van Ostrand Harrow, spring tooth, A. O. Bement Harrow, riding, T. Van Ostrand Harrow, spring tooth, A. O. Bement Harrow, riding, T. Van Ostrand Harrow, spring tooth, A. O. Bement Harrow, pring tooth, A. O. Bement Harrow, riding, T. Van Ostrand Harrow, spring tooth, A. O. Bement Hartow, pring tooth, A. O. Bement Hartow, pring tooth, A. O. Bement Hartow, pring tooth, A. O. Bement Hartow and stalk cutter orroller, combined rotary, J. Barker Hartow and stalk cutter orroller, combined rotary, J. Barker Hartow, pring tooth, A. O. Bement Hart	273,172 273,000 272,954 272,848 272,983 273,068 273,230 273,186 272,946 273,291 273,091 273,091 273,191 273,099 273,191 273,099 273,191 273,096 272,945 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,897 272,893 273,105 273,107 272,983 273,107 272,983 273,107 272,983 273,119	Pho Pip

İ	Coupling. See Car coupling. Tbill coupling. Vehicle reach coupling.	Lamp, electric arc, E. Thomson	273.055
	Crane and derrick, traveling, J. Thompson 272,987	Latch, L. A. Randall Latbe, J. Birkenhead	272.849
	Crane, derrick, traveling, etc. J. Thompson 272,988 Crib, folding, M. Keating	Lead or crayon bolder, G. B. Adams	272.931
	Crusher. See Clod crusher. Cultivating machine, J. A. Kay		
	Cultivator, J. C. Hart	Letter for signs, enameled, J. Caesar	278 824
-	Cultivator, band, L. A. Budlong	Letter sheet and envelope, combined, T. Breen Life boat, F. Vaughan	273,197
٠	Curtain fixture, M. Pepper	Lifting jack, J. H. Fiske Lifting jack, H. Miller.	273,050
47.74.00	cutter. Harvester cutter. Leather cutter. Meat cutter.	Lifting jack, E. Prescott	272.899
!	Cutter head knives, gange for, C. Buss 278,022 Cutting corsets, rags, etc., machine for, L. & J. C.	Lightning arrester for telegraph circuits, J. W. Dyer	
	Coburn	Lightning conductor, H. W. Spang Lock. See Nut lock. Permutation lock.	
	Digger. See Potato digger.	Locket, T. W. Foster	
	Dirt loading machine, J. J. Melville 273,121 Dish washer, M. C. Mason 272,894	Loom weft stop motion, F. O. Tucker	273,193
i	Dough breaker, self-acting, J. Mackinnon	Magnetic plaster, C. S. Russell	
-	Dredge, roller, A. J. Burr	Mantua making, M. B. Ross	
:	Eaves trough support, W. R. Wilcox 272.925 Egg or batter beater, S. Short 273.173	Measure and funnel, sirup. J. J. Van Kersen Measurements upon fabrics, machine for marking	
:	Electric call, J. B. Currier	linear, B. Tatbam	
	Elevator. See Electric elevator. Hod elevator. Elevator, G. Mitchell	Mechanica! movement, J. P. Birch	273,015
-	Elevators, actuating mechanism and safety brake for, C. S. Longstreet	Meter. See Water meter. Mill. See Grinding mili.	210,010
i	Engine. See Boring engine. Rotary engine. Steam engine. Wind engine.	Mitering machine, D. C. Rogers	
İ	Evaporator. See Fruit evaporator.	Mittens and gloves, and method of making the same, knit foundation for, S. M. Levy	273,111
	Exercising device for planists, finger, A. G. Gardner	Monlded and plastic ware, manufacture of, J. F. Peacock	273,142
İ	Fare box, J. F. Goodridge 272,952 Faucet, G. F. Coomber 272,858	Monkey wrench. F. H. Seymour	273,170
	Feed trough, J. W. Manning 273.116 Feed water heater, J. J. Hoppes 273.084	Music leaf turner, J. I. Barnum	
	Fence barb and barbed wire. G. C. Baker	Musical instrument, mechanical, J. McTammany, Jr	
-	Fencing, barbed metal strip, A. J. Upbam 272,923 Fencing, manufacture of barbed metallic, T. V.	Nails, machine for making wire, W. Taylor Needle and cutter for sewing boned bams, com-	
	Allis	bined, J. H. Rathmann	273,153
:	Fencing, metallic strip blank for barbed, T. V. Allis	Nut lock for rail joints, J. L. Clingman	273,029
1111	Fertilizer distributer, J. W. Alverson 273,002 Filtering water, apparatus for, C. Houghton 272,881	Oil feeder, D. S. Roberts	272,980
İ	Finger ring and toothpick, combined, M. C. Stone 272,985 Fire alarm purposes, indicator for, M. G. Crane 273,033	Oils, vialingessential, C. C. Hudson	272,960
	Firearmsafety hammer, A. D. Hart 273,070	Ordnance. compound, J. Reese Ore furnace. F. J. Hoyt	272,959
	Fish, preserving, R. S. Jennings. 273,094 Flood gate, G. W. Francis. 272,372	Overshoe fastening, B. P. Kimball	
	Folding table, C. L. Shattuck	Pannier and hustle J Schoenhof	273 165
	Forging anchors, machine for, J. Nock 273.135 Fork, J. S. & A. Ray. 273,154	Paper, waxing, J. T. Bedford	273,013
	Frame. See Skylight frame. Fruit and vegetable cutter, J. T. Walker	Peas, machine for huiling and cleaning, J. R. Barker	
ļ	Fruit evaporator, C. B. Irisb	Pencil or crayon holder, B. A. Fiske Pendulum, O. C Retsloff	
	Furnace. See Heating furnace. Ore furnace. Smoke consuming furnace.	Permutation lock, J. W. Schoonmaker	272,982
1	Furnaces, gas seal for blast. E. A. Uebling 273,194 Furnace or stove door latch. E. J. Shields 273,172	Photographic shield. E. B. Barker Pipe. See stand pipe.	
	Gauge. See Pressure gauge. Gauge for curved work, feed table, J. Wrigley 273,000	Pipe flanges, machine for drilling, Z. E. Coffin Pipe wrench, J. P. Haigh	
İ	Garment clasp, C. E. Granniss	Piston, W. Rowan	273.161
	Gas burners, clock holding attachment for, C. H. Shaw	Planter check rower and drill. corn, B. F. Christ	272.855
	Gas, manufacture of illuminating, S. Hanford 273,068 Gas, process of and apparatus for manufacturing,		
	J. Hanlon et al	Pot. See Tea pot.	
	Gear wheel, B. F. Bergh 272,940	Potato digger, A. Ansley Potato peeling machine. J. A. Moffat	273,125
	Glass lamps, ornamenting, G. H. Chinnock	Press. See Cotton press.	
•	Gloves, etc., fastener for, D. T. Chambers 272,945 Gold and silver from their ores, apparatus for ex-	Printing and embossing machine, plate, E.	
-	tracting, R. Barker	Hewitt	
	Grain cleaning machine, C. F. Shumaker	Flanders Propeller, vibrating, A. M. Freeman	
	Grappling device, A. J. Gosnell 272,958 Grinding mill, D. C. Stover 272,917	Protector. See Watch hair-spring protector. Pulley and attachment for window shade rollers.	
١	Guard. See Hatchway guard. Gun carriage, J. Vavasseur	S. A. Hurley	
i	Gun magazine, J. Nemetz 273,131 Gunpowder, manufacture of, N. Wiard 273,209	Pump handle bracket. R. M. Lafferty	272,889
	Halter clasp, F. A. Thomas	Railway brake, J. Woods	
İ	Handle. See Tool bandle. Hanger. See Sbaft hanger.	Railway signal, T. Breen	272,851
١	Harness, carriage, W. Mulloy	Railway wagon. McCulloch & Cook	272,967
	Mead. Jr. 272.895 Harrow, J. Kenton 273,105	Refrigerative vessel P. Nunan Regulator. See Damper regulator.	
:	Harrow and stalk cutter or roller, combined rotary, J. Barker	Ring. See Finger ring. Spinning ring. Rock drill, T. Radford.	979 977
:	Harrow, riding, T. Van Ostrand	Rod. See Sucker rod. Roller. See Trawl roller.	~ 1~9711
	Harvester cutter, H. L. Hopkins	Roller mill test plate, W. D. Gray	
	Hatchway guard, elevator, J. Addie 272,932	Rotary engine. C. M. Sanderson	273,162
	Heat alarm, electric, M. Martin	Rules, machine for forming and dressing lumber, E. T. Lufkin	27 2.892
:	Heating air or condensing steam, apparatus for, E. Kendall		273,118
1	Heating furnace. G. P. Randall	Sawmills, delivery roller for circular, Hay & Ral-	
İ	Holder. See Candle holder. Carboy holder. Knife blade bolder. Lead or crayon holder.	ston Saw tootb, insertable diamond, E. Foerster	273.054
	Pencil or crayon bolder. Shade holder. Hollow ware, bailed, D. M. McLean	Scarf and collar fastener, A. Waldberr Scow, deck dumping, G. Souther	273,178
i	Hoop keeper, metallic. J. J. Helm	Seaming sheet metal cans, machine for, Norton & Hodgson	272,972
ļ	Williams & Bowker 272,996 Horseshoe, W. Kirchen 272,963	Separating bodies of different specific gravities,	
	Hydrocarbon burner, S. H. Douglas. 272,863 Ice cream freezer, H. O. King. 273,197	apparatus for, Decastro & Müller273.087 Separating bodies of different specific gravities,	273,088
İ	Ice plow, B. Tyron 273.192 Ink, writing, E. D. Kendall 273.240	apparatus for, Müller & Decastro273,127, Sewage, etc., apparatus for filtering and purifying,	273,129
	Insect destroyer H. Perlich 273 144 Instrument, combination. J. Hoffman 273,232	B. F. Woods	272,997
١,	Iron. See Wagon rub iron.	Sewing and dressing case, J. Rotbschild Sewing machine, buttonbole, D. W. G. Humpbrey	272,981
:		Sewing machine cutting mechanism, buttonbole,	
٠	Ironing table, H. D. Parke 273.140	D. W. G. Humphrey	~10,000
	Ironing table, H. D. Parke	Sewing machine guide. J. H. Bea. Jr.	272,847
	Ironing table, H. D. Parke. 273,140 Jack. See Lifting Jack. Kitchen ventilator. A. Zerban 273,216 Knife blade holder, C. W. Boman 273,222	Sewing machine guide. J. H. Bea. Jr. Sewing machine needles, machine for making, J. J. M. Chauvet	272,847 273,027
:	Ironing table, H. D. Parke	Sewing machine guide. J. H. Bea. Jr	272,847 273,027 273,184 272,981

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Shell forblasting. safety, Reed & Freund	273,156	-
Sheiving, store, T. A. Harris	273,069	_
Shirt, J. B. See Shoe fastening, S. A. Milton]
Shoe soling machine. J. Westwood Shutter fastener, L. Schlechte		
Signal. See Railway signal.		1
Signal, J. H. Bacon Siphon, C. Frey		
Skylight frame, J. L. Cox	272,859	 •
Smoke consuming furnace, H. R. Wolfe Soap from fats and oils, making. H. Heckel		
Soap, hard, J. J. Johnston	273,235	
Soap, healing, J. J. Johnston	273,236 273,176	
Soap, toilet, J. J. Johnston	273,239	
Spike machine, G. H. Waring Spindle bearing, J. Booth		
Spinning ring, J. Booth	272.941	
Spinning ring, W. K. Evans. Spinning ring, W. P. Husband	272,868	
Spokeshave, A. S. Haynes		
Spring. See Vehicle spring. Spring motor, T. D. Faulkner	273.047	١.
Springs, machine for forming. Shoemaker & Hess		•
Stamp, hand, W. B. Purvis Stand. See Ironing stand.	275,149	
Stand pipe and fire escape, J. T. Cowles		-
Stand pipe for buildings, J. T. Cowles		
Steam engine, H. & W. Monk	273.126	
Steam engine, J. B. Shaffer		
Stove. M. C. Armour	273,005	
Stove heating, J. Kilshaw		
Stump machine, W. H. Hamilton	272,957	
Sucker rod. D. Jones		
Table. See Folding table. Ironing table. Knock-		
down table. Teapot, earthenware, E. Bennett	273.221	1
Telephone, acoustic, O. Higgins et al	273.079	_
Telephone transmitter, D. Drawbaugh	212,860	
Drawbaugh	272,866	n
Thrashing machine, A. Love		r
Tie. See Bale tie. Railway tie.	272 600	
Till alarm, C. C. Huling Time mechanism, quarter-second, J. Karr	273,100	
Tire, wheel, J. T. Prior	273.147	-
Tobacco caddy, tin, G. T. Tuckett	272,944	
Torch, gas lighting, T. W. Houchin	273,085	
Toy car, wagon, or other vehicle. J. Fallows Toy, revolving air. T. W. Bartholomew		
Trace loop, harness, L. B. Scharringhausen Trawl roller, T. R. Ferral		
Transplanter, W. Spitznass		
Trough. See Feed trough. Trunk, C. C. Hudson	279 G61	
Trunk, W. Simon	273,175	
Truss, surgical J. Edson	273,228	
Bacon		
Turpentine, device for hacking trees in gathering, A. Garner		
Urn, coffee, C. Halstead	273,067	
Valve, Safety, H. C. Wilder		i
Vapor burner, T. T. Woodward	272,999	1
Vehicle reach, Winkelmann & Stewart Vehicle reach coupling, S. E. Foster	272.929 273.056	1
Vehicle spring, W. M. Peck	273,242	
Vehicle spring, M. W. Tucker		
Velocipede. J. Baker		1
Ventilator. See Kitchen ventilator. Wagon, dumping. W. Wallace	273,202	!
₩agon gearing. T. Seaman	272.908	أ
Wagen rub iron, P. Dickman		ı
Watch hair-spring protector. F. A. Curpen		[
Watch hair-spring stud, Oldroyd & Smith, Jr Water meter, W. Wells		
Waterproofingfabrics, Horner & Hyde	273,233	1
Wave power apparatus, T. Mayes		1
Well, drive, C. W. Schreiber	273,166	-
Wheel. See Gear wheel. Logging wheel.	210,130	
Wheelbarrow, W. Clark		l
Whip socket E. W. Scott	278.226	
Windmill, H. B. Sprague	273,182	
Windmill, G. L. Stearns Windmill motor, H. S. Wilson	273,212	
Window screen, Isard & Leiter	272,884	S
Wrench. See Monkey wrench Pipe wrench.		I
Wrench. J. H. Bowen	278,017]
Williger. dee clothes wringer.	-	-
DESIGNS.		1
Carpet, A. Cochran	13.660	
Carpet, O. Heinigke		

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Carpet, O. Heinigke	13,66
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Carpet, W. L. Jacobs	13,67
Carpet, J. S. Meyer	13,67
Carpet, J. Pegel	13,67
Carpet, P. Pignot	13,68
Carpet, C. A. Righter 13,682 to	
Casting bridle bits, pattern for, A. Buermann	13 65
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Grate bracket, W. J. Irwin	13,66
Hand wheel. A. Y. McDonald	13,67
Letters or alphabet, W. C. Peet	13.67
Letters or alphabet, H. L. Reid	13,68
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Toilet vessel, G. D. Wincbell	13,68

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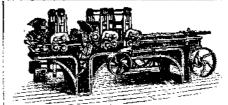
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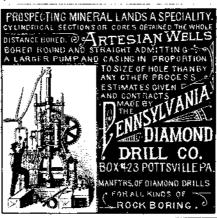
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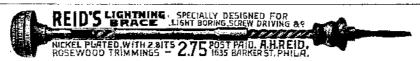
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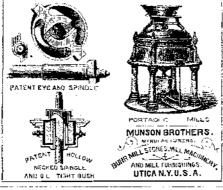
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