- (34) E. H. R. suggests that if J. D. B. (p. 155, current volume) should make his elevator pit of cast iron, the trouble about leakage would be ended.
- (35) A. W. asks: How can green cherry lumber be seasoned without checking? A. If it is sea soned by immersion in water, the difficulty you speak of will probably be avoided. Some of the patented processes of seasoning may perhaps be applied to ad-
- (36) J. W. writes: Am I right in understanding that bearings should always be softer than the which run in them? Is that only necessary in case of the oil being forced out? I use hardened steel much carbonaceous matter, iron, and alkaline earths, spindles running in Babbitt boxes (woodworking ma- which renders it quite fusible. It may be used with As I use refined blacklead and oil as a lubriam desirous of employing iron or steel in future for sand. Tempered with other clay it might be employed bearings. What kind of iron or steel should I use for in brickmaking. No. 3. Similar to No. 2. If washed this purpose? A. The condition you lay down is by no it might perhaps be used by paper makers. No. 4, means a necessary one. Cast iron makes a good bear-Clay slate. No. 5. An ocherous clay, suitable for a ing if plenty of surface is exposed to the pressure.
- (37) J. S. S. writes: 1. I have a 101/2 x 36 engine with a 10 foot fly wheel; boiler 3 feet diameter No. 10 is barytes—sulphate of baryta—of good quality. and 10 feet long, with 30 flues of 3 inches inside diameter. With this, how much Alabama pine ought I to saw in 10 hours? A. With a first class saw milt you might cut from 8,000 to 10,000 feet of inch boards if the logs are of good size. 2. How much corn ought I to grind in 10 hours with wood fuel, and 3/2.oot Esopus stones? A. When the millstones are sharp you should grind from 12 to 15 bushels of corn per hour.
- (38) G. S. writes: 1. I wish to put up some telegraph wire. Will common unannealed wire do, or will it have a tendency to act as a permanent magnet? A. It will do. We have not heard of its having a noticeable tendency to act in the way you mention. 2. Would not a 10 gallon jar, with zinc and copper to correspond, give as much electricity as 10 one gallon cells? A. It would be apt to give a greater quantity of electricity, but the tension of the electricity, or its ability to overcome resistance, would be nearly 10 of the tension of electricity produced by the battery formed of 10 one gallon jars.
- (39) T. C. wishes to stretch a 1 inch iron wire rope a distance of 400 feet, allowing but 10 feet sag in the middle, and carrying on the rope a weight of from 1,500 to 1,800 lbs. With these conditions he desires to know what will be the strain on the rope. A. According to Mr. Trautwine's tables, the strain = 5.03 X(weight of rope+suspended weight).
- (40) E. M. asks: What is the best material for a flat roof for a machine shop and foundry? A. Tin will answer very well. Corrugated iron and various patented materials are also frequently used.
- (41) W. C. asks: 1. How are ocean cables repaired? A. The ends are hauled up and united. 2. Has a diverever been to the bottom of the ocean? A. We are not aware of any diver having reached a depth of over 170 feet.
- (42) C. E. S. asks: 1. In making an Æolian harp, what kind of strings is preferable catgut or wire? Ordinary violin or guitar strings answer very well. 2. How many strings are used? A. There is no particular limit to the number.
- (43) M. J. C. writes: Please explain to me the difference between brace, stay, and gusset, and also what is meant by crow-foot? A. A brace supports parts in compression, and a stay, parts in tension. A gusset is an angle piece in a structure, used to stiffen it, and a crow-foot is a casting with three or more feet, used to secure from the outside, covers to holes that bear on the inside of a plate.
- (44) H. N. L. asks: How much counterbalance must be put in a crank arm to make an engine prevented under all circumstances. You will find the principles of counterbalancing clearly laid down in Rankine's "Machinery and Millwork."
- (45) T. W. W. asks: 1. Is it practicable to grind common oats into meal or flour suitable for bread on an ordinary country mill? A. They must first be kiln-dried. 2. What is the best dress for 30 inch granite stones, which are intended to grind wheat and corn? A. Furrows of moderate depth.
- (46) St. C. asks: 1. What thickness of steel is necessary to resist a bullet fired from an army revolver? A. Wethink a plate from one eighth to three sixteenths inch thick will answer. 2. Which of the metals, steel or iron, presents the strongest resistance to leaden balls? A. Steel, generally. 3. Would a plate formed by riveting several sheets of steel together be stronger than a solid piece of the same thickness? A.
- (47) W. T. W. asks: Is it possible to make horizontal engine reversible using only one eccentric and that a fixed one? A. Yes.
- (48) C. B. asks: Who was the engineer in charge of the construction of the Hoosac tunnel? A. Thomas Doane.

- (49) G. J. B. asks: What is the best way to soften thin portions of chilled castings, in order to drill them? A. Anneal them.
- (50) F. B. asks for instructions for making a small steam launch. A. Take your pattern from a good rowboat, and put in just as large an engine and hoiler as you can conveniently carry. See Supplement, Nos. 69 and 81.
- (51) J. S. writes: I have one of Landis' domestic steam engines, of 11/2 horse power; upright boiler, 18 inches in diameter and 32 inches high, with 15 one-inch flues, full length of boiler. I am using about 60 lbs. of coal and 1 barrel of water per day of, say, 10 working hours. Can Leconomically substitute gas for coal, and if so, how should the gas be applied?

economical that its use is advisable, unless there is Cock for steam boilers, stop, J. L. Heald. 200,453 some other special reason for heating by gas. In case gas is used, some one of the patent heaters in the market might be applied to advantage.

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

J. H. P.-The fragment contains a little copper blende, pyrites, and lead sulphide.—A. R. B.—It is a crystal of smoky quartz, the angles of whichhave been rounded by attrition.—D. N. LaB.—It is fine asbestos, of some value.-C. W. S. T.-No. 1. Clay containing other clays for earthenware, etc., and (pressed) for cant, which does not answer so well with soft metals, I some decorative purposes. No. 2. Clay containing much cheap pigment if burned and ground. No. 6. Sandstone. No. 7. It is a valuable copper ore—chalcopy-rite, etc. Nos. 8 and 9 are chalcedony, of some value.

COMMUNICATIONS RECEIVED.

The Editor of the Scientific American acknowledges with much pleasure the receipt of original papers and contributions on the following subjects: Telephonic Phenomena. By W. E. G.

A Brilliant Meteor. By G. W. S. Snake Cannibalism. By H. R. H. and D. L. Power Required for Velocipedes. By E. B. C. and

Nickel Plating. By W. H. F. Darwinian Theory. By E. S. M. Treatment of Inebriates. By T. P. P. Perpetual Motion. By E. R. M. Calculation of Horse Power. By T. J. L. A Leech Barometer. By E. S. C.

HINTS TO CORRESPONDENTS.

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 of the question.

Correspondents whose inquiries fail to appear should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them. The address of the writer should always be given.

Inquiries relating to patents, or to the patentability of inventions, assignments, etc., will not be published here. All such questions, when initials only are given, are thrown into the waste basket, as it would fill half of our paper to print them all; but we generally take pleasure in answering briefly by mail, if the writer's address

OFFICIAL.

INDEX OF INVENTIONS

Letters Patent of the United States were Granted in the Week Ending February 19, 1878,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A complete copy of any patent in the annexed list, including both the specifications and drawings, will be furnished from this office for one dollar. In ordering, run without vibration? A. The vibration cannot be please state the number and date of the patent desired, and remit to Munn & Co., 37 Park Row, New York city.

principles of counterbalancing clearly laid down in		Overalls, H. F. Woodward (r) 8,093	Įτ
Rankine's " Machinery and Millwork."	Annunciator, electric, T. L. Reed 200,569	Paddlewheel, L. Shook	C
(45) T. W. W. asks: 1. Is it practicable to	Axle box, A. A. Freeman 200,385	Paddlewheel, W. C. Smalstig 200,578	f
	Axle box, J. Stephenson (r)8,084, 8,085, 8,086, 8,087	Paging machine, E. Gorenfio 200,527	
grind common oats into meal or flour suitable for bread	Axle sleeve, J. Dickens 200,519	Paper pulp machine, W. W. D. Jeffers 200,540	
on an ordinary country mill? A. They must first be	Bale tie, J. R. Blossom	Pen, drawing, R. L. Walter	9
kiln-dried. 2. What is the best dress for 30 inch granite	Bale tie, J. J. Hagins (r)	Phonograph or speaking machine, T. A. Edison. 200,521	1,
stones, which are intended to grind wheat and corn?	Bale tie, W. E. Borst 200,371	Pillow, H. J. Buell	
A. Furrows of moderate depth.	Ballot box, M. D. Williams	Pin, picket, P. J. Tweed 200,489	L.
·	Barrel, J. D. McEachren 200,468	Picture exhibitor, J. C. Koch 200,460	
(46) St. C. asks: 1. What thickness of steel	Bed bottom, E. A. Jeffery 200,397	Pitman connection, R. M. Lamson	a
is necessary to resist a bullet fired from an army re-	Bedstead, cabinet, J. G. & J. W. Knapp 200,401	Planter, H. Timmersmann 200,415	n
volver? A. Wethink a plate from one eighth to three	Bedstend, invalid, J. Kaylor 200,543	Planter, etc., R. B. Werner 200,590	
sixteenths inch thick will answer. 2. Which of the met-	Bee feeding device, E. Carter 200,506	Planter, L. J. Corbin (r) 8,089	
	Belting, W. H. Curtiss	Planter, check row attachment, E. W. Quincy 200,407	c
als, steel or iron, presents the strongest resistance to	Binder, H. E. Thompson, Jr 200,488	Plow, W. S. Moon	
leaden balls? A. Steel, generally. 3. Would a plate	Bleacher and dyer squeezing machine, W. Birch. 200,427	Plow, J. H. Riggan	1
formed by riveting several sheets of steel together be	Book rack, A. R. Sherman 200,576	Plow, H. F. & G. F. Shaw	1
stronger than a solid piece of the same thickness? A.	Boot and shoe heel plate, L. W. Buxton 200,505	Plow, R. C. Buckley	
No.	Boot tree, J. T. Flynn	Plow and seeder, P. H. Elliott 200,444	
(47) W. T. W. asks: Is it possible to make	Bottle register, W. S. Lynn	Portfolio, J. D. Richards 200,477	p
` '	Bottle stopper, L. Rose	Post marking and canceling, R. L. Grinnan 200,389	
a horizontal engine reversible using only one eccentric,	Brick surfaces, wash for covering, Bartlett & Ward 200,498	Press for fruits, etc., E. A. Stears 200,487	
and that a fixed one? A. Yes.	Brush, T.J. Connell	Press, seal, S. Larkin	1
(48) C. B. asks: Who was the engineer in	Buckle, W. Bray, Jr	Printing pills, machine for, W. R. Warner 200,589	
` '	Buckle, A. E. McConnell	Punching sheet metal tubing, E. O. Higgins 200,454	
charge of the construction of the Hoosac tunnel? A.	Burglar alarm, G. F. Busby 200,372	Rain gauge, Dunne & Richmond 200,443	
Thomas Doane.	Butter pressing apparatus, J. Harlan 200,392	Rake, W. M. White 200,592	
What will prevent the falling out of hair from the	Button, E. W. McGlaulin 200,554	Rolling metal, J. H. Swett 200,582	
head of a young person who is otherwise in perfect	Cabinet, toilet, G. Rivera 200,480	Ruling machine, J. McAdams 200,553	
health? A. It is sometimes beneficial to cut the hair.	Car coupling, M. R. Delay 200,438	Saddle, J. R. Dempsy	
Consult a physician.	Car coupling, D. R. Halter 200,451	Satchel handle, G. Havell 200,530	
(40) O T D What is the best	Cardraught and buffing apparatus, E. L. Caum (r) 8,095	Saw mill, F. C. Frost	
(49) G. J. B. asks: What is the best way	Cars, drivinggear for street, J. Bishop 200,499	Sawing machine, C. H. Jones 200,542	
to soften thin portions of chilled castings, in order to	Carbureter, W. H. Reed	Scales, A. B. Pearson	
drill them? A. Anneal them.	Carpet fastener, W. Aldrich 200,421	Scales, C. A. Fredericks	
(50) F. B. asks for instructions for making	Carriage boot, Dodge & Brown	Screen, J. H. Cavanagh 200,433	
` '	Carriage seat, shifting rail for, C. Fritschy 200,447	Screw thread machine, Fairbairn & Simon 200,522	
a small steam launch. A. Take your pattern from a	Cask washing machine, A. Muntzenberger et al 200,470	Seed cleaning machine, I. B. Sandusky 200,410	
good rowboat, and put in just as large an engine and	Chair fan attachment, Thompson & Bergstrom 200,414	Sewer trap, J. Sargent	
hoiler as you can conveniently carry. See Supplement,	Chair, folding, C. D. Hyde	Sewing machine embroiderer, G. E. Hart 200,452	
Nos. 69 and 81.	Chair, sewing machine, F. Chichester 200,508	Sewing machine ruffler, G. W. Burgess	
(51) J. S. writes: I have one of Landis'	Chair, window cleaning, A. Dormitzer 200,441	Shingle sawing machine, D. Lane	
	Chamber vessel, A. M. Rontey	Shoe tip, E. F. Partridge	
domestic steam engines, of 11/2 horse power; upright	Cheese cutter, J. N. Parker	Signaling apparatus, D. H. Iseminger	
boiler, 18 inches in diameter and 32 inches high, with	Cheese manufacture, E. V. Lapham	Skate, E. H. Barney	
15 one-inch flues, full length of boiler. I am using	Churn, B. B. Hess. 200,531	Soldering device, F. B. Davis	
about 60 lbs. of coal and 1 barrel of water per day of,	Churn folding stand, J. McAnespey 200,403		
say. 10 working hours. Can I economically substitute	Clock movement, A. E. Hotchkiss	Spring, G. K. Smith 200,580 Spring, D. F. Cooper 200,435	
gas for coal, and if so, how should the gas be applied?	Clock striking movement, Davies & Lambert 200,518 Clock striking movement, H. D. Northrop 200,564	Stamp, H. Wickham, Jr. 200,418	
A. We think that the coal would be so much more		Starp, H. Wickham, Jr. 200,418 Stave jointer, T. M. Chapman 200,507	
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Cock, gauge, A. H. Jarecki	200,396
Coffee roaster, G. H. Downie	
Cooker, feed, Cunningham, Winhofer & Rice	200,515
Cooking utensil, Shepard & Adams, Jr	200,575
Copy holder, J. D. Moore	200,560
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Corset, L. H. Foy	200,384
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Envelope, M. J. Duffee	
Faucet, J. O. Waddell	200,416
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Fire escape, W. B. Garoutte	200,523
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Key fastener, R. McCully	200,404
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Knitting machine, G. A. Leighton	
Knob shanks, J. W. Haines	200,450
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Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne Leather boarding and graining, L. Townsend (r). Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder. Overalls, H. F. Woodward (r).	200,373 200,408 200,463 200,565 8,088 200,485 200,572 200,512 200,511 200,536 200,536 8,090 8,098 200,436 200,556 200,516 200,576 200,471 200,528 200,471 200,528 8,093
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r). Paddlewheel, L. Shook.	200,373 200,463 200,465 8,088 200,485 200,555 200,551 200,551 200,536 200,466 200,536 200,466 200,567 200,436 200,567 200,566 200,516 200,516 200,516 200,528 200,449 8,090 200,577
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne Leather boarding and graining, L. Townsend (r). Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, C. C. Phillips. Motion, reciprocating and rotary, E. Meredith. Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r). Paddlewheel, L. Shook. Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio.	200,373 200,463 200,463 200,565 8,088 200,485 200,572 200,512 200,511 200,536 200,536 200,567 200,436 200,556 200,556 200,571 200,471 200,528 200,471 200,528 200,471 200,577 200,472 200,577 200,577 200,577
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, L. Shook Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers.	200,373 200,463 200,465 8,088 200,455 200,572 200,552 200,551 200,551 200,556 200,466 200,556 200,466 200,556 200,456 200,516 200,516 200,471 200,528 200,471 200,578 200,577 200,578 200,577
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r). Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motton, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r). Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter. Phonograph or speaking machine, T. A. Edison.	200,373 200,403 200,403 200,565 8,088 200,485 200,572 200,545 200,536 8,090 8,098 200,566 200,466 200,516 200,516 200,516 200,517 200,528 200,577 200,549 200,577 200,540 200,556
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill pindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman. Jr. Oil saver and casing head, E. J. Northrup. Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, L. Shook Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. J. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell.	200,373 200,403 200,403 200,565 8,088 200,485 200,572 200,545 200,556 8,093 8,093 8,093 200,567 200,436 200,556 200,516 200,516 200,577 200,577 200,577 200,577 200,577 200,578
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r)	200,373 200,463 200,465 8,088 200,455 200,551 200,551 200,551 200,567 200,567 200,567 200,567 200,567 200,446 200,567 200,456 200,516 200,516 200,516 200,577 200,578 200,577 200,578 200,578 200,521 200,588
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r) Mill, B. Whitney (r) Mill, C. C. Phillips. Mill, G. C. Phillips. Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, L. Shook Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson	200,373 200,463 200,463 200,465 8,088 200,485 200,572 200,545 200,512 200,512 200,512 200,513 200,567 200,567 200,456 200,556 200,556 200,556 200,572 200,572 200,573 200,577 200,578 200,577 200,578 200,577 200,578 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r)	200,373 200,463 200,465 8,088 200,455 200,572 200,551 200,551 200,551 200,556 200,466 200,556 200,456 200,556 200,456 200,556 200,456 200,577 200,578 200,577 200,578 200,577 200,578 200,591 200,498 200,498 200,498 200,498 200,498 200,498 200,498
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, L. Shook Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, L. J. Corbin (r)	200,373 200,408 200,408 200,408 200,455 8,088 200,455 200,572 200,512 200,512 200,512 200,513 200,408 8,098 200,556 200,556 200,516 200,556 200,571 200,528 200,577 200,528 200,577 200,528 200,577 200,580 200,577 200,580 200,581 200,498 200,598 200,598 8,093 200,577 200,580 200,588 200,598 200,598 200,598 200,598 3098 200,598 3098 3098 3098 3098 3098 3098 3098 30
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, M. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed. Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, L. J. Corbin (r) Planter, Check row attachment, E. W. Quincy	200,373 200,403 200,403 200,455 8,088 200,455 200,572 200,552 200,552 200,558 8,090 8,098 200,556 200,456 200,556 200,451 200,528 200,471 200,528 200,471 200,577 200,578 200,577 200,578 200,578 200,578 200,590 8,093 200,471 200,528 200,491 200,491 200,491 200,491 200,491 200,491 200,499 200,490 200,491 200,491 200,491 200,415 200,590 8,093
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r). Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith. Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup. Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r). Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter. Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed. Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, etc., R. B. Werner. Planter, to S. Mood.	200,373 200,408 200,413 200,565 8,088 200,455 200,572 200,545 200,572 200,546 200,596 8,090 8,098 200,577 200,436 200,513 200,471 200,528 200,577 200,528 200,577 200,540 200,509 8,093 200,577 200,540 200,598 200,498 200,498 200,499 200,499 200,499 200,499 200,599
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup. Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, M. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. J. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, tetc, R. B. Werner. Planter, L. J. Corbin (r) Planter, check row attachment, E. W. Quincy Plow, W. S. Moon. Plow, J. H. Riggan. Plow, H. F. & G. F. Shaw.	200,373 200,408 200,408 200,455 8,088 200,455 200,572 200,552 200,572 200,558 8,090 8,098 200,567 200,456 200,556 200,456 200,556 200,577 200,577 200,577 200,577 200,578 200,400 200,400 200,400 200,400 200,401 200,401 200,407 200,559 200,407 200,579
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r)	200,373 200,463 200,465 8,088 200,455 200,572 200,551 200,551 200,551 200,567 200,567 200,567 200,556 200,466 200,516 200,516 200,516 200,577 200,528 200,471 200,528 200,498 200,577 200,578 200,498 200,498 200,498 200,577 200,578 200,578 200,588 200,577 200,578 200,588 200,577 200,578 200,588 200,577 200,559 200,478 200,498 200,598
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup. Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, M. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. J. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, tetc, R. B. Werner. Planter, L. J. Corbin (r) Planter, check row attachment, E. W. Quincy Plow, W. S. Moon. Plow, J. H. Riggan. Plow, H. F. & G. F. Shaw.	200,373 200,408 200,408 200,408 200,455 8,088 200,455 200,572 200,545 200,536 8,090 8,098 200,456 200,456 200,456 200,513 200,471 200,528 200,577 200,540 200,504 200,404 200,409 200,409 200,409 200,409 200,409 200,401 200,407 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill, C. C. Phillips. Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, L. Shook. Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. J. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, etc., R. B. Werner. Planter, C. C. Buckley Plow, W. S. Moon. Plow, H. F. & G. F. Shaw. Plow, R. C. Buckley Plow and seeder, P. H. Elliott Porst folio, J. D. Richards. Post marking and canceling, R. L. Grinnan.	200,373 200,463 200,465 8,088 200,455 200,572 200,552 200,551 200,551 200,556 200,466 200,556 200,456 200,556 200,456 200,516 200,516 200,577 200,528 200,471 200,528 200,498 200,577 200,578 200,577 200,559 200,490
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r). Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith. Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup. Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r). Paddlewheel, L. Shook. Padelewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter. Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed. Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, etc., R. B. Werner. Planter, L. J. Corbin (r) Planter, theek row attachment, E. W. Quincy Plow, W. S. Moon. Plow, H. F. & G. F. Shaw. Plow, R. C. Buckley Plow and seeder, P. H. Elliott Portfolio, J. D. Richards. Post marking and canceling, R. L. Grinnan. Press for fruits, etc., E. A. Stears.	200,373 200,408 200,413 200,565 8,088 200,485 200,572 200,541 200,536 200,536 8,090 8,098 200,577 200,436 200,513 200,471 200,528 200,577 200,528 200,577 200,540 200,401 8,093 200,577 200,540 200,401 200,413 200,472 200,598 200,497 200,497 200,497 200,497 200,497 200,497 200,497 200,497 200,415 200,497 200,415 200,497 200,417 200,418 200,417 200,418 200,417
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, M. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed. Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, L. J. Corbin (r) Planter, check row attachment, E. W. Quincy Plow, W. S. Moon. Plow, H. F. & G. F. Shaw. Plow, R. C. Buckley Plow and seeder, P. H. Elliott Portfolio, J. D. Richards. Post marking and canceling, R. L. Grinnan Press for fruits, etc., E. A. Stears. Press, seal, S. Larkin Printing pills, machine for, W. R. Warner	200,373 200,408 200,408 200,408 200,455 8,088 200,455 200,572 200,541 200,536 8,093 200,567 200,466 200,556 200,416 200,556 200,416 200,577 200,578 200,471 200,578 200,480 200,498 200,498 200,498 200,413 200,413 200,413 200,599 200,441 200,599 200,441 200,415 200,590 200,457 200,579 200,471 200,588 200,417 200,590 200,418 200,415 200,417 200,590 200,441 200,415 200,590 200,441 200,415 200,590 200,441 200,415 200,590 200,441 200,590 200,441 200,415 200,590 200,441 200,590 200,441 200,590 200,441 200,590 200,441 200,590 200,441 200,590 200,441 200,590 200,441
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r). Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r). Paddlewheel, L. Shook. Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed. Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, etc., R. B. Werner. Planter, L. J. Corbin (r) Planter, check row attachment, E. W. Quincy Plow, W. S. Moon. Plow, J. H. Riggan. Plow, H. F. & G. F. Shaw Plow, R. C. Buckley Plow and seeder, P. H. Elliott Portfolio, J. D. Richards. Post marking and canceling, R. L. Grinnan Press for fruits, etc., E. A. Stears. Press, seal, S. Larkin Printing pills, machine for, W. R. Warner Punching sheet metal tubing, E. O. Higgins.	200,373 200,408 200,408 200,408 200,455 8,088 200,555 2,00,572 200,541 200,536 8,030 8,038 200,577 200,436 200,556 200,513 200,471 200,528 200,577 200,540 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,407 200,505 8,089 200,415 200,410 200,4
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hofman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup. Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. J. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, etc., R. B. Werner Planter, L. J. Corbin (r) Planter, check row attachment, E. W. Quincy Plow, W. S. Moon. Plow, H. F. & G. F. Shaw Plow, R. C. Buckley Plow and seeder, P. H. Elliott Portfolio, J. D. Richards. Post marking and canceling, R. L. Grinnan. Press for fruits, etc., E. A. Stears. Press, seal, S. Larkin Printing pills, machine for, W. R. Warner Punching sheet metal tubing, E. O. Higgins. Rain gauge, Dunne & Richmond Rake, W. M. White	200,373 200,408 200,413 200,565 8,088 200,485 200,572 200,545 200,572 200,558 8,090 8,098 200,567 200,436 200,556 200,162 200,411 200,528 200,477 200,578 200,577 200,578 200,577 200,578 200,578 200,578 200,577 200,578 200,577 200,578 200,577 200,578 200,577 200,578 200,577 200,578 200,401
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r). Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup. Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r). Paddlewheel, L. Shook. Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed. Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, etc., R. B. Werner. Planter, etc., R. B. Werner. Planter, th. Criminer Planter, G. F. Shaw. Plow, R. C. Buckley Plow and seeder, P. H. Elliott Portfolio, J. D. Richards. Post marking and canceling, R. L. Grinnan. Press for fruits, etc., E. A. Stears Press, seal, S. Larkin Printing pills, machine for, W. R. Warner Punching sheet metal tubing, E. O. Higgins. Rain gauge, Dunne & Richmond. Rake, W. M. White. Rolling metal, J. H. Swett	200,373 200,408 200,408 200,408 200,405 8,088 200,555 8,088 200,572 200,541 200,536 8,090 8,098 200,577 200,436 200,556 200,513 200,471 200,528 200,577 200,540 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,505 200,407 200,408
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, L. Shook Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter Phonograph or speaking machine, T. A. Edison Pillow, H. J. Buell. Pin, picket, P. J. Tweed Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, etc, R. B. Werner. Planter, L. J. Corbin (r) Planter, check row attachment, E. W. Quincy Plow, W. S. Moon. Plow, H. F. & G. F. Shaw Plow, R. C. Buckley Plow and seeder, P. H. Elliott Portfolio, J. D. Richards Post marking and canceling, R. L. Grinnan Press for fruits, etc., E. A. Stears Press, seal, S. Larkin Printing pills, machine for, W. R. Warner Punching sheet metal tubing, E. O. Higgins, Rain gauge, Dunne & Richmond Rake, W. M. White. Rolling metal, J. M. Swett Rulling machine, J. McAdams	200,373 200,408 200,413 200,565 8,088 200,455 200,572 200,545 200,572 200,556 8,090 8,098 200,566 200,516 200,456 200,556 200,556 200,577 200,578 200,577 200,578 200,577 200,578 200,578 200,578 200,579 200,578 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,578 200,578 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,478 200,559 200,478 200,588 200,588 200,588 200,588 200,588 200,588 200,588 200,588
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r). Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup. Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r). Paddlewheel, L. Shook. Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed. Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, etc., R. B. Werner. Planter, L. J. Corbin (r) Planter, check row attachment, E. W. Quincy Plow, W. S. Moon. Plow, J. H. Riggan. Plow, H. F. & G. F. Shaw. Plow, R. C. Buckley Plow and seeder, P. H. Elliott Portfolio, J. D. Richards. Poest marking and cancelling, R. L. Grinnan Press for fruits, etc., E. A. Stears. Press, seal, S. Larkin Printing pills, machine for, W. R. Warner Punching sheet metal tubing, E. O. Higgins. Rain gauge, Dunne & Richmond. Rake, W. M. White. Rolling metal, J. H. Swett Ruling machine, J. McAdams Saddle, J. R. Dempsy Satchel handle, G. Havell.	200,373 200,408 200,408 200,408 200,405 8,088 200,555 200,572 200,541 200,530 8,098 200,572 200,436 200,566 200,410 200,566 200,576 200,576 200,577 200,580 8,098 200,577 200,580 8,098 200,577 200,580 8,098 200,577 200,580 8,098 200,577 200,580 200,590 8,098 200,577 200,590 8,098 200,407 200,590 8,089 200,407 200,590 8,089 200,410 200,459 200,459 200,459 200,459 200,459 200,459 200,459 200,459 200,599 200,459 200,459 200,459 200,599 200,459 200,599 200,459 200,599 200,459 200,599 200,459 200,599 200,459 200,599 200,459 200,599 200,459 200,599 200,595 200,595 200,595 200,595 200,595
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r) Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r) Mill, C. C. Phillips. Mill, G. C. Phillips. Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r) Paddlewheel, L. Shook Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter Phonograph or speaking machine, T. A. Edison Pillow, H. J. Buell. Pin, picket, P. J. Tweed Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, th. Timmersmann Planter, etc., R. B. Werner. Planter, L. J. Corbin (r) Planter, check row attachment, E. W. Quincy Plow, W. S. Moon. Plow, H. F. & G. F. Shaw Plow, H. R. Wanter Punching sheet metal tubing, E. O. Higgins, Rain gauge,	200,373 200,408 200,413 200,565 8,088 200,455 200,572 200,545 200,572 200,556 8,090 8,098 200,566 200,516 200,456 200,556 200,556 200,572 200,589 200,577 200,578 200,577 200,578 200,578 200,578 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,577 200,588 200,591 200,592 200,578 200,478 200,
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r). Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup. Organ, H. F. Graetzel. Organ pipe, A. Gemunder Overalls, H. F. Woodward (r). Paddlewheel, L. Shook. Padelewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, E. Gorenfio. Paper pulp machine, E. W. W. D. Jeffers. Pen, drawing, R. L. Walter Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed. Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson Planter, H. Timmersmann Planter, etc., R. B. Werner. Planter, etc., R. B. Werner. Planter, th. Crimin (r) Planter, check row attachment, E. W. Quincy Plow, W. S. Moon. Plow, J. H. Riggan. Plow, H. F. & G. F. Shaw Plow, R. C. Buckley Plow and seeder, P. H. Elliott Portfolio, J. D. Richards. Post marking and cancelling, R. L. Grinnan. Press for fruits, etc., E. A. Stears Press, seal, S. Larkin Printing pills, machine for, W. R. Warner Punching sheet metal tubing, E. O. Higgins, Rain gauge, Dunne & Richmond Rake, W. M. White. Rolling metal, J. H. Swett Ruling metal, J. H. Swett Ruling machine, J. McAdams Saddle, J. R. Dempsy Satchel handle, G. Havell Saw mill, F. C. Frost. Sawing machine, C. H. Jones Scales, A. B. Pearson.	200,373 200,408 200,4408 200,495 8,088 200,495 200,552 200,552 200,553 8,090 8,098 200,566 200,395 8,090 200,566 200,513 200,471 200,528 200,513 200,471 200,528 200,560 200,578 200,578 200,578 200,590 8,098 200,577 200,540 200,491 200,491 200,491 200,492 200,590 8,099 200,497 200,590 200,491 200,590 8,099 200,491 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,590 8,099 200,491 200,591 200,591 200,593 200,593 200,593 200,593
Lamp, F. Carrier Lamp chimney, E. R. Roswell Lamps, globe for street, F. L. Senour Lantern, T. B. Osborne. Leather boarding and graining, L. Townsend (r). Life boat, G. F. Sievern Life preserver, D. Ruge Lighting apparatus, electric, J. King Lock, C. C. Coleman Loom, E. Howard Lubricator, G. H. Flower Lubricator for shafting, A. D. Hoffman Meat, preserving, D. C. Link (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, B. Whitney (r). Mill, C. C. Phillips. Mill spindle bush and tram, E. G. Cushing Motion, reciprocating and rotary, E. Meredith. Motor, J. K. Cummings Nut lock, J. & J. Collman, Jr. Oil saver and casing head, E. J. Northrup. Organ, H. F. Graetzel. Organ pipe, A. Gemunder. Overalls, H. F. Woodward (r). Paddlewheel, L. Shook. Paddlewheel, W. C. Smalstig Paging machine, E. Gorenfio. Paper pulp machine, W. W. D. Jeffers. Pen, drawing, R. L. Walter. Phonograph or speaking machine, T. A. Edison. Pillow, H. J. Buell. Pin, picket, P. J. Tweed Picture exhibitor, J. C. Koch Pitman connection, R. M. Lamson. Planter, H. Timmersmann Planter, etc., R. B. Werner. Planter, L. J. Corbin (r) Planter, Check row attachment, E. W. Quincy Plow, W. S. Moon. Plow, H. F. & G. F. Shaw. Plow, R. C. Buckley Plow and seeder, P. H. Elliott Portfolio, J. D. Richards. Post marking and canceling, R. L. Grinnan Press for fruits, etc., E. A. Stears. Press, seal, S. Larkin Printing pills, machine for, W. R. Warner Punching sheet metal tubing, E. O. Higgins. Rain gauge, Dunne & Richmond Rake, W. M. White Rolling machine, J. McAdams Saddle, J. R. Dempsy Satchel handle, G. Havell Saw mill, F. C. Frost. Sawing machine, C. H. Jones Scales, C. A. Fredericks	200,373 200,408 200,413 200,565 8,088 200,455 200,572 200,545 200,572 200,546 200,508 8,090 8,098 200,566 200,516 200,513 200,471 200,528 200,577 200,580 8,093 200,577 200,540 200,409 200,409 200,409 200,409 200,409 200,409 200,409 200,409 200,409 200,401 200,415 200,509 200,407 200,509 200,409 200,509 200,409 200,409 200,509 200,409
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