Mrs. O. asks: How can I take the colors out of my organdie muslin without injuring the fabric? Answer: We have found, by a series of experiments, that, although green resists the action of chlorine and other powerful bleaching agents, Castile soap and elbow grease will remove it, if you only persevere. Washa few times with Castile soap, and bleach in the sun.

C. B. S. asks: What are barytes, what are they used, for and where are they sold? Answer: Barytes is chiefly employed for adulterating white lead. Itsellsfora low price, depending on the demand in a given section. Write to some dishonest paint manufac turer for his price. It is sometimes employed on wall papers and in dressing cotton goods.

J. H. P. asks for a freezing compound. Answer: We present several, from which he can select the one adapted to his use. 1. Pour muriatic acid upon pulverized Glauber salt. 2. Take 5 parts by weight of sal ammoniae, 5 parts saltpeter, 19 parts water. 3. Take 1 part common salt and 3 parts snow. 4. Take 3 parts chloride of calcium, and 2 parts snow or powdered ice.

T. asks: 1. Can paint brushes which have been aried hard with paint, or lineed oil in them be soft-ened in any manner so as to fit them for use again? 2. Where can I procure a small quantity of the paper used for making stereotype molds? Answers: 1. If not too far gone, they can be restored by soaking in benzine or turpentine. 2. The process is not simple enough in practice for an amateur. It will be cheaper for you to buy more type than to get all the machinery necessary for any sort of stereotyping.

C. P. A. asks: Is there danger in using certain fluids in lamps, among which may be mentioned gasoline, benzine, and naphtha, combined with small parts of salt, sal soda, alum, etc. Answer: Our advice is against risking life and property by the use of any burning oil or fluid which is more explosive than gunpovrder. General Van Bokkelen slept safely for a while over a mine of nitro-glycerin, and so you may burn naphtha and gasoline in safety for a while; but the explosion will come at some time in spite of alum or salt, and the damage will quite compensate for any saving of expense. Use good oil, or a tallow dip.

 $F.\ W.\ C.\ asks: 1.\ How can I$  determine the transverse strength of a barof wroughtiron, % of aninch thick and Sinches wide, supported at each end and built in masonry, so that it cannot move except in the direction of the pressure? The load is distributed over the wholelength, which is lifeet between supports. It is to support the thrust of an arch. 2. I have a turbine wheel of 25 inches diameter placed 21 feet above the water in the tail race. A tight iron tube, 30 inches diameter, leads to the tail race. The whole head and fall is 42 feet. Am I not losing much of my power? The wheelmakers say not, but I am 9,000 feet above sealevel does not that make a difference? Answers: 1. The breaking load in pounds =12 imes coefficient for transverse  $\operatorname{strength} \times \operatorname{breadth}$  in inches  $\times$  square of the depth in inches  $\div$  length of clear span in feet. An average value for the coefficient of transverse strength is 2,400 pounds. Use from ½ to ½ of the breaking strain for a safe working

W. R. B. says: The principle of the caloric or hot air engine puzzles me. I cannot understand how the engine can force air into the heater against the same pressure which is applied to drive the piston of the engine. At the same time the area of the air pump is equal to that of the piston. For instance, in Wenham's air engine (illustrated in the SCIENTIFIC AMERICAN, page 370, vol. XXVIII) the same piston with an equal area forces air into the heater. Is not the resistance on the pump side of the piston, when the valves are open to communicate with the heater, equal to the power which is being applied on the under side of piston to drive the same? Why is there not an equilibrium (equal pressure on both sides), and why does not the machine come to rest? Answer: In the engine alluded to, the resistance on pump side, when the valves are open to communicate with the heater, is precisely the same as the pressure on the other side of the piston; and if this state of things were continuous throughout the stroke, the engine would stop. But as the volume of air on the working side of the piston, being highly heated, is greater than the volume of cool air that must be forced into the heater at each stroke, the engine, by means of the accumulated work in its fly wheel, is enabled to overcome the resistance.

F. B. says: I have a new engine, 24 x 48, high pressure, which gives excellent results; there are 3tubular boilers, 4 reet diameter, with 42 four inch flues, 15 feet long, with good draft; we carry 80 to 85 lbs. steam, and make with this machine about 500 barrels flour per day easily. I have thrown out an old engine; it is a Babcock cut-off (built in Brooklyn, N. Y.) of 23 inches bore, 48 inches stroke; the cut-off is a nulsance. How much power would I gain if I were to attach the latter engine to the same shaft, carrying 70 lbs, or from 80 to 85 bb. steam? I think, if I put this engine on, I would throw away the cut-off and make a plain slide valve engine. Answer: With the data furnished, we must give you an answer based on its and ands. If you work the old engine under the same conditions as the new (same piston speed, steam pressure, and point of cut-off), and if the old engine is in as good order as the new one, you should increase your power about 90 per

A. D. W. asks how to deposit a thin film of lead on iron, either by galvanic or other process. An swer: We know of no such process. You might try dipping the iron when perfectly clean, or by the aid of u

F. H. says, in reply to J. N. H., who asked if a turbine will give as good results for power as an overshot wheel: I run a 10 inch turbine, and it does as much work as an overshot wheel; the fall is 24 feet and about 50 cubic feet of water runs per minute. I generally run with % gate, and I find that it works nearly as well with partial as with full gate.

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

B. F. B.-Iron pyrites, of no value, except for making

sulphuric acid.  $J.\,B.\,B.$ —Dark and light colored clays.

H. M. C. sends two specimens of micaceous hematite iron ore. We give a few of the characteristics which distinguish this valuable ore. Hardness, 5.5 to 6.5, scratches glass, not easily scratched by the knife. Specific gravity,45 to 53; color, steel gray to iron black, streak, cherry red or reddish brown. When heated on charcoal in reducing flame, becomes magnetic. Soluble

G. F. H.-Crystals of magnetic iron ore, which attract iron filings. Its composition is 72 per cent iron, 28 per cent oxygen. When rubbed on unglazed porcelain, it eaves a black streak.

S. M. P. and J. H. S .- Iron pyrites W. R. S .- Corundum, of little value. S. C. and J. M. B.—The clays sent contain no silver.

J. L. M.-Asilicate of alumina. It might be of use as polishing material. The specimen has a few crystals of sulphide | F of iron on one side. The mass is also pyrites, of no

W. C. C.—Contains a little iron and manganese.

#### COMMUNICATIONS RECEIVED.

The Editor of the Scientific American acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

On Patent Rights. By J. E. T., J. W. H., T. W., and J. E. W.

On Easterly Air Currents. By W. L. W.

On Car Ventilators. By F. S. C.

On Psychic Force. By J. M. C. On the Truths of Nature. By J. M. B.

On Water Witching. By A. B.

On Soldering Irons. By J. A. F. On Work. By H. E. P.

On the Scientific American. By J. E. E. On the Cable Triumph. By H. C.

Also enquiries from the following : A. O. W .- H. W. P.-M. G. R.-C.

Correspondents who write to ask the address of certain manufacturers, or where specified articles are to be had, also those having goods for sale, or who want to find partners, should send with their communications an amountsufficient to cover the cost of publication under the head of "Business and Personal," which is specially devoted to such enquiries

[OFFICIAL.]

#### of Inventions Index

FOR WHICH

Letters Patent of the United States WERE GRANTED FOR THE WEEK ENDING July 1, 1873,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

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Boot tree, O. V. Elliott. 140,497 Boot tree, O. V. Elliott. 140,490 Boot tree, O. V. Elliott. 140,490 Boots, nailer for lasting, W. E. Flscher, (r) 5,475 Borting pit, S. Hipkins. 140,530 Bottie, caster, A. Weber. 140,531 Bottie, caster, A. Weber. 140,531 Bottie, pursing, T. J. Mayall. 140,533 Bottie, caster, A. Weber. 140,532 Bottie, caster, A. Weber. 140,533 Bottie, caster, A. Weber. 140,533 Bottie, caster, B. Weber. 140,533 Bottie, caster, B. Weber. 140,533 Bottie, aurising, T. J. Mayall. 140,533 Bottie, caster, B. Weber. 140,534 Bottie, caster, B. Weber. 140,534 Bottie, caster, B. Weber. 140,535 Bottie, aurising, T. J. Mayall. 140,535 Bottie, caster, B. Weber. 140,536 Bottie, caster, B. W. W. B. Bizell. 140,539 Bottie, caster, B. W. P. Doison. 140,438 Bottie, caster, W. P. Doison. 140,438 Bottie, transfer, G. C. Taylor. 140,435 Bottie, caster, W. P. Doison. 140,438 Bottie, caster, W. P.				
Boot tree, O. V. Elliott.  Boot an asher, Blake & Libby.  10,409  Boots, nailer for lasting, W. E. Fischer, (r)  5,475  Boring bit, S. Hijkins.  10,537  Bottle, caster, A. Weber.  10,548  Bottle, custer, A. Weber.  10,549  Bottle, custer, A. Weber.  10,549  Bottle, custer, A. Weber.  10,549  Bottle, custer, A. Weber.  10,540  Bottle, custer, A. Weber.  10,545  Bottle stopper, T. J. Mayall.  10,545  Bottle stopper, T. J. Mayall.  10,545  Bottles, cap for, J. G. Chillingworth.  10,425  Bottles, cap for, J. G. Chillingworth.  10,426  Brigg, cruss, Clarke, Bonzano & Griffen.  10,427  Brigh, tooth, T. D. & W. O'Donoghue.  10,429  Bucket, well, C. F. Stittes.  10,438  Bucket, well, C. F. Stittes.  10,449  Bucket, well, S. F. Stone.  10,449  Burner, tar and petroleum, J. Burns.  10,445  Burn				
Boots, nailer for lasting, W. E. Fischer, (r) 5,475 Boring bit, S. Hipkins. 140,370 Bortle, caster, A. Weber. 140,437 Bottle, caster, A. Weber. 140,538 Bottle, caster, A. Weber. 140,538 Bottle, caster, A. Weber. 140,539 Bottle storper, T. J. Mayall. 140,538 Brish, tooth, T. D. & W. O'Donoghue. 140,438 Bucklet, trace, T. Browniee. 140,439 Bucklet, trace, T. Browniee. 140,439 Bucklet, trace, T. Browniee. 140,439 Burner, tar and petroleum, J. Burns. 140,439 Burner, tar and petroleum, J. Burns. 140,439 Car basker, rallroad, G. W. Crowe. 140,339 Car basker, rallroad, J. F. Husson. 140,549 Car basker, rallroad, G. W. Crowe. 140,349 Car brake, rallroad, G. W. Crowe. 140,349 Car wentitator and guard, O. C. Rife. 140,539 Car wentitator and guard, O. C. Rife. 140,539 Carpet baster, Mowry & Pulls. 140,532 Carpet baster, Mowry & Pulls. 140,533 Chandeller stop light, R. Cornelius. 140,349 Chair and stop ladder, B. F. Green. 140,351 Chair and stop ladder, B. F. Green. 140,352 Shirt bosom supporter, G. F. Johnson. 140,439 Chandeller stop light, R. Cornelius. 140,349 Chandeller stop light, R. Cornelius. 140,349 Chandeller stop light, R. Cornelius. 140,349 Chandeller, G. B. D. Gullett. 140,353 Chandeller, G.				
Boring bit, S. Hipkins. 140,550 Bottle, caster, A. Weber. 140,554 Bottle, caster, A. Weber. 140,554 Bottle, caster, A. Weber. 140,554 Bottle, caster, A. Weber. 140,555 Bottle, caster, A. Weber. 140,555 Bottle, caster, A. Weber. 140,557 Bottle, caster, A. Weber. 140,452 Bottles, cap for, J. G. Chillingworth. 140,457 Bottles, cap for, J. G. Chillingworth. 140,457 Brish, tooth. T. D. & W. O'Donoghue. 140,453 Brish, tooth. T. D. & W. O'Donoghue. 140,459 Buckle, trace, T. Brownlee. 140,453 Burner, tar and petroleum, J. Burns. 140,455 Burner, tar and petroleum, J. Burns. 140,455 Burner, tar and petroleum, J. Burns. 140,555 Car beake, rallroad, J. F. Hudson. 140,555 Car coupling, S. Rogers. 140,555 Car dumping, J. G. Payson. 140,555 Car dumping, J. G. Payson. 140,555 Car wentlator and guard, O. C. Rife. 140,555 Car wentlator and guard, O. C. Rife. 140,555 Carpet stretcher, Mowry & Pulls. 140,555 Carpet stretcher, Mowry & Pulls. 140,555 Chandeller drop light, R. Cornellus. 140,356 Chair and step ladder, B. F. Green. 140,358 Chair and step ladder, B. F. Green. 140,358 Chair and step ladder, B. F. Green. 140,358 Chanaeller drop light, R. Cornellus. 140,357 Chanaeller drop light, R. W. Williams. 140,555 Chanaeller drop light, R. W. Williams. 140,555 Chanaeller drop light, R. Ornellus. 140,357 Chair machine, J. T. Hennaman. 140,551 Churn rectiprolating, Thompson & Mahuri. 140,455 Chair machine, J. T. Hennaman. 140,551 Churn rectiprolating, Thompson & Mahuri. 140,455 Chair				
Bottle, caster, A. Weber				
Bottle, nursing, T. J. Mayall.  Bottle stopper, T. J. Mayall.  140,336  Bridge, truss, Clarke, Bonzano & Griffen.  140,431  Bridge, truss, Clarke, Bonzano & Griffen.  140,432  Buckle, trace, T. Brownlee.  140,438  Burgles, shifting top for, R. C. Diehl.  140,339  Buckle, trace, T. Brownlee.  140,438  Burner, tar and petroleum, J. Burns.  140,435  Burner, tar and petroleum, J. Burns.  140,435  Care pitice, treating, G. C. Taylor.  140,435  Care basket, rallroad, J. F. Hudson.  140,539  Car brake, rallroad, J. W. Crowe.  140,349  Car brake, rallroad, J. W. Crowe.  140,349  Car coupling, S. Rogers.  140,549  Car coupling, S. Rogers.  140,549  Car wheel, A. Atwood.  140,349  Car yet sing machine, T. C. Kirkham.  140,359  Carpet stretcher, Michael & Duncan.  140,522  Shirt bosom support and brace, S. F. Long.  140,431  Chandeller drop light, R. Cornelius.  140,345  Chandeller drop light, R. Cornelius.  140,345  Chandeller drop light, R. Cornelius.  140,345  Chandeller drop light, R. Cornelius.  140,437  Chandeller drop light, R. Cornelius.  140,437  Chandeller drop light, R. Cornelius.  140,438  Chandeller drop light, R. Cornelius.  140,439  Chandeller drop light, R. Cornelius.  140,435  Chandeller drop light, R. Cornelius.  140,435  Chandeller drop light, R. Cornelius.  140,435  Chandeller drop light, R. Cornelius.  140,				
Bottles copper, T. J. Mayall.  140,517  Bottles, cap for, J. G. Chillingworth.  140,346  Bottles, cap for, J. G. Chillingworth.  140,346  Brish, tooth, T. D. & W. O'Donoghue  140,429  Brush, tooth, T. D. & W. O'Donoghue  140,429  Brush, tooth, T. D. & W. O'Donoghue  140,439  Bucket, well, G. F. Stites.  140,438  Bucket, well, G. F. Stites.  140,438  Bucket, et ace, T. Brownlee.  140,438  Bucket, trace, T. Brownlee.  140,438  Bucket, trace, T. Brownlee.  140,438  Bursh, trace, T. Brownlee.  140,438  Bursh, trace, T. Brownlee.  140,438  Bursh, trace, T. Brownlee.  140,435  Burner, tar and petroleum, J. Burns.  140,435  Burner, tar and petroleum, J. Burns.  140,435  Burner, tar and petroleum, J. Burns.  140,535  Burner, tar and petroleum, J. Burns.  140,438  Bursh, trace, T. Brownlee.  140,439  Bursh, trace, T. Brownlee.  140,435  Baw mills, dog for circular, J. Tabber.  140,439  Saw mills, dog for circular, J. Ghlin.  140,439  Saw mills, dog for circular, J. Ghlin.  140,439  Saw mills, dog for circular, J. Ghlin.  140,430  Saw mills, dog for circular, J. Ghl				
Bottles, cap for, J. G. Chillingworth 10,346 Briage, truss, Clarke, Bonzano & Griffen 10,471 Brish, tooth, T. D. & W. O'Donoghue 140,429 Bucklet, reace, T. Brownlee 140,439 Bucklet, reace, T. Brownlee 140,439 Bugles, shifting top for, R. C. Diehl 140,531 Bugles, shifting top for, R. C. Diehl 140,531 Bugles, shifting top for, R. C. Diehl 140,531 Can julce, treating, G. C. Taylor. 140,432 Car basket, railroad, J. F. Hudson 140,542 Car basket, railroad, G. W. Crowe 140,349 Car coupling, S. Rogers. 140,554 Car, dumping, J. G. Payson 140,534 Car wentlator and guard, O. C. Rife. 140,541 Car grinting machine, T. C. Kirkham 140,535 Caryettitator and guard, O. C. Rife. 140,543 Carpet stretcher, Michael & Duncan 140,522 Chandeller drop light, R. Cornelius. 140,347 Chandeller strop light, R. Cornelius. 140,347 Chandeller, Sitäing or extension, J. Brannen 140,459 Chandeller, Sitäing or extension, J. Brannen 140,459 Cock, compression, E. Allt. 140,337 Dress protector, A. Herrmann 140,445 Dress sprotector, A. Herrmann 140,445 Dress sprotector, A. Herrmann 140,445 Dress sprotector, A. Herrmann 140,451 Dress protector, A. Herrmann 140,451 Dress sprotector, A. Herrmann 140,455 Edge tools, hardening, L. W. Stuart 140,359 Elevator, C. W. Collyer. 140,451 Elevator, C. W. Collyer. 140,445 Engling governor, E. Buss. 140,445 Engling governor, E. Buss. 140,447 Engl				
Brish, tooth, T. D. & W. O'Donoghue. 140,429 Bucket, well, C. F. Stites. 140,439 Bucklet, trace, T. Brownlee. 140,439 Bucklet, trace, T. Brownlee. 140,439 Bugles, shifting top for, R. C. Dichl. 140,351 Burner, tar and petroleum, J. Burns. 140,455 Burner, tar and petroleum, J. Burns. 140,455 Cane juice, treating, G. C. Taylor. 140,443 Car basket, raliroad, J. F. Huston 140,550 Car basket, raliroad, J. W. Crowe. 140,349 Car basket, raliroad, J. W. Crowe. 140,349 Car coupling, S. Rogers. 140,555 Car, dumping, J. G. Payson. 140,534 Car wheel, A. Atwood. 140,339 Car weel, A. Atwood. 140,339 Car ventilator and guard, O. C. Rife. 140,551 Card grinding machine, T. C. Kirkham 140,376 Carpet stretcher, Michael & Duncan. 140,522 Chair and step ladder, B. F. Green. 140,383 Chandeller drop light, R. Cornelius. 140,343 Chandeller drop light, R. Cornelius. 140,343 Chandeller drop light, R. Cornelius. 140,345 Chandeller, Siting or extension, J. Brannen 140,559 Chandeller, Siting or e				
Bucket, well, C. F. Stites.   140,435     Bucket, well, C. F. Stites.   140,435     Bucket, trace, T. Brownlee.   140,465     Bucket, trace, T. Brownlee.   140,465     Bucket, trace, T. Brownlee.   140,465     Burgeles, shifting top for, R. C. Diehl.   140,351     Burner, tar and petroleum, J. Burns.   140,465     Cane juice, treating, G. C. Taylor.   140,443     Car basket, railroad, G. W. Crowe.   140,349     Car basket, railroad, G. W. Crowe.   140,349     Car basket, railroad, G. W. Crowe.   140,349     Car ounding, S. Rogers.   140,545     Car, dumping, J. G. Payson.   140,545     Car, dumping, J. G. Payson.   140,545     Car, wheel, A. Atwood.   140,389     Car ventilator and guard, O. C. Rife.   140,541     Car yentilator and guard				
Buckle, trace, T. Brownlee.   140,463     Ruggles, shifting top for, R. C. Diehl   140,351     Ruggles, shifting top for, R. C. Diehl   140,351     Ruggles, shifting top for, R. C. Diehl   140,352     Ruggles, shifting top for, R. C. Diehl   140,354     Saw mills, dog for circular, J. Taber   140,442     Saw mills, dog for circular, J. Taber   140,442     Saw mills, dog for circular, J. Taber   140,443     Saw mills, dog for circular, J. Taber   140,444     Saw mills, dog for circular, J. Taber   140,441     Scraper, rotary hog, R. Fyfe.   140,441     Scraper, rotary hog, R. Fyfe.   140,448     Seving machine, wook, C. B. F. Tingley (r)   5,472     Sewing machine, wook, C. B. F. Tingley (r)   5,472     Sewing machine, wook, C. B. F. Tingley (r)   5,472     Sewing machine, wook, C. B. F. Tingley (r)   5,472     Sewing machine, wook, C. B. F. Tongle (r)   140,435     Sewing machine cloth holder, M. A. Dupré.   140,435     Sewing machine cloth holder, M. A. Dupré.   140,435     Sewing machine, B. D. Smith   140,435				
Burner, tar and petroleum, J. Burns.   140,455				
Burner, tar and petroleum, J. Burns. 140,465 Cane julce, treating, G. C. Taylor. 140,443 Car basket, railroad, J. F. Hudson. 140,534 Car basket, railroad, G. W. Crowe. 140,349 Car coupling, S. Rogers. 140,545 Car, dumping, J. G. Payson. 140,534 Car wheel, A. Atwood. 140,339 Car wentlator and guard, O. C. Rife. 140,531 Cary entitator and guard, O. C. Rife. 140,531 Cary et beater, Mowry & Pulis. 140,362 Cary et beater, Mowry & Pulis. 140,362 Cary et beater, Mowry & Pulis. 140,363 Chandelier drop light, R. Cornelius. 140,343 Chandelier, sliding or extension, J. Brannen. 140,455 Chandelier, G. Brabrook. 140,455 Cigar machine, J. T. Hennaman. 140,555 Coffin plate, G. Brabrook. 140,457 Cotton gin, B. D. Gullett. 140,353 Cotton gin, B. D. Gullett. 140,353 Dash board bag, S. Hipkins. 140,456 Cultivator, J. W. Doud. 140,454 Drawers, locking, W. F. Dalv 140,451 Dress protector, A. Herrmann. 140,455 Drawers, locking, W. F. Dalv 140,451 Dress protector, A. Herrmann. 140,455 Drawers, locking, W. F. Dalv 140,451 Drill and bit stock, C. H. Anidon. 140,451 Drill sand bit stock, C. H. Anidon. 140,451 Edge tools, hardening, L. W. Stuart 140,353 Elevating machine, E. D. Smith. 140,452 Chandelier drop light, N. B. Graw 140,453 Tasking under the firm of the fir				
Care basket, railroad, J. F. Hudson				
Car brake, railroad, G. W. Crowe. 140,349 Car coupling, S. Rogers. 140,545 Car, cumpling, J. G. Payson. 140,554 Car wheel, A. Atwood. 140,339 Car wheel, A. Atwood. 140,339 Car ventilator and guard. O. C. Rife. 140,541 Card grinding machine, T. C. Kirkham 140,376 Card grinding machine, T. C. Kirkham 140,376 Card grinding machine, T. C. Kirkham 140,376 Carpet beater, Mowry & Pulls. 140,525 Carpet stretcher, Michael & Duncan. 140,525 Chair and step ladder, B. F. Green. 140,363 Chair and step ladder, B. F. Green. 140,363 Chandelier drop light, R. Cornelius. 140,347 Chandelier drop light, R. Cornelius. 140,347 Chandelier drop light, N. W. Williams. 140,565 Chandelier drop light, N. W. Williams. 140,565 Chandelier, sliding or extension, J. Brannen. 140,590 Churn, reciprocating, Thompson & Mahurin. 140,561 Clothes wringer, Brooks & Hartzell. 140,337 Cock, compression, E. Alit. 140,337 Cock, compression, E. Alit. 140,337 Cock, compression, E. Alit. 140,337 Cotton gin, B. D. Gullett. 140,365 Cotton gin, B. D. Gullett. 140,365 Cultivator, J. W. Doud. 140,451 Cultivator, Simpson & Ellacott. 140,437 Drawers, locking, W. F. Daly. 140,451 Dress protector, A. Herrmann. 140,451 Dress shield, I. M. Post. 140,531 Drill and bit stock, C. H. Amidon. 140,451 Dress protector, A. Herrmann. 140,451 Dress protector, C. W. Collyer. 140,453 Drill guide and core barrel, G. Frisbee. 140,351 Elegating machine, el. D. Smith boler, L. A. Dunis. 140,453 Theshing machine, el. D. Dunis. 140,453 Theshing machine, to A. Dupré. 140,454 Telegraph, printing, T. A. Edison. 140,489 Drill guide and core barrel, G. Frisbee. 140,537 Thrashing machine, E. D. Smith boler, L. A. Dupré. 140,454 They are machine, the bale wing machine, el. Dupré. 140,453 Theshing machine, E. D. Smith boler, L. A. Dupré. 140,453 Sewing machine eloth holer, L. A. Dupré. 140,353 Shirt bosom supporter, L. N. B. Grap 140,352 Shirt bosom supporter, G. F. Johnson. 140,453 Shirt bosom supporter, G. F. Johnson. 140,453 Shirt bosom supporter, G. F. Johnson. 140,453 Shirt bosom supporter				
Car coupling, S. Rogers. 140,455 Car, dumping, J. G. Payson. 140,539 Car wheel, A. Atwood. 140,339 Car wentilator and guard, O. C. Rife. 140,541 Card grinding machine, T. C. Kirkham. 140,356 Carpet beater, Mowry & Pulls. 140,525 Carpet beater, Mowry & Pulls. 140,525 Chard and step ladder, B. F. Green. 140,326 Chandelier drop light, R. Cornelius. 140,347 Chandelier drop light, R. Cornelius. 140,348 Chandelier drop light, N. W. Williams. 140,525 Chandelier drop light, N. W. Williams. 140,536 Chandelier drop light, N. W. Williams. 140,537 Chardelier drop light, N. W. Williams. 140,536 Chandelier, sliding or extension, J. Brannen. 140,459 Chandelier, sliding or extension, J. Brannen. 140,537 Clottes wringer, Brooks & Hartzell. 140,337 Clottes wringer, Brooks & Hartzell. 140,337 Cooffin plate, G. Brabrook. 140,537 Cooler, liquid, J. R. Neil. 140,538 Cotton gin, B. D. Gullett. 140,335 Cultivator, J. W. Doud. 140,435 Cultivator, Elwood & Pitcher. 140,333 Cultivator, Elwood & Pitcher. 140,333 Cultivator, Elwood & Pitcher. 140,335 Dress shield, I. M. Post. 140,431 Dress shield, I. M. Post. 140,435 Dress shield, I. M. Post. 140,435 Dress shield, I. M. Post. 140,435 Edge tools, hardening, L. W. Stuart 140,335 Eleyating machine eloth holder, M. J. Etolo, 140,535 Sewing machine ruffler will exble and chair, L. N. B. Grap 140,535 Shirt bosom, J. Pagan. 140,435 Shirt bosom supporter, G. F. Johnson. 140,431 Shirt bosom supporter, G. F. Johnson. 140,537 Shirt bosom supporter, G. F. Johnson. 140,435 Shirt bosom supporter, G. F. John				
Car, dumplog, J. G. Payson. 140,537 Car wheel, A. Atwood. 140,339 Car ventilator and guard, O. C. Rife. 140,541 Card grinding machine, T. C. Kirkham. 140,376 Carpet beater, Mowry & Pulis. 140,525 Carpet beater, Mowry & Pulis. 140,525 Carpet stretcher, Michael & Duncan. 140,525 Carpet stretcher, Michael & Duncan. 140,525 Chair and step ladder, B. F. Green. 140,333 Chair and step ladder, B. F. Green. 140,347 Chandelier drop light, R. Cornelius. 140,347 Chandelier drop light, R. Cornelius. 140,345 Chandelier drop light, N. W. Williams. 140,525 Chandelier, sliding or extension, J. Brannen. 140,459 Chandelier, sliding or extension, J. Brannen. 140,459 Cligar machine, J. T. Hennaman. 140,551 Coffin plate, G. Brabrook. 140,477 Cooler, liquid, J. R. Neil. 140,337 Cooler, liquid, J. R. Neil. 140,337 Cooler, liquid, J. R. Neil. 140,337 Cultivator, J. W. Doud. 140,349 Cultivator, J. W. Doud. 140,349 Cultivator, J. W. Doud. 140,349 Cultivator, Simpson & Ellacott. 140,357 Drass shield, J. M. Post. 140,357 Edge tools, hardening, L. W. Stuart. 140,357 Edge tools, hardening, L. W. Stuart. 140,357 Edge tools, hardening, L. W. Stuart. 140,357 Engine governor, E. Buss. 140,461 Engine governor, J. Henn's 140,4				
Car wheel, A. Atwood				
Car ventilator and guard, O. C. Rife.   140,541 Card grinding machine, T. C. Kirkham.   140,376 Carpet beater, Mowry & Pulls.   140,525 Carpet beater, Michael & Duncan.   140,525 Chair and step ladder, B. F. Green.   140,383 Chair and step ladder, B. F. Green.   140,385 Chandeller drop light, R. Cornelius.   140,347 Chandeller drop light, R. Cornelius.   140,348 Chandeller drop light, N. W. Williams.   140,585 Chandeller drop light, N. W. Williams.   140,585 Chandeller drop light, N. W. Williams.   140,585 Chandeller, sliding or extension, J. Brannen   140,459 Clour, reciprocating, Thompson & Mahurin.   140,459 Clothes wringer, Brooks & Hartzell.   140,341 Clothes wringer, Brooks & Hartzell.   140,347 Cooler, liquiel, J. R. Neil.   140,337 Coffin plate, G. Brabrook.   140,437 Cooler, liquiel, J. R. Neil.   140,385 Cultivator, J. W. Doud.   140,481 Cultivator, Elwood & Pitcher.   140,385 Cultivator, Simpson & Ellacott.   140,481 Cultivator, Simpson & Ellacott.   140,481 Dress sprotector, A. Herrmann.   140,451 Drill and bit stock, C. H. Annidon.   140,451 Drill and bit stock, C. H. Annidon.   140,451 Drill guide and core barrel, G. Frisbee.   140,357 Drill and bit stock, C. H. Annidon.   140,457 Edge tools, hardening, L. W. Stuart.   140,330 Elevating machine, G. A. Dupuis.   140,485 Elevator, C. W. Collyer.   140,485 Elevator, C. W. Collyer.   140,467 Engine governor, J. Hendy.   140,441 Engine governor, J. Hendy.   140				
Carpet beater, Mowry & Pulls 140,525 Carpet stretcher, Michael & Duncan 140,529 Carpet stretcher, Michael & Duncan 140,529 Charletier drop light, R. Cornelius 140,343 Charletier drop light, R. Cornelius 140,345 Chandelier drop light, R. Cornelius 140,345 Chandelier drop light, N. W. Williams 140,555 Chandelier drop light, N. W. Williams 140,555 Chandelier, sliding or extension, J. Brannen 140,455 Chandelier, sliding or extension, J. Brannen 140,455 Cigar machine, J. T. Hennaman 140,551 Clothes wringer, Brooks & Hartzell 140,344 Cock, compression, E. Allt 140,344 Cock, compression, E. Allt 140,345 Coffin plate, G. Brabrook 140,445 Cotton gin, B. D. Gullett 140,355 Coffin plate, G. Brabrook 140,445 Cultivator, J. W. Doud 140,445 Cultivator, J. W. Doud 140,445 Cultivator, Simpson & Ellacott 140,437 Drass protector, A. Herrmann 140,451 Dress sprotector, A. Herrmann 140,451 Dress sprotector, A. Herrmann 140,451 Dress shield, I. M. Post 140,587 Drill guide and core barrel, G. Frisbee 140,587 Edge tools, hardening, L. W. Stuart 140,390 Elevating machine, G. A. Dupuis 140,445 Engine governor, J. Hendy 140,447 Engine governor, J. Hendy 140,440 Engine governor,	Car ventilator and guard, O. C. Rife	140,541		
Carpet stretcher, Michael & Duncan. 140,522 Chair and step ladder, B. F. Green. 140,363 Chandelier drop light, R. Cornelius. 140,347 Chandelier drop light, R. Cornelius. 140,348 Chandelier drop light, N. W. Williams. 140,555 Chandelier drop light, N. W. Williams. 140,555 Chandelier drop light, N. W. Williams. 140,555 Chandelier, sliding or extension, J. Brannen. 140,455 Chandelier, sliding or extension de Mahurin. 140,455 Claurn, reciprocating, Thompson & Mahurin. 140,455 Cligar machine, J. T. Hennaman. 140,551 Clothes wringer, Brooks & Hartzell. 140,344 Clock, compression, E. Allt. 140,337 Coffin plate, G. Brabrook. 140,457 Cooler, liquiel, J. R. Neil. 140,553 Coffin plate, G. Brabrook. 140,457 Cotton gin, B. D. Gullett. 140,355 Cultivator, Elwood & Pitcher. 140,355 Cultivator, Elwood & Pitcher. 140,355 Cultivator, Simpson & Ellacott. 140,457 Drass protector, A. Herrmann. 140,451 Dress protector, A. Herrmann. 140,451 Dress protector, A. Herrmann. 140,451 Dress protector, A. Herrmann. 140,455 Drill and bit stock, C. H. Amidon. 140,553 Drill and bit stock, C. H. Amidon. 140,553 Eleyating machine, G. A. Dupuis. 140,455 Eleyator, C. W. Collyer. 140,457 Engine governor, J. Hendy. 140,467 Eng				
Chair and step ladder, B. F. Green.				
Chandeller drop light, R. Cornelius.   140,345   Shutter, iron window, S. B. Munson, Jr.   140,565   Chandeller drop light, N. W. Williams.   140,565   Smoking tube, A. Gadies.   140,360   Chandeller, sliding or extension, J. Brannen   140,459   Cigar machine, J. T. Hennaman   140,501   Spring, door, A. Tittman   140,416   Spring, door, A. Tittman   140,416   Stove pipe shelf and drum, T. Bladen   140,415   Stove pipe shelf and drum, T. Bladen   140,451   Stove pipe shelf and drum, T. Bladen   140,535   Stove pipe shelf and drum, T. Bla				
Chandeller drop light, N. W. Williams			Shutter, iron window, S.B. Munson, Jr	140,526
Chandelier, slising or extension, J. Brannen   140,459				
Churn, reciprocating, Thompson & Mahurin   140,445   Cigar machine, J. T. Hennaman   140,501   Stalk cutter, B. R. Harness   140,443   Stove pipes their and drum, T. Bladen   140,454   Cock, compression, E. Allt   140,337   Stove pipe thimble, H. Smith   140,553   Coffin plate, G. Brabrook   140,457   Stove pipe thimble, H. Smith   140,553   Stove pipe thimble,				
Cigar machine, J. T. Hennaman   140,501				
Clothes wringer, Brooks & Hartzell.   140,344   Stove pipe shelf and drum, T. Bladen   140,545				
Coffin plate, G. Brabrook   140,487   Stove platform, W. Westlake   140,858   Cooler, liquid, J. R. Neil   140,529   Stove, reservoir cooking, Fales & Seabury   140,354   Cultivator, J. W. Doud   140,485   Sugar from cane, extracting, M. S. Bringler   140,461   Sugar into blocks, cutting, Brunjes et al.   140,461   Sugar into blocks, cut	Clothes wringer, Brooks & Hartzell	140.344	Stove pipe shelf and drum, T. Bladen	140,454
Cooler, liquid, J. R. Neil.	Cock, compression, E. Allt	140,337	Stove pipe thimble, H. Smith	140,553
Cotton gin, B. D. Gullett. 140,365 Cultivator, J. W. Doud. 140,481 Cultivator, Elwood & Pitcher. 140,353 Cultivator, Simpson & Ellacott. 140,487 Dash board bag, S. Hipkins. 140,461 Drawers, locking, W. F. Dalv. 140,481 Dress protector, A. Herrmann. 140,451 Dress protector, A. Herrmann. 140,451 Dress shield, I. M. Post. 140,538 Drill and bit stock, C. H. Amidon. 140,451 Eleyator, C. W. Collyer. 140,439 Elevator, C. W. Collyer. 140,435 Engine governor, E. Buss. 140,467 Engine governor, J. Hendy. 140,461 Engine governor, J. Hendy. 140,462  Sugar from cane, extracting, M. S. Bringler. 140,461 Sugar into blocks, cutting, Brunjes et al. 140,461 Sugar into blocks, cutting, Brunjes et al. 140,461 Sugar stirrer, maple, F. B. Graves. 140,465 Table, ironing, Frankenfeld et al. 140,361 Table, ironing, Frankenfeld et al. 140,362 Table, ironing, Frankenfeld et al. 140,361 Table, ironing, Frankenfeld et al. 140,461 Table, ironing, Frankenfeld et al. 140,361 Table, ironing				
Cultivator, J. W. Doud.         140,484         Sugar into blocks, cutting, Brunjes et al.         140,484           Cultivator, Elwood & Pitcher.         140,353         Sugar stirrer, maple, F. B. Graves.         140,481           Dash board bag, S. Hipkins.         140,481         Table, extension, W. Valentin.         140,392           Dress protector, A. Herrmann.         140,451         Tailor's measure, J. A. Johnston.         140,572           Dress shield, I. M. Post.         140,587         Telegraph, printing, T. A. Edison.         140,487           Drill guide and core barrel, G. Frisbee.         140,587         Telegraph, printing, T. A. Edison.         140,488           Elevating machine, G. A. Dupuis.         140,481         Thrashing machine, F. R. & W. O. Sutton.         140,481           Engine governor, E. Buss.         140,467         Tiles, dressing, G. & V. G. Barney (r).         5,488           Engine governor, J. Hendy.         140,441         Toy, L. Bryan.         140,402				
Cultivator, Elwood & Pitcher.         140,353         Sugar stirrer, maple, F. B. Graves.         140,361           Cultivator, Simpson & Ellacott.         140,437         Table, extension, W. Valentin.         140,365           Dash board bag, S. Hipkins.         140,416         Table, troning, Frankenfield & &.         140,355           Drewers, locking, W. F. Dalv.         140,451         Tailor's measure, J. A. Johnston.         140,507           Dress protector, A. Herrmann.         140,515         Tailor's measure, J. A. Edison.         140,507           Drill and bit stock, C. H. Amidon.         140,557         Telegraph, printing, T. A. Edison.         140,485           Drill guide and core barrel, G. Frisbee.         140,557         Telegraph, printing, T. A. Edison.         140,489           Edge tools, hardening, L. W. Stuart         140,390         Fhill coupling, A. J. Patterson.         140,489           Elevating machine, G. A. Dupuis         140,485         Thrashing machine, Elis, Hofman, & Lee         140,490           Engine governor, E. Buss.         140,467         Tiles, dressing, G. & V. G. Barney (r)         5,488           Engine governor, J. Hendy         140,414         Toy, L. Bryan.         140,402				
Cultivator, Simpson & Ellacott.       140,437         Dash board bag, S. Hipkins.       140,416         Drawers, locking, W. F. Dalv.       140,416         Dress protector, A. Herrmann.       140,415         Dress shield, I. M. Post.       140,535         Drill and bit stock, C. H. Annidon.       140,451         Drill guide and core barrel, G. Frisbee       140,537         Edge tools, hardening, L. W. Stuart       140,382         Elevating machine, G. A. Dupuis       140,483         Elevator, C. W. Collyer.       140,473         Engine governor, E. Buss.       140,467         Engine governor, J. Hendy.       140,414         Tobal product of the product of t			Sugar stirrer, maple, F. B. Graves	140,361
Drawers, locking, W. F. Daly				
Dress protector, A. Herrmann.				
Dress shield, I. M. Post.				
Drill and bit stock, C. H. Amidon.				
Drill guide and core barrel, G. Frisbee. 140,897 Edge tools, hardening, L. W. Stuart. 140,390 Elevating machine, G. A. Dupuis. 140,485 Elevator, C. W. Collyer. 140,473 Engine governor, E. Buss. 140,467 Engine governor, J. Hendy. 140,414 Toy, L. Bryan. 140,402 Toy, L. Bryan. 140,402				
Edge tools, hardening, L. W. Stuart. 140,390   Fhill coupling, A. J. Patterson. 140,382   Elevating machine, G. A. Dupuis. 140,485   Thrashing machine, Ellis, Hoffman, & Lee 140,491   Elevator, C. W. Collyer. 140,473   Thrashing machine, F. R. & W. O. Sutton. 140,440   Engine governor, E. Buss. 140,467   Tiles, & dressing, G. & V. G. Barney (r). 5,468   Engine governor, J. Hendy. 140,414   Toy, L. Bryan. 140,402	Drill guide and core barrel, G. Frisbee	140,857		
Elevator, C. W. Collyer       140,473       Thrashing machine, F. R. & W. O. Sutton       140,440         Engine governor, E. Buss       140,467       Tiles, dressing, G. & V. G. Barney (r)       5,468         Engine governor, J. Hendy       140,414       Toy, L. Bryan       140,402				
Engine governor, E. Buss.       140,467       Tiles, dressing, G. & V. G. Barney (r).       5,468         Engine governor, J. Hendy.       140,414       Toy, L. Bryan.       140,402				
Engine governor, J. Hendy				

1	Fire arm, revolving, J. M. Marlin	140,516 ( 7
	Fire extinguisher, Lippincott & Patterson Fire place, W. R. Robb	140,543
į	Floor, fireproof tile, W. I. Drake	140,352
	Fuel, artificial, D. Barker	140.452
١	Funnel, W. B. Crother  Furnace, hot air, G. H. Miller	
	Gas cut off and cock, C. E. Seal	140,549
I	Gas engine blower, J. H. Bean	140,479
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	Hame fastening, E. Covert	140,475
	Harness fastening, E. Covert	
i	Harness pad, M. W. Pond	140,385
İ	Harrow, A. C. Carnes	140,563
	Harvester and thrasher, J. H. Adamson	
!	Hatchways, closing, E. M. Hackett	140,499
	Heating compressed air, H. Bushnell	
	Hinge, J. W. Wood	140,449
	Hoisting apparatus, D. Knowles	
	Hoisting apparatus, G, A. Myers Hook, check, A. V. M. Sprague	140,427
į	Hook, snap, O. B. North	. 140,531
i	Horses from carts, releasing, G. H. Meier  Hose coupling, J. W. Kennedy	
	Hubs to axles, attaching, O. F. Shepard	140,389
	India rubber rings, Collins & Longden	
	Iron, sheet, W. D. Wood (r)	. 5,474
	Kiln, brick, D. Blocher	. 140,343
	Ladder, step, C. Frizell Lamp, J. J. Walton	
	Lead, die for making sheet, N. York	. 140,567
	Leather working tool, J.S. Alexander Levees, inclined way for, J. Bradford	. 140,458
	Lever escapement, S. B. Terry	
	Lock, combination, P. W. Hall	. 140.500
	Lockfor doors, etc., T. Kromer Lock, seal, G. R. Junn	
	Log turner, I. W. Pool	. 140,386
	Loom shedding mechanism, G. Crompton Mallet, S. M. Willis	. 140,395
	Mask for bee keepers, protecting, L. C. Huff Medical compound, A. Fuqua	140 408
i	Mop, wringer and scrubber, W. R. Winter	. 140,566
	Motion, transmitting, A. H. Kennedy (r)  Motor, rotary fluid, H. Q. Hawley	
	Music stand, O. Schulze	
	Offal and manufacturing gas, treating, J. Turner	. 140,391
	Oil tool extractor, Buckley & Lawrence  Ore crushing stamp, J. M. McFarland	. 140,345 . 140,425
1	Ore, jigger for separating, W. H. Plumb	. 140.535
	Organ stop action, reed, I. T. Packard Paper machines, belt guide for, R. Hutton	. 140,381
,	Paper, preparing wall, A. W. Paull	
:	Penholder, A. T. Cross	. 140,478
	Pencil case, A. T. Cross	
	Photographs, polishing, N. S. Bowdish	. 140,456
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	Piano tuning key, A. H. Affleck	
	Pitcher, molasses, E, B. Manning	
	Planter, corn, E. Parmentier	. 140,432
	Planter, corn, Z. D. Waters Plow, L. B. Richardson	
	Plow gang, M. S. Curtiss	. 140,480 140,355
:	Plow, subsoil, G. B. Briming nam	. 140,460
;	Plow, sulky, D. W. Hughes Plow, wheel, H. M. Skinner	
,	Printers' galley, side stick for, R. B. Hendle Printing plate, typographical, J. L. Ringwalt	. 140,368
	Propeller for vessels, chain, T. W. Carter	. 140,488
5	Pruning shears, J. G. Rogers	
1	Railroad signal, circuit for electric, F. L. Pope. Railroad switch, street, J. E. Pattison	. 140,536
)	Railroad tie, iron, C. W. Gulick	. 140,411
5	Rake, horse hay, Litchfield & Corbin	
Į	Ribbon case, J. K. Landis	. 140,510
3	Rings, etc., die for enlarging finger, G. Krement Rings, making finger, G. Krementz	
3	Roofing composition, Haight & Gladding Rope skipper, automatic, J. Hoffman	. 140,366
)	Sad iron, W. P. Dodson	. 140,483
3	Saw attachment, J. Giblin	
ι	· Saw mills, dog for circular, J. Taber	. 140,442
3	Saw set, G. Swenson	. 140,409
Į	Screw machine, wood, C. B. F. Tingley (r) Sewing machine, E. D. Smith	
) 5	Sewing machine cloth holder, L. A. Dupré	. 140,406
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9	Spike extractor, A. F. Jackson	
1	Stalk cutter, B. R. Harness	140,413
4	Stove pipe thimble, H. Smith	140,553
7	Stove platform, W. Westlake	. 140,893
5	Sugar from cane, extracting, M. S. Bringier	140,461
4 3	Sugar stirrer, maple, F. B. Graves	140,361
76	Table, extension, W. Valentin	
1	Tailor's measure, J. A. Johnston	140,507
5 8	Telegraph, printing, T. A. Edison	140,487
1	Telegraph, printing, T. A. Edison	140,488
0	Thill coupling, A. J. Patterson	. 140,382
5 3	Thrashing machine, Ellis, Hoffman, & Lee Thrashing machine, F. R. & W. O. Sutton	140,491

Trunk and hat box, hand, Q. A. Scort 140,548	
Trunk fastener, J. Arnold 140,388	
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Umbrella runner, O. M. Smith (r) 5,478	
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Vulcanizing rubber belting, etc., T. J. Mayall 140.519	
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Washing machine, W. M. Rowland 140,435	
Washing machine, L. H. Strobridge 140,558	
Watch cap die, etc, S. C. Lewis	
Water wheel, O. J. Bollinger140,401	
Water wheel, N. C. Roberts 140,544	
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Wire cage, H. Smith	
Wood, preserving, H. G. McGonegal 140,520	
Wrench, pipe, G. Warsop 140,561	
1	

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1,344.—Spools.—J. H. Bullard, Chicopee Falls, Mass. 1,345.—Fertilizer.—Hunt, Rankin & Lamar, Macon, Ga. 1,846.—Hams.—Oakford & Co., Baltimore, Md. 1,347.—Roof Slate.—T. W. Parry, Lehigh Township, Pa. 1,348 & 1,349.—Playing Cards.—C. K. Pevey, Worcester 1,350.-FILES, ETC.-Sheffield Works, Albany, N. Y.

1,351.—Toothache Remedy.—A. Tracy, Brooklyn, N.Y.

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