Since the gradual abolition of the cruel and infamous system of indenturing apprentices to masters a great improvement in the character of our workmen and the machinery they make has been manifested. Our machine shops, a few years ago, were full of English planers, slotting machines, compound planers, screw-cutting machines, etc. Now there are none imported. We can make better machines at much less cost at home. We can make them better and sell them in England at a lower price than they can be manufactured there. This statement is admitted by the London Engineer: (see Scientific AMERICAN, page 297, Vol. IX., article "Energy and Aptitude of American Mechanics"); and this in spite of the fact that wages and iron are both higher with us than in England.

Our plan of educating youths in trades, as it exists at present, is the very best conceivable. The term "master," which is especially offensive to the American mechanic, is unknown, and the relation between the workman and his employer is that of good will and a disposition to work for mutual benefit. Instead of learning one branch the apprentice is put through each in turn, and the consequence is a more thorough knowledge of the trade. There is no eye-service in the present plan, and no compulsion; if a youth does not like his business or his employer, he puts on his coat and goes home, and neither carries off his victuals, his clothing, nor his schooling, for he has had neither. This course is the best for both, for every one knows that enforced labor is good for nothing, and a man who has to be watched to do his work is not worth watching.

The character of American machines and American mechanics, is higher to day than it ever was. There are no shops in Europe which turn out more perfect work than the establishment of Sellers & Company, in Philadelphia; A. M. Freeland, in New York; the Putnam Machine Company, in Fitchburg, Mass. Browne & Sharpe, in Providence, R. I.; Portland Machine Company, in Maine, and hosts of others too numerous to mention; these are only noticed because we know their work; aside from this fact we have never spoken a word to any of their representatives.

English workmen are far behind our own, both in point of dispatch, accuracy of workmanship, personal cleanliness and moral character. We judge from the samples we see among us. They are arrogant, boastful, uneducated, and continually prating about "the Clyde," and what wonderful achievements are performed on that classic stream, or else eternally sounding the praises of Maudsley and Fields, Napier-rs, etc. —to the disgust of our mechanics, who think, not unreasonably, that what "Napier" may do or not do is of very slight importance. Let any man go into the shop of the Waltham Watch Company, where machinists of a high class are employed, and if he can find a cleaner, more intelligent, better dressed set of mechanics, write us word where they can be found, for we want to see them. Comparisons are invidious however, and it is not in this shop alone that we are to look for steady, intelligent and active mechanics New England is full of them; so are the other States; and the workshops of the North are the schools where men are taught patience, endurance, and manual dexterity.

In foreign countries you shall find the workmen congregated in beer shops, engaged in dog-fighting, or some low enjoyment. It is not so with us. are few who do not spend their time in the development of some scheme to make fortunes, or, at the least, become their own masters. That would be a dark day for the trades when we should return to the bondage of signing indentures and making a trade something like punishment for an offense, instead of enlisting all the energies and sympathies of its members in its elevation. We have no fears for any such result, and so long as our present plan is in force will the character of American mechanics maintain its high standard.

INCRUSTATION POWDERS.

We have been many times solicited to puff this or that remedy for preventing deposits in boilers, but have never sanctioned the use of powders in general, for we have felt that an indiscriminate use of them was more likely to result injuriously than beneficially; moreover, cases are frequent where one particular

remedy is of no avail. The better plan is to remove the impurity before it enters the boiler, and that this can be done effectually will be seen by referring to the letters which we publish in another part of this paper. We have also given from time to time, in the columns of the Scientific American, a list of different articles to prevent scale from adhering, and we direct attention to page 107, Vol. IX., for information on this point. Most of the scale powders and nostrums of this sort are composed of the materials there spoken of, and can be bought in any drug store for one-fourth what is charged by agents for the same stuff.

DEFECT IN STEAM ENGINES.

Zealous professors of science occasionally call attention to the fact that steam, as a motor, costs much more than it should, and that little over one-tenth of the actual heating valve of the fuel is realized in practice. Experiments and experience prove the statements to be virtually correct, and it is a reproach to the mechanical skill of the period that it should be.

The loss is not in the theory of the engine, for that is perfect, but in the practice of that theory: or, in plain terms, in the construction of steam engines. It is an undeniable fact, however, that but few of the steam engines now constructed work with the economy that they should, or even approximate in performance to the theoretical value of the fuel.

Portable engines are turned out by scores which, although well enough externally, are far from being in a healthy condition in those parts which affect economy. The slide valves are only such in name; they exercise few of the proper functions of this most important detail, and the boilers are heavy, enormously large in fire and heating surface, and every way disproportioned to the size of the cylinders. The feed pumps are poorly got up; the valves lift too much; the water passages are cramped and crooked, and the absence of any proper method for heating the feed water without creating more loss from back pressure on the piston than is gained by injecting hot water to the boiler is often noticeable. We make these statements for the interest of any it may concern-not to find fault. Many stationary engines are in precisely the same condition.

It is not the only thing required in a slide valve that it shall open and close the ports at a certain time, but that it shall be properly set for the work it has to do, that it shall exhaust the contents of the cylinder at the proper time, that it shall close prop erly, and that the lead shall be proportioned to the duty. That this is important every one is aware who has ever inspected, or is familiar with, indicator diagrams.

It is a common thing, on railways, to hear a locomotive exhausting "one-sided," as it is termed, or giving palpable public evidence that it is out of order and that the master-mechanic on the line is either indifferent or careless of his duties. We know of one road where our ears are daily saluted by the sound of a locomotive drawing a long train of coaches and regularly exhausting 1-2-3-4, 1-2-3-4, or with a very positive interval between the successive exhausts. It would be quite as sensible to draw two or three empty coaches, day after day, as it is to permit an engine to run in this way; for at every uneven or irregular interval, the steam is compressed or choked in the cylinder, and delayed in getting out until it acquires a high tension, so that the actual pressure is much greater on the exhaust side than on the steam side. This subtracts from the efficiency of the machine, adds to the cost of repair, of fuel and every thing used in running the engine. A locomotive engine, exhausting unequally, carries dead weight which costs a great deal to keep.

We know that engines are often regarded as in chronic or incurable difficulties, because some mysterious cause conflicts with setting the valves properly. but we have frequently found that individuals were more fond of declaring that the defect was very mysterious, than they were zealous to remedy it.

It is very plain, from the simple facts here citedmany of which are so well known among professional engineers as to be truisms-that one of the greatest obstacles in the way of economy in the steam engine is a want of mechanical accuracy in construction, erection and oversight; and that the cost of a

horse-power could be very much reduced by attention to obvious and well known defects existing in steam engiues.

The Pneumatic Dispatch Works.

The Pneumatic Dispatch Works, so far as regards the extension of the line from the Euston-square terminus of the London and North-western Railway to the Bull and Gate Station, Holborn, a distance of over a mile and a half, are nearly completed, and the tube will shortly be opened for the transmission of goods and parcels. The new tube is much larger than the first experimental one, and is about four feet high and four feet six inches in breadth. A commodious station has been erected near the arrival platform at Euston, and at the end of this there is an opening in the floor leading to the entrance of the large tube, which is laid beneath some of the busiest streets of the metropolis as far as Holborn Hill, near Hatton Garden, whence it will ultimately be extended to the General Post Office. The engine station, whence the system will be worked, is in the Bull and Gate Yard, Holborn, and the soil in this place had to be deeply excavated to find room for the tubes. which extend from beneath the street into the station. and lie at some depth below its upper works. At the extremity of the yard is the immense circular fan, composed of wrought-iron plates. This tan is a sort of disk containing numerous cellular compartments, with the divisions radiating from the axis of the wheel, the diameter of which is about twenty-two feet. The fan lies in a large chamber, and will be driven by two very fine engines, each of twenty-five horse-power, made by J. Watt & Co., of Birmingham. The machinery is already fixed, and the transit of goods, it is stated, will commence soon. Thus a goods traffic propelled by atmospheric power will be the next novelty for the metropolitan public. English Paper.



ISSUED FROM THE UNITED STATES PATENT-OFFICE

FOR THE WEEK ENDING JUNE 6, 1865. Reported Officially for the Solentific American

Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent. specifying size of model required and much other in formation useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the Scientifio AMERICAN, New York,

48,036.—Paper Bag.—James Arkell and Benj. Smith, Canajoharie, N. Y.: We claim softening the upper parts of paper bags and makin them pillable, substantially as and for the purpose above described

them pliable, substantially as and for the purpose above described 48,037.—Stove.—Wm. Bamford and J. F. Tate, Jr., Milwaukee, Wis.:

We claim First, The air chamber, E. provided with one or more draft files, L L. discha ging into the main pipe or flue, D. Scoond. The flues, L L. and pipe, I, in combination with an air chamber placed inside of a stove.

Third, The opening or pipe, II, when used for passing the outer air through a heated space and into an inner chamber, provided with flues, as specified.

nrough a nester space and uses, as specified.

Four h, The air chamber, E, flues, LL, pipe, I, pipe or orifice, H, not register, G or F, in combination with the outer case or store, A, ach of said parts and comi lustions being substantially as set forth

48,038.—Pipe Coupling.—A. E. Barnard, Cleveland, Ohio:

I claim the cam, F, and boss, D, in combination with the lugs, dc, and opening, e, substantially as and for the purpose set forth Scoond, I claim the recessed chamber, f', packing, J, in combination with the coupling, substantially as and for the purpose set forth.

48,039.—Buckle

As the said metallic buckle fastening for fastening buckles to straps, constructed as described.

Also the said metallic buckle fastening for fastening buckles to straps, constructed as described.

Also the said metallic buckle fastening, in combination with buckle and strap, substantially as described.

and strap, substantially as described.

48,040.—Sleigh-bell Attachment, —Wm. E. Barton, East Hampton, Conn.:

I claim the within-described metallic bell-holder, cast of brass or sultable malleable metal, having a hole through it to secure the strap, impringing points on the strap side, and on the bell side prongs adapted to enter the bell through suitable holes therein, and hold the same by bending or clenching, substantially as set forth. Second, The said bell-holder strap and bell, in combination when put together so as to hold the bell toosely and away from the strap, substantially as described.

48,041.—Composition for Lining Oil Barrels.—Julius

Baur, Blooklyn, N. Y.:
I claim the employment or use in a compound for bring petroleum packages or chloride of zinc and glue, made substantially as herein set fortb.

Also the use in a compound for lining petroleum packages of chloride of zinc mixed with gircerin, as described.

Also a con pound made of chloride of zinc, glue and glycerin mixed gether, substantially in the manner and about in the proportion prein specified.

48,042.—Power-gaining Machine.—Henry Bickel, Elizabeth City. N. J.:

I claim the combination of the toggle levers, G II I.J K L M working beam, C, and fly wheels, E R, all arranged and operating a pecified.

(An engraving and description of thi invention will be published soon in the SCIENTIFIC AMERICAN.]

48,043.—Air Engine.—Dana Bickford, Boston, Mass.:
I claim the combination of the hollow vibrating conduit, H, and

I claim the combination of the hollow vibrating conduit, H, and the gate, K.
I also claim the combination of the lifting spring, o, with the piston and cylinder provided with the vibratory conduit, H, and gate, K, as described.
I also claim the combination of the hollow vibratory conduit, H, and the gate, K, with the air-compressing reservoir, A, and the open cylinder, M, and the piston, N, thereof.
I also claim the combination of the vibratory conduit, H, and gate, K, with the flexible conduit. G, and the opening, a, thereof, the whole being substantially asand so as to operate as set forth.
I also claim the employment of the mass of liquid in the reservoir, B, with the air pump combined therewith, as set forth, and a piston and cylinder connected therewith, and having a conduit, H, and gate, K, or their mechanical equivalents, as specified.

48.044.—Hoisting Machine.—James Bird, New York

-Hoisting Machine.-James Bird, New York City:

I claim the hoisting apparatus constructed substantially as above described, the driving pulley and gear, BC, being placed on the same shaft with the hoisting pulleys and their gear wheel, as above set forth.

[This invention consists in a novel arrangement of power and gear wheels in an apparatus for hoisting heavy weights, whereby the machine is made very efficient and the expense of making it is much reduced.]

reduced.]
48,045.—Corset.—James Rowers, New York City:
I claim a garment connected by means of lacings or their equivalents passing through the eyeletted stays within a duplicate labric
also eyeletted, all substant isly as shown and described.
48,046.—Stovepipe Damper.—John Bradshaw and Samuel C. Wilson, Albion, N. Y.:
We claim the employment of the within damper, cast in the form
described, and a ranged to operate as and for the purpose specified.
48,047.—Thrashing Machine.—C. B. and Wm. T. Brown,
Alton. Ill:

Alton, Ill.:
We claim a thrashing machine mounted upon two wheels and constructed and arranged as herein described, so that the operators can standon the ground, dispensing with the use of a platform.

[This invention relates to a new and useful improvement in the construction of thrashing machines, whereby the same are greatly implified and rendered capable of being constructed at a much less cost than hitherto, and the machine nearly balanced on its wheels in order to facilitate the operation and the transportation of the

-Watchman's Time Detector.-Jacob E. Buerk

Boston, Mass.:
I claim, First, The use of a fake revolving dial, E, in combination with the stationary index, D, and spring points, d, constructed and operating substantially as and for the purpose set forth.

Second, Producing the perforations on the paper dial or its equivalent from the inside out, instead of from the outside in, as before.

An engraving and description of this invention will be publishe e of the next numbers of the Scientific America

48.049.—Gang Plow.—John C. Brown and G. H. Slim

pert, Pinckneyville, Ill.:
First, We claim the arrangements of the hinged adjustable beam, with a caster wheel, C, in the manner and for the purpose herein

L, with a caster wheel, C, in the manner and for the purpose herein described.

Second, The use of self-locking levers, J J, for raising or depressing the plows, applied to the adjustable guides, d d', substantially as described.

Third, Connecting the hooked rocking levers, J. J. to the plow beams by means of bent swinging rods, substantially as described. Fourth, The laterally adjustable slotted plates, dd, applied to the slotted frame, G, and adapted to serve as guides for the plow beams, F.F. and also as bearings for levers which are used to raise and depress said beams, substantially as described. Afth, Pivoting the forward ends of the plow beams to rocking bars, as, which are arranged one in advance of the other, and applying the plows to said beams at about equal distances from their respective pivotal connections, substantially as described 43,050.—Weight-lifting Apparatus.—D. P. Butler, Boston, Mass.:

ton. Mas

ton, mass..

I claim a weight-lifting apparatus having a construction and caps litty of adjustment, substantially as described.

48,051.—Weight-pulling Apparatus.—D. P. Butler, Bos

ton, Mass.:
I claim a weight-pulling apparatus having a construction and royision for adjustment, substantially as set forth.

8,052.—Shank Laster.—John Cain and A. B. Cain,
Dubuque, Iowa:
First, We claim the compound jaws, bb g g, when the inner jaws
made of leather or other flexible substances, substantially as described. Extending the edges of the jaws, d d, beyond the toothed or spurred ends of the jaws, b b, substantially as described.

or spurred ends of the laws, b. s. substantially as described.

**A,053... Washing the Blankets of Printing Machines...

Thomas W. Clark, Manchester, N. H.:

I claim the employment or use in the blanket-washing devices of nachines for printing fabrics, such as calloces, delaines, etc., of a scraper or pressure roller to the washing rollers, to operate in the manner substantially as and for the purpose set forth.

48,054.—Tool for Cutting Off Boller Tubes.—Dennis A. Dacey. New York City:
I claim the implement herein described, constructed and operated substantially in the manner set forth, for cutting off boller tubes and for other work.

[This invention has for its object the construction of a tool for cut ting off boiler tubes, and which can also be used for chasing and for tapping holes of any size, and also for drilling and reaming in metal, and in general for any use wherein a tool can be operated by a pawl wrench.]

by a pawi wiscom.

48,055.—Sheep Label.—Chas. H. Dana, ...

N. H.:
I claim the within described link-shaped label for marking sheep, both ends being fastened closely to the ear, in the manner substantially as set forth.

48,056.—Machine for Attaching Balls to Cartridges.—Barwin Ellis and George R. Stetson, New Hayen, Conn.:

Darwin Eins and George R. Stetson, New mayen, Conn.:

We claim the combination of the two shafts, g and k, with the revolving crimper, F, when the whole is constructed, arranged and fitted to produce the result substantially as herein described. Second, We claim the combination of the two shafts, g and k, with the receptacle, J, and the anti-friction rollers, rr. when they are constructed, located and fitted for use, substantially as herein de-

ibed. hird, We claim the combination of the revolving crimper, F, with receptacles, j, and the anti-triction roller, r r, when the whole is structed and fitted for use, substantially as herein described.

constructed and fitted for use, substantially as herein described.

48,057.—Heddle Frame for Loom.—Milton Finkle, New York City:
First, I claim the adjustable heads, C, constructed in the manner substantially as above described, for receiving the ends of the shafts, A, and rods, a.

Second, I claim the combination of the heads, C, and caps, D, made and applied substantially as above described.

Third, I also claim the stays, D; with hooksor eyes attached, with or without the connecting rods, B', substantially as above described.

48,058.—Stovepipe Damper.—A. V. and A. F. Fletcher, Athol, Mass.:

First, We claim the disk, F, constructed and arranged substantially in the manner shown and described.

Second, The spiral cord, E. attached to a stovepipe damper, substantially as and for the purposes herein specified.

[This invention consists in the application to a circular frame of a disk on the one side, so arranged that when the damper is turned in one position said di-k will be pressed tightly against the frame, and thus prevent the heat from escaping up the chimner; but when turned in an opposite direction, will fall away from the frame, and permit the products of combustion to pass freely to the flue or chim ner; it also consists in attaching to the opposite side of the frame spiral coil, made of strips of metal, and so arranged that the smoke, heated air, etc., will acquire a circular motion while passing through the coil, which serves to detain the smoke, heated air, etc., and thus e a better radiation of the heat therein contained.]

48.059.—Carding Muchine.—P. S. Haines, Newburgh, N. Y.:
I claim the combination of the shaft, H, and comb, C, with the hanging bearings, N, and clamping nuts, •, substantially as and for the purposes above described.

(This invention consists, among other things, in a new mode of operating the doffer comb of a carding machine, by which it is re ciprocated in a nearly vertical direction, and caused to strip the doffer cylinder in a more perfect manner than has hitherto been

48,060.—Mode of Applying Covering to Roofs, the Decks of Vessels, Etc.—James Hall, Dorchester,

Mass.:
I claim as my invention the application of heated metals to the surfaces of the cloth in the process of imbedding the cloth in the paint, untiles the cloth to the surface more firmly and smoothly than can be done without the application of heated metals.

48,061.—Handle for Tea and Coffee Pots.—G. B. Halsted, New York City:
I claim as a new article of manufacture a handle for sheet-metal tea and coffee pots, and other similar sheet-metal vessels, constructed of two lengitudinal parts swaged or struck up in any proper or desited form, of sheet-metal, and connected together by solder or otherwise, substantially as herein set forth.

48,062.—Stone-grinding and Polishing Machine.—Jas. Harsha, Circleville, Ohio:
I claim, First, The combination of the carriage, B, gate, D, and inner frame, J, operated substantially as described, so as to secure the vertical rotary, and two horizontal motions, for the purpose described.

Second. The grinder, K, with its orifices, constructed in the manner described, for the transmission of the grinding material to the implinging surfaces.

Third, The scraper, S, in the described relational position to the orifices, R, in the grinder, K.

48,063.—Combined Seeding Machine, Roller and Drag.

—Wm. H. Hartman, Fostoria, Ohio:
I claim, First, The oscillating drag, M, provided with a seed-box, V, as and for the purpose specific.
Second, I claim the distributing board, K, in combination with the seed-box, G. and roller, B, when arranged and operating as and for the purpose set forth.
Third, I claim the adjustment of the roller, B, in its relation to the drag, M, as and for the purpose described.

48,064.—Machine for Gathering and Loading Flax, Etc.—G. W. Hatch, Parkman, Ohio:
First, Iclaim the springs, e, and rake, C, attached to the pieces, Bid, ot the frame, and in combination with the adjustable side pieces, E, the carrier, M, elevators, H, and rollers, F.F., when arranged and operating substantially as and for the purpose set foeth. Second, I craim the roller or sieeye, F, and shart, D, in combination with the pulleys, m m, and I, when arranged and operating substantially as and for the purpose set forth.

-Ventilation of Mines.-Herman Haupt, Cam-

bridge, Mass.:

I claim the use in mining, tunneling, and other subterraneor rations of steam generators, in combination with a vacuum 48,066. -Cultivator.-Samuel G. Horning, Mount Car-

roll, Ill.: I claim the combination of axie, B, the bar, E, the beams, chains, t, the beams, CC, and braces, O and I, the whole construend arranged as and for the purpose substantially as herein forth.

Westfield, Mass.:
I claim the boiler, A, for heating water and generating steam when formed, constructed and arranged substantially in the manner herein set forth.

herein set forth.

48,068.—Cultivator.—Henry Howe, Darlington, Wis.:
1claim, First, The oblique bars, E. E., connected to the draught
pole, D, and to the short parts, a a, of the axle, A, in connection
with the bars, II, and driver's seat, L, substantially as and for the
purpose set forth.

Second, Tho plow frames, F. F., connected to the bars, E. E. II, and
shaft, K, substantially as shown, and to admit of being operated as
described.

(This invention relates to a new and improved cultivator, design for plowing corn and other crops which are grown in hills or drills and it consists in a novel arrangement of parts, as hereinafter fully laterally, to conform to the sinuosities of the rows of plants, and also of being readily raised and lowered.]

48,069.—Grain Drill.—Joseph Ingals, Milton, Ind.:
First, I claim the spring brace bar, G, attached to the drag bar, and impliging at the curve, b, upon the end of the flange, F, in the working position of the hoe, and baving an incline, upon which the point of the flange rises when the hoe is deflected backward, as described and represented.

scribed and represented.
Second, The indentation, n, on the flange, F, in which the end of the springrests, detaining the hoe from further backward deflec-

48,070.—Slide Valve.—John G. Ives, Springfield, Ill.:
I claim the combination of the sections or rings, EE, composing the valve, the chamber or space, b, and the apertures, c, for admitting steam to the said space, b, from the space, d, the whole being constructed and arranged to operate in the manner and for the object specified.

This invention relates to a neculiar construction of slife valve or steam engines, whereby they are made to always form a steam tight joint with the cage or chamber in which they move. Also in a novelformation of the valve, cage, so as to obviate and prevent the valve from abutting or being caught against the edges of the po it moves back and forth.

48,071.—Washing Machine.—Josee Johnson, New York

City:
I claim as an improved construction of washing machine the sides, and 4, of the tub, A, arranged as represented, in combination with the lever, C, and pounder, E, operating relatively to each other and of the sides, 3 and 4, substantially in the manner and for the pursoes herein set forth.

pose herein set forth.

48,072.—Meat Crusher.—Robert V. Jones, Canton, Ohio :
I claim the combination of the roller, C. rotating in fixed bearings, and provided with a crant. D. the roller, C. mounted in sliding boxes, E.F., the guide rods, F.F., and springs, H. H. one of the said rollers being provided with teeth and the other with longitudinal grooves, and an arranged to operate as specified. [This invention relates to a new and improved machine for crush

ing meat—breaking the fibers thereof—so as to render it tender and more desirable for the table than it otherwise would be.

48,073.—Breech-loading Fire-arm.—Benj. F. Joslyn

Stonington, Conn.:

I claim, First, The breech block, D, with its pin, d, and concave shoulder, n, in combination with a convex shoulder, 10, on the stock of frame adapted to the said shoulder, n, all substantially as set forth.

Second, The block. G, with its projection, k, spring catch, W, and spring rod. H, in combination with the breech piece, D, pin, d. and notched disk, E, the whole being arranged for joint action substantially as and for the purpose herein set forth.

taily as and for the purpose herein set forth.

48,074.—Submarine Port-hole Closer.—John H. Kavanagh, Joliet, Ill.:

I claim, First, The combination of the outer and inner valves, O and G, with the outer and inner plates, A and B, surrounding the port-hole, constructed and operated substantially as described.

Second, The combination of the valves, O and G, with their axles, I and I, and scroll springs, L and L.

Third, The rocking lever cranks, S T U, and S' T' U, and their combinations with the valve levers, N and Y, and the wheels of the gun carriage, substantially as described.

48,075.—Shutter Hinge.—Christian F. Kriauer, Pitts-

8,075.—Shutter Hinge.—Christian r. Mikuci, literaturgh, Pa.:
First, I claim a hinge for window shutters, blinds, etc., composed of tangs and shanks, at right angles to each other, and provided repectively with pintles and eyes, substantially as herein shown and lescribed.

Second, In combination with a hinge, so made, I claim the corrusted or roughening of the tangs, substantially as and for the purchased or roughening of the tangs, substantially as and for the purchased shaded.

Second, In combination with a hinge, so made, I claim the corrugated or roughening of the tangs, sub-tantially as and for the purpose specified. Third, The double pintle, a, and two projections, e.e., on the part, A, of the hinge, in connection with the V-shaped projection, i, of part, C, all arranged substantially as shown, to admit of the hinges being applied indiscriminately to either right or left-handshutters or blinds.

onnois.

48,076.—Car Coupling.—(†. C. Lawton, Syracuse, N. Y.:
First, I claim the peculiar shaped head, B, of the draw rod, A,
with its shoulders c c, and its extension above and the sloping posi
tion at which it is attached to the draw rod, constructed, arranged
and operating as substantially described.

Second, The backwardly sloping shoulders, F, in the rear of the
gain or slot attached to and projecting from the inner surface of the
sides of the buffer lead

gain or slot attached to and projecting from the inner surface of sides of the buffer head.

Third, The combination of the peculiarly shaped and positioned head, B. with its shoulders, e.e., with the double and upwardly and backwardly inclining plane, E.E., and the central gain or slot, open at the top, and the neckwardly inclining shoulders, F. behind the gain or slot in the buffer head, all constructed, combined arranged and operating together as substantially shown and described.

48,077.—Corn Husker. Sheller and Cleaner.—C. J. Legg, Penn Yan, N. Y.:

I claim, in combination with the shelling cylinders, B D, con structed as described, and provided with the screen, G, and fan, K. the arrangement of the bagging elevator, M, with the valve, S, the whole operating substantially as and for the purposas herein specified

48,078.—Machine for Tallying Lumber, Etc.—G. R. Lewis, Ashtabula, Ohio:
First, I claim the disks, C and D, in combination with the index, B, and indicator, F, as and for the purpose set forth.
Second, I claim the catch, d, arm, g, and spring, b, in combination with the indicator and disk, D, as and for the purpose set forth.
Third, I claim the cam, F, with the catch, J, and pinion, G, in combination with the disk, C, and cam, h, as and for the purpose set forth.

Fourth, I claim the slide, p, and cam, K, in combination with the indicator, F, and disks, as and for the purpose set forth.

184,079.—Button.—C. M. Loomis, Hartford, Conn. Ante-dated May 23, 1865:
I claim the employment of the staple, C, in combination with the disk, A, having the curved or concave surfaces inside the button, substantially as and forthe purpose herein described. 48,080.—Mining Pick.—Harvey L. Lowman, Virginia

City, Nevada: I claim as a new article or manufacture, the pick, constructed as herein described; that is to say, with an elliptical socket, the opposite sides of which are parallel to each other, and elongated in the line of its axis, in combination with bits mersing by curved line, into the central socketed head, as described and represented.

As, 081.—Propulsion of Street Car.—Chester M. Mann,
Detroit, Mich.:
I claim the arran ement of the lever. G. links, H. H., and cranks,
I i, in combination with the ratchets, L and M., provided with palls to reverse the motion, and connected by gearing to the driving wheels, for the purpose specified.

wheels, for the purpose specified.

18,082.—Mold for Button Making.—George Mathewman and Anthony Leininger, Brooklyn, N. Y.:

First, We claim constructing the lower die in separate parts, E and C. adapted to close tightly around the neck of the eye, E, snb-stantially in the manner and for the purpose herein set forth.

Second, We claim in connection with the above the shelf, c, or its equivalent arranged as represented, and adapted to support the eyes, E, and aid in placing them in the die, substantially as herein before set forth.

eyes, E, and aid in placing them in the die, substantian, as in the before set forth in the die, and the perfect set forth in the pressure of the upper die, G, upon the face of the buttons shall the pressure of the upper die, G, upon the face of the buttons shall cause the parts, B and C, to he sprung or compressed more rightly together substantially in the manner and for the purpose herein set forth. We claim the arrangement of the handles b c, on the Fourth, We claim the arrangement of the handles b c, on the standing narallel or nearly parallel to the axis.

set forth. Fourth, We claim the arrangement of the handles bc, on the parts, B and c, and standing parallel or nearly parallel to the axis, D, substantially as and for the purpose described.

D, substantially as and for the purpose described.

48,083.—Bag Holder.—L. W. Morlan, New Lisbon, Ohio: I claim, First, A bag holder constructed and operated substantially as above described.

Second, I also claim the self adjusting rocking plates, E, for holding the mouth of the bags, when they are to be filled, constructed and applied, substantially as described.

(This invention consists in an apparatus made so as to be partable mouths of sacks while they are being fil grain, flour or other articles.]

48,084.—Car Spring.—John Murray, New York City:
I claim the peculiar construction of the division plate, C, combined with the boxes, springs and spindles or strudy, by which it is made to answer the two fold purpose of a cap and a baseforthe two boxes and sets of springs respectively; and at the same time acts as a guide and surport to the spineles and allows them the required action, as described.

48,085.—Railroad Signal.—Gabriel Natcher, Sidney,

48,085.—Railroad Signal.—Gabriel Natcher, Sidney, Onio:
I claim the bar. L. laid transversely to the track and porvided with an arm, N, and counterbalance weight, M, for the purpose, and arranged substantially as described.
48,086.—Fence.—William Nevins, Lyons, N. Y.:
I claim the combination and arrangement of the stiffeners, b b, slats, a a, and wires, c c, substantially in the manner, and for the purpose herein set forth.
I also claim forming the posts, B, with the spurs or forks, k k, and notches, m m, said parts being made either entirely of me tal. or partially of metal and partially of wood, substantially as herein specified.

48.087.—Steering Apparatus.—Albert H. North, Naubuck, Conn.:

I claim to employment of the cam or eccentric wheels, C.E., operated by proper mechanism, substantially as and for the purpose described.

48,088.—Butter-molding Machine.—Amos Nudd, Wam-

pun, Wis.:

I claim, in a butter-molding machine, constructed as described, the catch, or bold fast, consisting of the pawl, f. and notch, g. arranged so as to operace substantially as and for the purpose set forth, in combination with the matrix or molding chamber, C, the two levers, B E, and the expelling plunger, B.

two levers, B E, and the expelling plunger, B.
48,089.— Deep Well Pump.—James Old. Pittsburgh, Pa..
Iclaim the use of a spring, so placed in combination with the upper valve of pumps for deep wells as to countrivalance wholly or la part, the hydrostatic preware of the superincumbent column of liquid, and insure the opening of the valve, on the descent of the piston, substantially as herein before described.

48,090.—Rein Holder.—S. J. Olmsted, Binghamton, N, Y:
I claim as an article of manufacture the rein holder, constructed substantially as berein recited.

48,091.—Mode of Raising Sunken Vessels.—Austin B. Page, Weaversville, Cal.:
I claim the combination and arrangement of the lever, E, and the crutch, G, or their equivalent, together with the cross timber, I CIHCHFCF and DDD, substantially as and for the purposes herein specified and set forth

48,092 —Hat.—Charles L. Rahmer, Brooklyn, N. Y.:
I claim a flexible band made of metal or other suitable material
provided with a series of sharp pointed pins or other proper fastening devices, rubber or other suitable elastic cushions arranged together substantially as described and for the object specified.

gether substantially as described and for the object specified.

48,093.—Sheep Rack.—John P. Ray (assignor to himself and Wesley W. Ray), Honeoye, N. Y.:

I claim the grain trough or receptacle, C. constructed in sections, I, so arranged as to open and rest against the sides of the box, or to close centrally to feed the sheep, the same being used in combination with the box, A, substantially as described, in combination with the grain trough, constructed as described.

I also claim the double tolding and compressing racks, B B, arranged and operating substantially as specified.

48,094.—Mode of Operating Churns.—Jacob Redding, New Castle, Ind.:
I claim the general arrangement of the vertical dashers, C D, pitmon, F, crank shaft, G H, graning I J K L M, drum, S, cord, R, pulley, Q, and spring box, C, all as herein described and for the purpose set forth.

48,095.—Button.—W. H. Reed, Philadelphia, Pa.: I claim the button, A, with its opening, e, countersunk on the under side of the button, substantially as and for the purpose described.

48,096.—Churn.—Albert Rhoades, Pontiac, Mich.:

1 claim the combination with the balance wheel, c, of the lever, G, pivoted to the crank pin of said wheel and to an elastic arm, b, in the manner and for the purposs herein described.

48,097.—Horse Leg Fender.—Stephen Romssan, Hudson, N. Y.:
I claim the former interlining or stiffener, Fig. 6, and the brace, a when both are inclosed, combined and arranged substantially in the manner and for the purpose herein described and set forth.

48.098.—Piston for Pumps.—Phil p C. Rowe, Boston Mass.:

I claim the elastic cylinder, C, in combination with one or more lastic leather cups, F, with disks and nuts all placed on the pistor od and arranged stbstantially as and for the purpose set forth.

[This invention consists in the employment or use of a piece of leather, one or more, of cup form, and an elastic cylinder placed on the piston rod and arranged with metal disks and nuts, in such a manner that the leather cups may be expanded so as to operat tightly within the pump cylinder by compressing the elastic cyl

48,099.—Manufacture of Glucose and White Lead.—
Robert Rowland, New York City:
I claim the combined manufacture of glucose or grape sugar and white lead in such a manner that both articles are manufactured independently of each other but that the waste gases and vapor arising from the manufacture of the former are used for the corrosion of lead into white lead, substantially in the manner herein described.

scribed.

48,100.—Snap Hook.—Cyrus W. Saladee, Newark, Ohio: I claim, First, The buckle-shaped guard, B, with or without the spur, c, in combination with a hook, b, substantially as described and for the purposes specified.

Second, The buckle-shaped guard, D, in combination with a book, b, substantially as described, and forthe purposes specified.

Third, The hook, o, on the end of the spring, C, forthe purpose described.

Fourth, The combination of a snap book, AB, with a buckle, H, hen the buckle is provided with an extra bar, I, for the attachment a strap

. -Wheelbarrow.—N. C. Sanford, Meriden, Conn. the combination of the trussed frame and tilting bottom ally as and for the purpose specified.

I claim the arrangement of the plow standards, G G, shafts, F F, and levers, H H, placed within the frame, C, which is pivoted within the mounted frame, A, substantially as and for the purpose herein set forth.

set forth.

I also claim the connecting of the frame, C, to treadles, I I, in the manner substantially as and for the purpose described.

I further claim the combination of the two frames, A C, with the plow standards, treadles and levers, all arranged to operate in the manner substantially as and for the purpose set forta.

[This invention relates to a new and improved cultivator or corplow, and it cons sts in a novel arrangement of the plows, whereby plow, and it comesses in a nover arrangement of the privacy, wherevo, the driver will have full or complete control over the same, and a the same time a very simple and efficient implement for the purpos

48,103.—Sail Clutch.—E. T. Sawyer, Portland, Me.:
First, I claim providing on each end of a sail hank or noop a ferrule, which is constructed substantially as described.
Second, Locking the hoop or hank, and clasping the rope and the
sail by means of a clutch or clasp, constructed substantially as de-

sc ibed.
Third, The two part clasp, constructed substantially in the manner and for the purpose described.

48,104.—Seed Planter.—Geo. M. and Samuel H. Seward.

Guilford, Conn.:

First, We claim constructing the bopper, G, so as to revolve with the clisk, E, when the same is combined with the plate, D, and the brush. K, or its equivalent, substantially in the manner and for the purpose described.

Second, Adjusting the bopper, G, constructing and operating in the manner described by means of the screw, P, substantially as and for the purpose s Pecified. Guilford, Conn.:

48,105.—Deep Well Pump.—John Sheffield, Pultneyville

N. Y.:
I caim the employment in a lift pump, with two tubular piston
D D, of the rods, E. F. their lower extremities, b h, constitutin
v.lves, and bars, d d, substantially as and for the purpose described
[This invention has for its object the removal of gases from oil an
other wells, and it consists in applying a gas or air pipe alongsid

the well tube through the packing so as to conduct the gases out of the well. It also consists in providing a chamber or trap at the lower end of the well tube, which will prevent the entrance of gases into said tube, but will not obstruct the entrance of oil or other liquids.]

John Y. Smith, Alexandria, Vanation of a pipe or tube in sections of e rirst, I claim the combination of a pipe or tube in sections of rged valve chambers, when arranged intermediately between the or pipe sections, and concentrically therewith, substantially it forth.

ated as described, I claim the weighted valve covers, so as to close the valve opening if the external pressure of the liquid exceed that from within, substantially as set fort.

48,107.—Apparatus for Making Extracts.—Lyman Smith, Erle, I'a.:
I claim the combination with the tank, A, of a vacuum pan, F, or other equivalent device for producing a vacuum, substantially as and for the purpose set forth.

48,108.—Thrashing Machine.—Samuel Spencer, Groton, N. Y.:

N. 1.:
I claim the concave, D, when attached to the regulating and tightning blocks, B B, to render it adjustable with the elevator, C, when
constructed and operated as above described.

constructed and operated as above described.

48,109.—Horse Rake.—Ariel B. Sprout, Hughesville, Pa.: First, I claim the foot lever, E, so provided to the rake head as by being dispressed to throw the rake from its elevated to its working position, and by being held down with the foot to retain the rake in its working position.

Second. I claim attaching the fulcrum bar, F, to the cleaners or other rigid parts or the rake by means of straps, g, connecting the two parts or a hinge joint, so as to allow a himted amount of vertical play to the bar, F, for the purpose described.

Third, I claim in combination with the straps, g, the movable rings, or their equivalent, for the purpose of preventing the vertical play of the bar, F, relatively to the cleaners, under the circumstances described.

Fourth, I claim the extension in front of the axle of the cleaners, G, which support the rake head, so as by their vertical adjustment to regulate the hight of the rake head from the ground at a given elevation of the shafts.

Fifth, I claim the rotating notched pintle bolt, H P, with grooves therein corresponding to similar grooves on the lug. H, for colling the rake teeth, until the requisite force is attained, and for holding the take teeth, until the requisite force is attained, and for holding the total when colled in position under the action of the nut on the bolt.

48,110.—Upsetting Tire.—Albert Stedman, Homer, N. Y.:

N. 1.: I claim the machine or apparatus as a whole, when used in con-nection or combination with any vise, as and for the purposes above set forth.

48,111.—Carriage Axle,—George Hayward Thomas, New York City:
I claim the mode berein described of securing a wheel upon its axle, the same consisting in the use at the outer end of the axle of a detachable or movable collar or ring, in connection with a nut, the two being arranged together and operating substantially in the manner herein above set forth.

48,112.—Drag Bar for Grain Drills.—J. H. Thomas and P. P. Mast, Springfield, Ohio:
We claim so constructing the arm, F. and lugs, i, that when the pin, g, 1s in place the said arm will be maintained in position in contact with the face, e, substantially as set forth.

48,113.—Manufacture of Machine-sewed Shoes.—Edwin Thompson, Abington, Mass., and L. N. Mears Brooklyn, N. Y.:

We claim the process or method of temporarily uniting the vamp and sole of a shoe for their subsequent union by stitches, substantially as set forth.

48,114.—Axle for Wheel Vehicles.—Jonathan G. Tibbets and W. M. Merriel, Jeffersonville, Ind.:

bets and W. M. Merriel, Jeffersonville, Ind.:
We claim a divided axle, or one composed of two parts, A. A.' connected by a bridge or skeleton hub, composed of the heads, B.C. D. and brace rods, E. arranged and applied to the axle in the manner substantially as and for the purpose herein set forth, and the ends of the parts, A. A.' ittled together by a cone-joint.
We further claim providing the heads, B.D. with radial openings or air passages, and having said heads bushed with Babbitt metal, substantially as herein described.

[This invention relates to a new and improved axle for wheel venicles, such as are generally termed compound axles, on account of

being composed of two or more parts so arranged that one part may rotate independently of the other. The invention consists in a pe-culiar construction of the axle, whereby the same is rendered strong and durable, and at the same time light, and capable of being kept perfectly lubricated, so as to run with but little friction.]

perf.ctly lubricated, so as to run with but little friction.]

48,115.—Coal Stove.—W. B. Treadwell, Albany, N. Y.:
First, I claim a parlor-heating stove, with an oven for cooking
purposes, so on outructed that hot air circulates in a chamber formed
in the bottom of the oven, and also through the chamber of the body
of the oven, substantially as and for the purposes described.

Second, The construction of the oven, which is a component part
of a stove, with a double bottom, a double walled hole coverer and
circulating passages for hot air, substantially as and for the purposes described.

Third, The fire-pot or chamber, C c l f, constructed as represented
in Figs. 1 and 2, and substantially as herein described, for the purpose set forth.

Fourth in combination of the plate, H, with removable section,
unity in the combination of the curpose described.

Fifth, The combination of the curpose described.

Fifth, The combination of the curpose described.

Sixth, The cold-air passage, formed by means of plates, b b and c,
connected with cavity, g, g, in combination with the ting or receiver,
E, tubes, s, and oven, D, all constructed and arranged substantially as described.

48,116.—Window Blind.—Albert Van Wagenen, Boston,

48,116.—Window Blind.—Albert Van Wagenen, Boston. Mass.:

Mass.:
I claim, First, The method herein described of constructing window blinds so as to admit of the ready removal of the slats, in the manner and for the purposeset forth.
Second, The method described of maintaining the slats of window blinds at any given inclination with respect to the frame by the means and in the manner herein set forth.

means and in the manner herein set forth.

48,117.—Seed Drill.—A. H. Wagner, Chicago, Ill.:
I claim the vibrating feeding tubes, H, provided with a partition across the lewer end to stir the grain and feed the drilling tubes. In combination with the vibrating feeding tubes, H, I claim the receiving cups, R, with curved inner bottoms to hold the s. ed until it is pushed off by the vibrating tubes, substantially as described.
I claim the book on the lever which raises the link from the wrist pin simultaneously with the raising of the drilling teeth.

48,118.—Vegetable Slicer.—Sylvenus Walker, New York City:
I claim the guides, b b, forming the sides of the knife stock, A, with the adjustable mouth-piece, B, and spring, C, when formed of one condituous piece of metal, substantially as described.

one connuous piece of metal, substantally as described.

18,119.—Cigar.—Chauncey Walton, Washington, D. C.:
I claim the new article of manufacture herein described, made in
the manner and for the purposes substantially as set forth.
I also claim a longitudinally-perforated cigar, combined with a
sponged mouth-piece, as and for the purposes set forth.

48,120.—Throttle-valve Gear.—H. W. Warner, Green-

field, Mass.:

I claim the combination and arrangement of the male and female screw, F. male screw, B, and nut, E, for the purpose of operating and controlling the throttle valve of a steam engine, substantially as herein set forth.

as herein set forth.

48,121.—Lever Buckle.—H. W. Warner, Greenfield, Mass.:

I claim the projections or handles, b, one or more, in combination with the tongue of a lever buckle, substantially as and for the purpose herein set forth.

tube or pipe sections, and concentrically therewith, substantially as reforth.

Second, In combination with a revolving central steam pipe and stationary suter tube, I claim the conical valves upon the former and their valve seats upon the latter, substantially as and for the purrose set forth.

Third, The means herein described of producing condensation of steam in the chambers, for the purpose of raising the liquid or oil, by injecting or dropping a portion of the iisquid raised into the said that the boot-jack herein described, consisting of the fixed platenth of the chambers, substantially as the liquid or oil, by injecting or dropping a portion of the revolving central steam pipe of a cam plate, or the equivalont thereof, in combination with setarns or projections on the valve, so that by revolving the pipe the valve shall be lifted off its seat for dropping the requisite amount of hquid for condensation of steam, substantially as set forth.

Fourth, I claim the attachment to the revolving central steam pipe of a cam plate, or the equivalont thereof, in combination with setam to the valve shall be lifted off its seat for dropping the requisite amount of hquid for condensation of steam, substantially as set forth.

Fifth, in combination with valve chambers constructed and oper-

slide latches and knob, substantially as shown, so that the dead latch may be operated or th own back by the insertion of the key through the knob and arbor while the latter is used for operating the slide latch, as described.

[T] is invention consists in combining in a novel way a dead latch and an ordinary slide latch in such a manner that the slide latch may be operated by the turning of the knob-arbor as usual, and the dead latch operated by a key, the hole for which passes through one of the knobs and the knob-arbor, whereby a very simple, economical and efficient lock is obtained, and one that cannot be readily picked or ope ned illegitimately.]

48,124.—Device for Steering Boats from another Boat.

—J. D. Willoughby, Washington, D. C. Antedated
Nov. 24, 1864:

I claim attaching the steering cords ff, to the cross tiller, c, or rudder. B, and passing them around some point on the boat, so as to cause the tension of either cord to pull the runder into a position that will incline or steer the boar in the same direction that it is inclined by the tension of the cord, substantially as described and represented.

48,125.—Boiler Furnace.—Thos. B. Wilson and Wm. R. Shaw, Meadville, Pa.:

First. We claim the deflector, C, arranged as shown within the furnace, and operated by means of the hand lever, A, without, substantially as above described.

Second, We also claim the combination of the deflector, C. with the door space of the furnace, and the air box, E, opening into said space, substantially as above described.

[This invention] consists in the arrangement of an air-deflector within a furnace and over its mouth, for the purpose not only of regulating the amount of draught to the fire, but also of directing the draught so that the air will become thoroughly mixed with the gases arising from the fuel, and a more perfect combustion be

48,126.—Sash for Roofs of Hot-houses.—J. N. Woodward and W. Holden, Aurora, Ill.:
We claim the sheet-metal strips, constructed with gutters, c. c, and employed in combination with the sash, A, glass, B, and putty or luting, b, in the manner and for the purposes described.

[This invention consists in covering the upper or outerports the sash with sheet metal, and using in connection therewith putty or other suitable cement or material, whereby the sash is rendered perfectly tight and water-proof, and far more durable than the sashes as now glazed.]

48,127.—Bread Cutter.—Joseph Buckett (assignor to himself and L. W. Warner), New York City:
We claim the combination with the eccentric circular cutter, D, projecting plates, E, shaft, B, opening, F, of the holder, G, composed of a series of plates, a, connected by joints, b, substantially as and for the purposes described.

This invention consists in the employment or use of a cutter of (raming, the cutter working between plates which have an opening made in them, into which the article or substance to be cut is fed to the cotton; the frame or table on which the article being cut is blaced having a holder applied to it, composed of a series of jointed places, whereby the desired work may be accomplished with the reatest facility.]

As, 128.—Lamp.—Mills L. Callender (assignor to the Callender Lamp Manufacturing Company), New York City:

First. Lightham Staking the cone or deflector by supporters t at are bent or folded, to increase their length, for the purpose and substantially as specified.

Second, I claim the plate, b, extending across the deflector, g, and having an opening with ligh; II, composing an inner deflector, and formed with the flame-spreading projections, 22, as and for the purposes specified.

others and services as a specified.

Third, I claim the elasticring, a, with an opening through which to fill the lamp, in combination with the slide rods, cc, carrying the burner, as set forth.

48,129.—Sad Iron.—Robert Drake, Newark, N. J., as-signor to himself, Jas. F. Bless and Danl. F. Bless.: I claim constructing the bottom of the heating chamber of a sad from with an inclined or curved guiding or deflecting surface, rss, adapted to operate as herein described.

is invention relates to sad irons heated by a gas flam sists in a peculiar construction or formation of the interior of the iron, whereby the combustion of the gas is reatly increased, and also fully consumed before issuing at the chimney of the iron, the importance of which is manifest.)

portance of which is manifest.]

48,130.—Corn Planter.—John Gross, Decatur, Ill., assignor to himself and Thos, K. Alexander:
First, I claim the employment or use of the circular intermittingly rotating plates, N, provided with openings or holes, j, in combination with the vibrating seed plates, M, substantially as and for the purpose described.

Second, The vibrating bars, O, placed below or underneath the plates, N, connected with the plates, M, and receiving their motion therefrom, and provided with pawls, m, for the purpose of operating the plates, N, as set forth.

Third, The circular gage, P, placed underneath the plates, N, and arranged substantially as shown, for graduating the capacity of the holes, h, in the plates, M, as set forth.

Fourth, The arranging of the cut-offs or strikes, d, with springs or elastic rods, N, in the manner substantially as and for the purpose specified.

Fifth, The scrapers, A A, at the outer ends of arms, R R, which are connected by rods, t, to treadles, u, substantially as and for the purpose specified.

[This invention relates to a new and improved seed-distributing

This invention relates to a new and improved seed-distributing

pparatus, and in an improved scraper, whereby it is believed that in improved machine for planting corn and other seeds is attained

48,131.—Petroleum Stove.—Ira Holmes, Moscow, N. Y., assignor to himself and Scott Lord, Genesee, N. Y.: First, I claim concentrically arranged lamps or burners with the rotary platform, A C, combined and arranged substantially in the manner and for the purpose set forth. Second, The pipes, b, leading from each reservoir into the main pipe, B, carrying off any vapor or gases into the same for safety. Thirt, the jacket heaters or cylinders with size flues, f, disclarging into a central pipe, B, constructed as and for the purpose set forth.

ing into a central pipe, B, consequence a control forth.
Fourth, The wire gauze, c, located in the central pipe, B, above the entrance of pipes, b, for the purpose set forth.
Fifth, The combination and arrangement of the several parts decribed, operating in and for the purpose, substantially as set forth

48,132.—Safety Match Holder.—Helen M. Jewett, (assignor to Universal Safety Match Company),

48,132.—Safety Match Holder.—Helen M. Jewett,
(assignor to Universal Safety Match Company),
Roxbury, Mass.:
I claim a safety match box or holder composed of the match pack
and waste receptacles, A B C, and one or more igniting card holders, D, the whole being for use as specified.
I also claim the match safe made of the three receptacles, A B C,
and one or more card holders, D, and having the cover. c. of the
rearmost receptacle, so constructed as when closed down upon the
cover, b, of the pack receptacle it shall entirely overlap it, as set
forth.

forth.

I also claim the match safe as not only made with a match pack, waste and igniting card receptacles, but with separate covers to the waste and pack receptacles, the same peling in order that the pack receptacle may be protected from fire or sparks dropped from a match while in the act of being moved over the pack receptacle in the purpose of being insert d in the waste receptacle.

48,133.—Breech-loading Fire-arm.—William Morgen-stern (assignor to himself and Wm. B. Wilstach).

stern (assignor to himself and Wm. B. Wilstach),
Philadelphia, Pa.:
I claim, First, Raising the rear of the movable breech from its
engagement, and retracting it by means of the tumbler lever, H,
operated by the hammer in the act of cocking.
Second, The litting and retracting lever, H, and the tumbler, in one

piece.
Third, The swinging cam or lever, J, constructed and arranged substantially as and for the purpose set forth.
Fourth, The combination of the breech piece, C, cam, J, and tumbler lever, H, operating in the manner substantially as described.

soler lever, H, operating in the manner substantially as described.

48,134.—Roll for Machines for Preparing Fibrous Material for Spinning, Etc.—Daniel Read (assignor to Amos A. Taylor), New York City:

1 claim covering rols for preparing materials for spinning yarm and manufacturing cloth with an inner covering of vulcanized ruber, gutta percha, or other suitable gums, and with an outer covering of leather parchment, paper, or the equivalent of either of these two coverings, being united together in the manner as and for the purose described.

purose described.

[8,135.—Buckle.—John E. Smith (assignor to himself and Henry C. Griggs), Waterbury, Conn.:

I claim the combination of the frame, a, with the tongue, g, and he hook, h, when the tongue and hook wibrate separately and on a dependent hinges or oints, though on the same bar, as herein deacribed.

described.

48,136.—Cranberry Gatherer.—Charles Thacher (assignor to himself and George Shove), Yarmouth, Mass., (and assigned by said Thacher to Luther W. Clark, Boston, Mass.):

I claim asn'y invention the combination of the holding comb, C, with the receiver. A, provided with teeth, substantially as described.

I also claim the combination of the grate or sieve, B, the holding comb, C, and the receiver, A, provided with the teeth, substantially as described.

as described.

48,137.—Cherry-stoning Machine. — Theophilus Van Kannel, Cincinnati, Ohio, assignor to himself and Joseph Beaire, Chester, Ill.:

I claim, First, So applying the needle carrier, g, to a reciprocating slide that the needles, b, will disch arge the pitsirom the pulp and then assist in discharging the pulp from the machine, substantially as described.

. dd, In a machine for stoning cherries, which has a rotary shaft, I claim giving a lateral motion to the needle carrier in orremoving the pulp from the basin, substantially as de-

the act orremoving the purplicon the basin, substantially as described.

Third, Constructing the needle carrier with a nose, g', for the purpose substantially as described.

Fourth, The feeder, b, arranged to work between the hopper, A', and the basin, a, substantially as described.

Fifth, The employment of an elastic perforated bottom for the basin, a, substantially as described.

Sixth, The arrangement of the hopper, A', feeder, b, basin, a, and discharging spout, A'2, so that cherries will be moved from one to the other of these contrivances, degrived of their pits, and discharged from the machine, substantialy as described.

charged from the machine, substantial y as described.

48,138.—Artificial Leg.—James W. Weston and Thomas B. Stanley (assignors to James W. Weston), New York City:

We claim, First, A bolt-formed with two joints at right angles to each other, and secured to the leg and foot respectively, as set forth, so that the foot cannot turn out of its place, but motion is allowed at the ankle, as specified.

Second, We claim the india-rubber block perforated with holes of formed with cavilies at those points where the spring is required to be most yielding, the same being introduced at the ankle joint, as specified.

specified.

Third, We claim the side knee-pieces extending from the artificial limb, as and for the purposes set forth.

Fourth, We claim the band for attaching the artificial limb. consisting of the strap, I and m, and intermediate laced strap or webbing, n, for the purposes and as specified.

bing, n, for the purposes and as specified.

48,139.—Steam Engine.—Robert Wyatt (assignor to himself and W. Larder), Brooklyn, N. Y.:

I claim, First, Connecting the two pistons, B.C. with a crank outside of the cylinder, by means of a piston rod, D, which is attached to the inner piston, C, and passes through the outer piston, B, and which has a longitudinal movement with the inner piston. C, and a lateral movement with the two pistons, B C, substantially as and for the purpose herein specified.

Second, The stuffing box, E, through which the piston rod, D, works, attached to the outer piston, B, and working in a slot, f, in the cylinder, substantially as and for the purpose herein set forth. Third, The sliding plate, F, and its socket, F, fitting the stuffing box, E, and working within a groove or guide, g, on the exterior of the cylinder, substantially as herein set, for the cylinder, substantially as herein set of the cylinder, substantially as herein set for the connected slide values. With the substantial stantial points.

48,140.—Oil Press.—John Marshall, Pentonville Road, Eng. Patented in England Oct. 27, 1863:
I claim the expression of oil from oil-yielding substances, and the production of oil-cake and other residuary matter, by means of a chamber, in combination with a ram and plug and a stramer or filter, these parts being constructed and acting substantially as described.

scribed.

48,141.—Machine for Making Cigarettes.—Manuel J. Lopez y Manoz, Havana, Cuba:
I claim, First. The arrangement of the feeding rollers, G G connected together and pressed together in the manner specified, and rectard together and respect together in the manner specified, and substantially as secreted and set forth. Second, I claim the arrangement and combination of the cutting bar. K, and knife. I, worked y means of a segment, L', in the manner and for the purpose substantially as set forth. This forth the manner of working the forming rollers, v w, by the plaions, 12 13, in combination with the plaion, 14, when said plaions, 12 13, form part of the surface of said rollers. Fourth, I claim the strangement of the frames, X X', swinging upon central sides, y, active ded to the frames of the machine, and secured in its place during the operation of the machine by spring levers, r', and a lever, E, acted upon by a cam, F, in the manner specified.

levers, r', and a lever, E,' acted upon by a cam, r', in the manner specified.

Fitth, I claim the arm, q, and the pin, q', or their equivalent, acting upon the spring levers, r', for the purpose of disengaging the same, in combination with the pin or projection, p', acting upon an arm, p. fast to the said frames, X or E, for the purpose of swinging said frames around central suids, y, the whole operating together in the manner and for the purpose described.

Sixth, I claim the wheel, W', acting upon the pinion, W'', and the pinion, 5, operating through the pinion, 5 operating through the pinion, 5 operating through the pinion, 5, and operated by teeth 24 25 26, and pins or projections, 27 23 29 30 and 31, in the manner and for the purpose substantially as specified.

O, and operated by teeth 24 25 25. and pins or projections, 27 25 25 36 and 31, in the manner and for the purpose substantially as specified.

Eighth, I claim the arm, b, in combination with the spring lever, x, and the cam, n, in combination with the lever, n', acting on the crank shaft, O, and the forming lever, N, in the manner described and set forth.

Minth, I claim the lever, T, acting upon the forming lever, N, and operated by arms or cam, U and U', substantially as specified.

Tenth, I claim holding the rolled cigarette firmly in its place while the ends of the paper are closed by means of the lever, I', operating in the manner specified.

Tenth, I claim the levers, Q, operated in the manner specified, or its equivalent, if the company of the cigarettes.

Twelth, I claim the levers, R, R', operating and arranged in the manner and for the purpose substantially as set forth.

Thirteenth, I claim for the purpose substantially as set forth.

Thirteenth, I claim fulling the disparette by the combined action of the rollers, v w v' w', and a lever, N, as described.

Fourteenth, I claim the lever's, N, while the celing rollers, G G', and by the forming lever. N, while the latter is acting upon the tobacco and distributing the same evenly on the paper.

Fifteenth, I claim the combination of the freeding rollers, G G' as and the combined and working rollers, w w'w', the forming our, N, the lever, T, the levers, Q' Q, and the levers, R' R', when arranged, combined and working rollers w w'w', the forming our, N, the lever, C, the kevers, Q' Q, and the levers, R' R', when arranged, combined and working rollers w to w'w', the forming of the purpose substantially as set forth and described.

Bixteenth, I claim the construction of the wheels, H W' E and W,

attached to the driving shaft, and operating the different parts of the machine, in the manner and purpose as set forth. 48,142.-Lamp Burner.-James Wood, Nottingham,

48,142.—Damp Eng.:
Eng.:
I claim the combination of the door, Bee, thumb piece, e, stops, g h (all made out of one piece of metal), with the guides, f, the latter being formed of strips or pieces of the shell, a, of the burner, in the manner and for the purpose herein described.

class of lamp burners which are provided with chimneys for burning coal oils and other similar hydro-carbons, and it consists in a novel manner of applying a door in the side of the burner, whereby a ready means is obtained for lighting the lamp without removing the cbimney from the burner, and without adding in an appreciable

48,143.—Coal Stove.—Philo P. Stewart, Troy, N. Y.:
I claim, First. The employment of the perforated cone or cap, F, constructed, arranged and combined with the said plates, C and D, and with the fire pot and combustion chamber of a stove, in the manner and for the purposes substantially as herein described and set forth.

degree to the cost of the construction of the burner.]

manner and for the purposes substantially as herein described and set forth.

Second, I claim the employment of the wire gauze door, P. or its equivalent, in combination with the said perforated cone or cap, E., or any equivalent therefor, and with the said radiating chamber, B', in the manner and for the purposes substantially as herein described and set forth.

Third, I claim the perforated cone or cap, E., constructed and arranged in sections, a b c, with email apertures between each section or division, in the manner and for the purposes substantially as herein described and set forth.

Fourth, I also claim the arrangement an employment of the inner vertical tube or conical cylinder, L, and the outer verti al tube or cylinder, E, in combination with the radiating chamber, B', and with the horizontal flue, g, in the manner and for the purpose substantially as herein described and set forth.

Fifth, I also claim the arrangement and combination of the vertical radiating tubes or columns, G G G, with the return flues, e and i, in the manner and for the purpose substantially as herein described and set forth.

Sixth, I also claim the said flanges, i, constructed and arranged upon the outsi e of the said perforated cone or cap, E, in the manner and for the purpose substantially as herein described and set forth.

Seventh, I also claim the combination of the said perforated cap

rth. Seventh, I also claim the combination of the said perforated cap cone, E, or its equivalent, with the air chamber surrounding the amber of combustion, and communicating with numerous aperres, and the said wire gauze door, F, in the manner and for the process substantially as herein described and set forth.

REISSHES

1.979.-Cock.-Nathaniel Jenkins, Boston, Mass. Pat-

1,979.—Cock.—Nathaniel Jenkins, Boston, Mass. Patented April 18, 1865:
I claim First, The swivel, H, in combination with the follower, E, and seat, L, substantially as and for the purpose described. Second, The combination and arrangement of the thimble, I, swivel, H, and packing, K, substantially as and for the purpose described.

Third, A hemispherical, or hemispheridal valve or racking, constructed with a fiange, m, substantially as and for the purpose described.

Fourth, The elastic packing, or valve attached to the follower by means of a flange, m, and a corresponding socket, substantially as set forth and specified.

1,980.—Ladles' Collar and Cuffs.—Wm. E. Lockwood, Philadelphia, Pa. Patented April 26, 1859:
I claim an embossed coll r or cuff, made of a fabric composed or paper and muslin or an equivalent fabric.

1,981.—Ladies' Collar and Cuffis.—Wm. E. Lockwood, Philadelphia, Pa. Patented April 26, 1859:
I claim an ornamental collar orcuff, made of a fabric composed of paper and muslin or of an equivalent fabric ornamented by printing or otherwise marking on the surface plain or colored devices.

1,982.—Ladies' Collar and Cuffs.—Wm. E. Lockwood,
Philadelphia, Pa. Patented April 26, 1859:
I claim an ornamen'al collar or cuff made of a fabric composed of
paper and muslin or an equivalent fabric, ornamented by perforations as set forth.

-Ladies' Collar and Cuffs.-Wm. E. Lockwood

Philadelphia, Pa. Patented April 26, 1859:
Ictaim an ornamental collar or cuff made of a fabric composed of aper and muslin, or of an equivalent fabric, ornamented by the inerlacing of colored tapes or il bbons as set forth.

terlacing of colored tapes or ribbons as set forth.

1,984.—Street Washer.—Joshua Regester, Baltimore,
Md. Patented July 23, 1861:
I claim, First, A metallic sectional stop-cock case, which is so constructed that in the act of securing the sections to gether the stop-cock and its appendages are confined within said case, in a permanent position, substantially as described.
Second, Centering the stop cock at its lower end by means of a collar bearing, F, or its equivalent, in combination with a metallic case, substantially as described.
Third, The combination of a twining discharge pipe, B, with a stop cock and a metallic case, which is constructed with an upper and a lower bearing, F, substantially as de-cribed.

ng a lower bearing, r. substantially as decribed.

,885.—Hydrant.—Charles L. Stacy, Cincinnati, Ohio.

Patented Oct. 4, 1859:

I claim, First, The provision in hydrant piston of a flexible cup, the control of the con

Second, The relative arrangement of the cup-formed disks. FQ and G'' and the apertures, K and L, adapted in the manner set forth to form a chamber, I, closed on all sides, with the exception of the ingress aperture, K, while the hydrant is open, substantially as set forth.

1,986.—Spring-back Chair.—Robert H. Staples, Lowell,
Mass. Patented Nov. 8, 1864:

I claim a back swinging independently of a seat, and pivoted above
it to stationary supports or the arms of the chair, in combination
with a spring or springs, or equivalent device, to return it to its

normal condition.

1,987.—Improvement in Stoves by the Use of Superheated Steam upon the Fuel.—The Hagan Manufacturing Company, New York City, assignees to William E. Hagan, Troy, N. Y. Patented March 8,

William E. Hagan, Troy, N. Y. Patented March 8, 1864:

I claim as my discovery or invention in the management of combustion in fire chambers the application, substantially as herein described, of superneated steam in jets, so as to impinge without admixture with atmospheric air directly against the incandesent coals, in addition to or in combination with the supply separately of atmospheric air, either by draft or blast, in the usual manner, as set forth and for the purposes specified.

I also claim in the construction of fire chambers for the combustion of feed, and provided with apertures at or near the bottom for the admission of atmospheric air, combining therewith a steam chamber or chambers for superheated steam, the inner wall of the steam chamber or chambers having numerous small apertures next to the fuel for the escape of the superheated steam to impinge, without admixture of atmospheric ir against the incandescent coals, substantially as and for the purposes specified.

And I also laim in the construction of fire chambers, combined substantially as herein described with a chamber or chambers for superheated steam, and with numerous apertures for the escape of superheated steam, and with numerous apertures for the escape of superheated steam in jets to unpinge against the incandescent coals, making the perforatel wall of the fire chamber grooved, or the equivalent thereof, to reduce the thickness thereof at the perforations, substantially as and for the purposes specified.

1,988.— Furnace for Treating Ores by Superheated

1,988.— Furnace for Treating Ores by Superheated Steam.—The Hagan Manufacturing Company, New York City, and Wm. E. Hagan, Troy, N. Y., assignees by mesne assignments of Wm. E. Hagan. Patented March 8, 1864:

Iclaim, First, The employment of application of superheated steam, in the manner as or substantially as herein described and set forth, for the purpose of refining or reducing metals, and for the

removal of sulphur, arsenic, phosphorus, or other imp rities from ores or minerals.

ores or minerals.

Second, the employment or application of superheated steam, as cr substantially as herein described, for the purpose of calching and disintegrating quartz rock, containing silver, gold or other metals. Third, The employment or application of superheated steam for the refining of iron, and for the converting of iron into semi or pure steel, in the manner substantially as herein described and set forth.

DESIGNS.

2,079. —Coffin Handle.—Stephen D. Arnold, New Britain, Conn., assignor to P. and F. Corbin.

0.—Cook Stove.—James G. Clarke (assignor to S. H. Burton & Co.), Cincinnati, Ohio.

2.081.—Animal Trap.—Hubert C. Hart, Unionville, Conn.

2,082.—Bust of Abraham Lincoln.—Fisk Mills, Wash-

SATENTS

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the SCIENTIFIC AMERICAN, have act tors and Attorneys for procuring "Letters Patent" for in the United States and in all foreign countries during ed as Solicitors and Attor the past seventeen years. Statistics show that nearly ONE-THIRD of all applications made for patents in the United States are solicite ugh this office; while nearly three-fourths of all the patents taken in fereign countries are procured through the same source. It is almost needless to add that, after seventeen years' experience in pre paring specifications and crawings for the United States Patent Office, the proprietors of the SCIENTIFIC AMERICAN are perfectly con versant with the preparation of applications in the best manner, and the transaction of all business before the Patent Office; but they take pleasure in presenting the annexed testimonials from the three ast ex-Commissioners of Patents.

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Yours very truly,

Judge Mason was succeeded by that eminent patriot and statesman, Hon. Joseph Holt, whose administration of the Patent Office was so distinguished that, upon the death of Gov. Brown, he was apprinted

distinguished that, upon the death of Gov. Brown, he was apprented to the office of Postmaster-General of the United States. Soon after entering upon his new duties, in March, 1859, he addressed to us the following very gratifying letter.

Mrssrs. Munn & Co.:—It affords me much pleasure to bear testimony to the she had end efficient manner in which you discharged your cutters as Solictors of Patents. while I had the honor of holding the place of Commissioner. Your business was very large, and you sustained (and I doubt not justly deserved) the reputation of energy, marked ability, and uncompromising ideity in performing your professional engagements.

Very respectfully, your obedient servant,

J. Holt.

Hon Win D. Bishop, late Member of Congress from Congestions.

J. Holt.

Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon reagning the office he wrote to us as follows:

MESSIRS, MUNN & Co.—It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business or inventors before the Patenti Office was transacted through your agency: and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to verform the duties of Patent Attorneys with skill and accuracy.

Very respect.ally, your obedient servant, WM. D Bishop.

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THE VALIDITY OF PATENTS.

Persons who are about purch sing patent property, or patentees who are about erecting extensive works for manufacturing under heir patents, should have their claims examined carefully by cometent attorneys, to see if they are not likely to infringe some exist ng patent, cefore making large investments. Written opinions on the validity of patents, after careful examination into the facts, can