these that from Porthmawr in Wales is about an average

specimen. Its constitution is as follows: —
Silica
Alumina and oxide of iron
Lime 6.199
Magnesia 0.659
Sulphuric acid 4.12
Phosphoric acid 6.633
Total

The other samples are formed wholly of these same substances, but in different proportions. The silica and alumina would doubtless be combined as silicate of alumina, which is clay.

The lime would be combined first with the phosphoric acid which in this specimen would take it all. The compound formed would be phosphate of lime. This is commonly said to be insoluble and worthless, the biphosphate or super-phosphate being the soluble and highly prized fertilizer which produces such magical effects. The phosphate is, however, soluble to some extent, and is not wholly worthless as a fertilizer.

In other samples of coal ashes which have been analyzed, the quantity of phosphoric acid was not sufficient to take up all the lime, and in these cases the remainder of the lime would enter into combination with the sulphuric acid, forming sulphate of lime. This is known under the names of gypsum and plaster of Paris, as a very valuable fertilizer.

It may be that the ashes of English coals contain these two substances, phosphate of lime and sulphate of lime, in sufficient quantities to make them valuable as manures. It would be a little surprising, however, it their value for this purpose should be so great as to make the privilege of collecting them in a single district for six months worth \$9,000. This circumstance suggests the possibility that some rare metal or other valuable substance may have been discovered in them. It also suggests the desirableness of a more thorough examination of the ashes of American coals. The constitution of these is. how ever, so different from that of the ashes of English coals, that it by no means follows that any substance occurring in one will be found in the other.

## MICROSCOPIC OBJECTS.

## "All that tread The earth are but a bandful to the tribes That slumber 10 its bosom."

says Bryant, speaking of the human race. With equal truth it may be said that all the hosts of mankind who have been born into the world since the creation, are tut a handful to the countless myriads of beings that swarm in that invisible world which has been revealed to us by the magical power of the microscope. When we reflect that each one of these beings has his own needs and desires, his loves and battles, his career from life to death; and that every drop of every stagnant pool has been teeming with them for immeasurable ages before the existence of the human race, the mind is overwhelmed in the effort to conceive the vastness of this creation. It is an impressive thought that mankind should have lived on the same planet with this world of sentient beings for so many thousands of years without any suspicion of its existence.

It is not strange therefore, that when the discov ery was made, the minds of men should be turned to the examination of their minute, strange and curious contemporaries, and that this study should be prosecuted with ever-widening interest. That this is the case we are very frequently reminded by some improvement in the microscope, by some discovery through its aid, or by some work upon its use.

We have now before us a book of 140 pages on "The Preparation and Mounting of Microscopic Ubjects," devoted exclusively to this department of microscopic observation. The various methods of attaching the minute specks to glass slides, so that they may be brought under the focus of the instrument, as well as the balsams and cements employed, and the different modes of preparing the objects, are very fully and intelligently discussed.

The work is by Thomas Davies, and is published by William Wood & Co., 61 Walker street, New York.

A PINE tree was lately cut in Colebrook, Conn. for the shaft of a big wheel for a Manufacturing company, which worked thirty-six inches in diameter and twenty-six feet in length. The stump was six feet through.

## RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week; the claims may be found in the official list :-

Protector for Baskets .- This invention consists in applying a metallic frame to baskets in order to protect the same or preserve them from wear or injury. The inuention is chiefly designed to be applied to large baskets or those in which weighty substances are conveyed or carried, such, for instance, as bushel baskets used by farmers and others, coal baskets for carrying coal. &c. Baskets of this kind are goon worn, cut, broken or destroyed, in consequence of the weighty substances carried in them, and a metallic frame renders them durable, serving as a support to the basket in holding its contents and likewise protecting it from external injuries, such as blows, concussions, &c. Philip Eley, of New York city, is the inventor.

Means tor Raising Oil trom Wells.—This invention relates to a new and improved means for raising petroleum in wells through the medium of air injected into them. The invention has for its object, first, the keeping of the air passage free from mud, sand, etc., which are liable, in the old plans, to choke all said passage; second, in having the air passage so arranged that it will not interfere in the least with the ascent of the oil in the oil tube, nor the oil interfere with the current of air-due provision being also made for the difference in the exhaustion of the oil tube and well pipe, as well as for the ready connecting and disconnecting of the several parts. The above invention is by Messrs. L. W. Turrell, Samuel Stanton, and L. C. Ward, Newburgh, Orange Co., N. Y.

Winding up Watches.-This invention consists of a main spring barrel composed of two barrels, one inside the other, the outer barrel being rigidly connected with the main gear wheel, and the inner barrel carrying the winding arbor, the main-spring and the maintaining ratchet, or its equivalent, in combination with two stops or dogs, one applied to the inner, and one to the outer barrel, in such a manner that, when the spring is wound up the inner barrel turns independent of the outer barrel until the two stops are in contact, and when the main spring breaks the inner barrel flies back and completes a full revolution. or nearly so before its stop strikes the dog of the outer barrel, and thus the force of the spring is spent, and injury to the mechanism of the watch is prevented. Invented and patented by G. C. Martin, Cleveland, Cuyahoga Co, Ohio.

Roller Cleat for Trunks .- This invention consists in the arrangement of mortises or cavities in the cleat of a trunk, in combination with rollers, the axles of which have their bearings in the sides of said mortises or cavities in such a manner that the rollers can be secured to the cleat without the use of a metal bracket, and a simple, cheap and durable fastening for said roller is produced. The ends of the cleat are made thin and turned up over the edge of the trunk in such a manner that, by the cleat, the edge and ends of the trunk are protected, as well as its bottom, and the cleat is less liable to be knocked off than it is when attached to the bottom in the ordinary manner. John A. Lieb and John Schmadel. of 69 Prince st., Newark, N. J., are the inventors of this improvement.

PURIFYING WATER. - A Mr. H. A. Sheldon sends the following account of an experiment to purify water: -" Having occasion to purify river water which was colored by passing through sw amps containing muck, peat, and other decayed vegetable matter, I tried the usual method with alum, which deposited the mechanical impurities but left the water the color of pale sherry wine. I then mixed 1 oz. powdered alum and 2 oz. clean white clay together, for one barrel of water, made a thin paste and stirred it with the water, which, in twilve hours, was perfectly transparent and color-The precipitate in the latter case was of a ess. dark chocolate, in the former a pale ashen color."

MESSRS. DAVISON, STILES & WOOLSEY, 229 Broadway, are the agents for the traveling and steam cranes illustrated on page 190 of the current volume. All letters should be addressed to them.



### ISSUED FROM THE UNITED STATES PATENT-OFFICE FOR THE WEEK ENDING APRIL 4, 1865.

Reported Officially or the Scientific Amer

F Pamphlets containing the PatentLaws 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 SCIENTIFIC AMERICAN, New York.

47,080.—Cigarette.—L. L. Arnold, New York City: I clam, First, As a new article of manufacture, a cigarette, con structed and combined in the manner described, and, Second, The method herein described of making the same.

47,081.—Cabinet Organ or Harmonium.—Thomas At-kins, Cincinnati, Ohio: I claim so arranging the stops or swells of an organ or harmonium with regard to a common lifting piece, F, operated by a foot or knee pedal, as that they may all, or any one, two or more of theus, be opened or closed by said pedal, without raisin the hands from the keys, substantially as herein described.

47,082.—Manufacture of Blacking, Etc.—Roberts Bar tholow. Cincinnati, Ohio :

tholow. Cincinnati, Ohlo: I claim the manufacture, compounding and preparation of a new and improved kind of oil blacking for leather, boots, shoes, harness and other articles manufactured, in whole or in part, of leather, composed of the ingredients above named, and manufactured, com-pounded and prepared in the manner and for the purposes substan-tially as set forth at large above. I also caim, as a new manufacture, oil blacking for leather and other articles, made by combining petroleum or any of its products, or other hydro-carbonoils, treated substantially as hereinbelore set forth, with any suitable acids, oxides, guns or resins, substantially in the manner specified.

in the manner specified. 47,083.—Oil for Paint.—Roberts Bartholow, Cincinnati, Ohlo: I claim the manufacture and preparation of a new and improved kind of oil for mixing and compounding with white lead, zho, white and other paint oils, and for other purposes, composed of the ingredi-ents above named, and compounded, manufactured and prepared in the manner and for the purposes substantially as set forth above.

the manner and for the purposes substantially as set forth above. 47,084. – Process for Preparing Petroleum for the Manu-facture of Paint, Etc. – Roberts Bartholow, Cincin-nati, Ohio: I claim the manufacture, compounding and preparation of paints for common purposes, of various colors and shades of color, and embracing all colors and shades of color, from crude petroleum and refined petroleum, in combination with subhuric acid, nitric acid, acetic acid, common glue, dry white lead, otherwise known as car-bonate of lead, dry white zinc, otherwise known as oxide of zinc, and other white pigments and pigments of various colors, combined in the proportions and in the manner substantially as set forth above

above
47,085.—Machine for Securing Soles to Boots and Shoes. —John Blakeney, Philadelphia, Pa.:
I claum, First, The screw rod, I, and its internal wire, x, and the nut, composed of the arms G and G', or their equivalents, in combi-ation with the system of gear wheels herein described, or the equiv-lent to the same, whereby the said screw rod is caused to revolve at a faster speed than the nut, for the purpose specified. Second, Two or more cutters, 4 and 7, arranged in the projection, of the rocking frame, in respect to the last, in combination with the soluter, and the dvices here under described, or the equiv-lent to the same, whereby the said support and be dvices here under model of the same, whereby the said support and be dvices here under a data system, in the manner described. Tourd, The support, 24, adapted to the last, in combination with the movable plute, Y and the dvices here in described, or the equiv-alent to the same, whereby the said support can be adjusted verti-cally and laterally, in the manner described. Fourth, The combination of the plate, Y, adjustable plate, 14, whole being arranged and operating substantially as and for the purpose herein set forth.

47,086.—Spring Bed Bottom.—J. Blair Bowditch, New Haven, Conn.: I claim the combuation of the slats, B B, with the wooden springs, D, as herein described, for the purpose specified.

47,087.-Lamp Cone.-Charles H. Buckalew, Jersey City. N. J.: 87. City, J

City, N. J.: I claim the construction of the cone frame with a metallic base id bifurcated connecting arch, with a filling or dome of glass blown cast within the said frame, substantially as berein described and presented. I cl

This improvement relates to the construction of the air cone or fame deflector which surrounds or covers the upper part of the ordi-nary kerosene or petroleum oil lamps. The improvement consists in forming the cone of glass and metal combined. A frame of metal is first made, corresponding to the shape of the cone; this frame is then filled with glass, when hot, by pressure. A transparent cone is thus produced, the use of which results in obtaining probably twenty percentmore light from lamps to which the improvement is ap

plied.]
47,088.—Breech-loading Fire-arm. —John W. Cochran, New York City:
I claim, First, So constructing and applying a breech block, having a movement such as is herein described, as to provide for the inser-tion of the carticidge into the barrel from the under side of the stock of a fire-arm, substantially as herein specified.
Second, Providing a cavity, c, substantially as herein described, in the under side of such a breech block for the reception of the car-tidge when the gun is in the inverted position shown in Fir. 3, whereby the movement of the said block which is necessary for the insertion of the cartridge into the chamber of the barrel is greatly withdrawn from the barrel.
Third, The construction and arrangement of the rear end of the breech-operating lever, e, substantially as herein described, whereby an open any between the said end of the breech block and the stock is avoided.

-Railroad Switch.-J. W. Colwell, Macedonia, 47,089. -

Uhio: First, I claim the gnards, C C' d d', and guard rails, D D', in com-bination with the switch rails, when arranged as and for the purpose set forth.

et forth. ...coud, I clain placing the main track, A A', on a tangent with ndat the junction of the side track, B B. in combination with the uards and guardrails, substantially as and for the purpose specipurp

47,090.—Harrow and Roller Combined.—Wm. H. Con-verse, New Castle, Maine : I claim the harrow, E. fitted in or to the frame, A, substantially as shown, in combination with the bent bar, F, provided with the plate.

# G, and a rear part, g, having a relative position with the harrow teeth, c, as described, the sides, f of F, being fitted loosely on the harrow shaft. D, and bar, F, and harrow. E, connected by a spring, II, the showe parts being applied to the frame c, A, of a roller, C, and all arranged to operate substantially as set forth. [This invention consists in combining a harrow with a roller and

arranging the former in such a manner that it may be readily cleaned from weed, and trash which may engage or become en-tangled in its teeth, and also be capable of yielding to conform to the irregularities of surface over which it may pass.]

-Railroad Car Brake.-David T. Cross, Cincin 47.091. nati, Uhio : I claim the self-acting pawl, K, and its described or equivalent ac ressories. for the object set forth.

47.092.—Trunk Stay.—John M. Dalley, New York City: I claim the use of one or more curved bars or plates moving upon suitable guiding plas in the cover and body of a trunk or other case, arranged and operating substantially as herein described and for the purpose specified. Second, The combination with an ordinary hinge of the curved bar, ha arranged together and operating substantially as and for the purpose specified.

[This invention relates more particularly to traveling trunks, and sists in a peculia; combination of the hinge and stays, wh they serve not only as clamps for strengthening the corners of the trunk, but also afford much more reliable holding stays for the trunk cover when open than the ordinary ones hitherto employed.

47,003.—School Seat and Desk.—Wm. Disbrow, San Francisco, Cal.: I claim the arrangement of the grooved bars, K, and sliding seat, M, with the standards, E, and desk, A, in the manner herein shown and described.]

The object of this improvement is to facilitate the adjustment of the length and inclination of school desks, so that such furniture may be readily changed to suit the wants of pupils, enabling them to

preserve the best bodily positions for health, etc. This is one of the best inventions of the kind that has come to our notice.] -Desulphurizing Ores.-M. B. Dodge, New York 47.094

City: I claim mixing the ore and salt in a drv state and afterward steaming them within a close vessel in a perforated bottom.

This invention consists in treating auriferous or argentiferous or after it has been stamped with steam and common salt, in such a manner that the salt is equally diffused throughout the entire mass. and when the mixture is put into the desulphurizing furnace the full benefit of the salt is obtained, and the sulphur is effectually sep

-Pump Piston.—Wm. Foster Dodge, New York 47,095

47,095.—Pump Fiston.— win. Force. Souge, (ilty : First, I claim the expanding band. D, in combination with the shell, A, having a series of openings through which the pressure of the column of water or other fluid acts against the i terior or the said band, substantially as and for the purpsee herein specified. Second, A piston, composed of a hollow shell, A, having openings, a, in its sides and a valve seat and valve at or near its bottom, and a surrounding band of leather or other soit clastic or flexible mate-rial confined to the said shell between the said openings, by means of rings, c, the whole combined substantially as and for the pur-pose herein specified.

47,096.-Protector for Baskets.-Philip Eley, New York City

City : I claim a metallic (rame, adjustable or otherwise, applied to base ets, in the manner substantially as and for the purpose herein set kets, forth.

47,097.—Screw Steam Valve Cock.—Samuel D. Fales, Central Falls, Snithfield, R. I.: I claim constructing the valve and valve seat for a steam or water valve cock in the manner substantially as described, for the pur-posesspec field.

47,098.—Railroad Draft Bar.—Remy Fiegel, Montgomery

County, Pa.: I claim the boxes, A A', springs, B B' B' B' B', rod, C, bolt, F, and hackle, G, in combination with a builer, E, rigidy fixed to the plat orm of a car, the whole being constructed, arranged and applied so is to operate toge ther, automatially as described and set forth, for he purposes specified. torm of as to ope the pure

47,099.—Remedy for Disease in Trees.—Henry Furnel, Huntington, N. Y.: I claim the combination of the herein-before mentioned ingredi ents, for the purpose set forth, substantially in the proportions de-scribed.

scribed.
 47,100.—Mode of Rendering Wick Incombustible.—E.
 P. Furlong and E. M. Lang, Westbrook, Maine:
 We claim a wick rendered incombustible by saturation or coating, substantially as described.
 Second, Saturating or coating a wick to prevent its combustion, supstantially as described.
 Third, Rendering a wick incumbustible by saturation in plumbago or its equivalents, as described.
 7 101.

or its equivalents, as described. 47,101 —Silvering Glass Pitchers.—John W. Haines, Somerville, Mass.:— I claim the dropping on of the hot glass on the outside rim of the pitcher, and by means of suction with the mouth expanding the solid piece of hot glass into oval shape, producing two copartments, as above described.

as above described 47,102.—Screw Driver and Tweezers.—D. Frank Hart-ford, Boston, Mass.: First, I claim the wires, k k, and pin, j, or their equivalents, in combination with the tweezers and screw driver, substantially as and for the purpose described. Mecond, Throwing the point of the spring, etc., substantially as sct forth and for the purpose described. Third, The spring lever, l, to operate substantially as described in combination with the tweezers, the indentation, n, and shoulder, m, for the purpose described.

for the purpose described. 47,103.—Machine for Cleaning Sheet Iron.—Edmund A. harvey, Wilmington, Del.: First, I claim cleansing sheets of metal by scrubbing and washing them and preventing them being oxydized thereby, by immediately afterward as ubjecting said sheet's to heat, and thus causing all most-ure to be evaporated from their surfaces. substantially as described. Second the combination of the squeezing rollers, E. E., and a heater for quickly drying the abeet, substantially as described. Thind, The rotary ourshee, C. C. in combination with the recipro-cating brushes, D. D., and feed tollers, all arranged, substantially as and for the purpose specified. Pourth, The water tubes, II, in connection with the brushes and feed rollers, arranged to operate, as set forth. Fifth, The heater, I, when used in combination, with the brushes and the ollers, and arringed to operate in connection therewith, for the purpose described. 47.104.—Screw Windlass and Capstan.—Henry Heit-

47.104. -Screw

crew Windlass and Capstan.-Henry Heit-Brooklyn, N. Y., and John Radican, New man, York:

York: First, We claim the gear wheels, V Y, applied in combination with the gear wheel, D, worm wheels, L L, captan, E and windlass, I I, substantially in the manner is herein set form the unidasses, and a more rolls coverful force can be exterted, seconding to the work be accombilised. Second, The combination of the captas, barrel, E pawls, G G, and bothed wheel, D, with pawls, F F, and with stationary locks and the bedpitte, B, subtrantially as descript, d, so that by a simple change of the pawls, F and G, the capstan arrel can be used inde-pendently or in connection with the parts in which motion is im-parted by the gear wheel, D.

47,105.—Cultivator.—George F. Hassenpflug and George Barnhart, Green Township, Ohio: We claim the frame, a c, when constructed as described in combi-nation with the plow standards, b b b b, the same being attached, as specified.

as specined. 47,107.—Manufacture of Sweat Proof Paper Collar.— James H. Hoffman, New York: I claim the manufacture of sweat proof paper collar, with the composition, substantially as described, applied in the manner sub-stantially set forth.

47,108.-Car Coupling.-Edward P. Howland, Worces-

(100.---Oat Courties) ter, Mass.: I claim the drop bar, B, made in shape substantially as herein lescribed. having a pin, c, and shoulder, o, near its lower end, and when part of the same is made with wrought iron, with metal cast round it, substantially as and for the purpose set forth. W F Keeler, La Salle, Ind.:

This invention consists in a governor to regulate speed and indi-cate speed a:tained, wherein a column of mercury is employed to restore the moving parts to their normal condition, and to measure the speed or power attained by the machinery to which the governo is attached

47.110 -Melodeons -William Kinnard and J. B. Dreher.

Cleveland, Ohio. We claim First, Hanging the door or panel to the case in combi-nation with the treadles, substantially as and for the purpose de-scribed. Second, We claim the arm, G, and rod, H, In combination with the levers, I and J, and swell, substantially as and for the purpose described

described. Third, We claim the hinged panel, A, treadles, B, in combination with the arm, G, rod, H, and levers, I J, substantially as and for the purpose described.

47,111 -Stove Pipe Damper.-Hiram Kipe, Thornbury,

I claim combining with an ordinary stove pipe a wind wheel, T, a spindle, d, and ball governor, Q, for operating a throttle valve, V, substantially as above described. [The object of this invention is to provide an automatic valve ar-

rangement for use in stove pipes for domestic use more especially, and it consists in the application within the pipe of a wind wheel which operates the valve through an ordinary ball governor.]

47,112.—Mattress.—Robert Krause, New York: I claim the application of a movable partial frame, adjusted by a screw and held in position by spring tongues, to any common mat-tress frame and spring bottom, by means of which frame, screw and spring tongues any spring bed mattress can be turned into a com-fortable bed without the aid of cushions and pillows, as here described

47.113.-Manufacture of Bolts.-William J. Lewis, Pitts-

1,113.—Maintacture of boits.— Winthin 5. Lewis, 1 the burgh, Pa.: I claum making bolts with square necks from old iron, by first staving up or enlarging that pirt of the rod intended for the neck previous to the formation of the square, and subsequently squaring that part by compression or otherwise, without reg d to the nature of the tools used for that purpose.

47,114.—Roller Cleat for Trunks.—John A. Lieb and John Schmadel, Newark, N. J.: We claim, as an improved article of manufacture, the trunk cleat, A, provided with rollers, b b, inserted in mortises, a a, all as herein specified.

specified. 47,115.—Heel and Toe Plate for Boots and Shoes.—Ira E. Loughborough, Pittsford, N. Y.: I claim the external plate, b, when provided with projecting lips, c, and points, e, it being secured to the boot by the clamping life. r lifts, f, which are nailed on within the endrellng rim of the plate, the edge of the lifts being entirely protected from wear by the said rim or dense.

47,116.—Watches.—G. C. Marten, Cleveland, Ohio.: I claim a main spring barrel constructed of an outer barrel, B an inner barrel, C. which are provided with stops, d e, and comb with the main spring, winding arbor and retaining power, in manner and for the purpose substantially a. herein set forth. ned the

Manner and for the purpose substantially as herein set forth.
 47,117.—Furniture Caster.—W. T. Mersreau, Newark, N. J.:
 First, I claim the ball or roller, B, prov ded with the journals, b, when the same shall be constructed as shown, for the purpose specified.
 Second In combinent.

ned. Second, In combination with the same, I claim the base, A, ring, C, and collars, 4 d2, when the same shall be combined substantially as shown, for the purpose set forth.

47,118.—Boiler Furnace.—J. A. Miller, New York: First, I claim the slits or openings a st in combination w

47,118.—Boiler Furnace.—J. A. Miller, New York: First, I claim the slits or openings, a a, in combination with the horizontal pasages, E. in the side walls of the fire chamber, and with the ducts, D, in communication with the ash pit, substantially as and for the purpose herein specified. Second, Giving the openings, a a, an inward horizontal inclination toward the bridge wall or rear of the fire chamber, substantially as and for the purpose herein specified. Third. The pier, G, and side opening; c c, over the fire bridge, in combination with a system of stilts or openings, as for the admis-sion of air through the side walls of the fire chamber, substantially as and for the purpose herein specified. Fourth, The laterally oblique arrangement of the perforations, g , in the back or inner screent, I, of the life door, substantially as and for the purpose herein specified. Firth, The hollow hinge, h i, in combination with one or more openings, m n, in the door or the front and with a pipe, j, for the distribution of air form a blowin apparatus, where a current or currents of cold air are discharged in thin sheets across the open doorway, substantially as and for the purpose herein specified. 47.119.—Manufacture of Packing for Pistons, ctc.—Ivon

doorway, substantially as and for the purpose herein specified.
 47,119. — Manufacture of Packing for Pistons, etc. — Ivon B. Miller and Wm. H. Miller, Philadelphia, Pa.: We claim, First, The application of dry powdered substances to the fibrous material for the manufacture of packing in the manner above described, or any other substantially the same, and which will pro-duce the intended effect.
 Second, We claim the florous braided cover as applied to packing, in the manner and for the purpose above described, or any other substantially the same, and which will produce the intended effect.
 Third, We claim the application of powdered substance to the fiber substantially the same, and which will produce the intended effect.
 Fourth, We claim the use of the cover made of one kind of fiber and the inside of filing made of another kind, without the use of powdered substantially the same, as a bove described, or any other substantially the same, and which will produce the intended effect.
 Fourth, We claim the use of the cover made of one kind of fiber and the inside of filing made of another kind, without the use of powdered substance, as above described, or any other substantially the same, which will produce the intended effect.
 47,120. — Construction of Albums, John D. Meter Du-

47,120.-Construction of Albums.-John D. Mets, Du-I claim connecting together the leaves of books by means of strips of leather, cloth, or the equivalents thereof, applied substantially as described. buque. Iowa:

described.
47,121.—Mode of Taking Casts from the Face of Living Persons. Clark Mills, Washington, D. C.: I claim the mode of process herein described.

17,122.—Valves for Steam Engines.—Albert Morton, South New Market, N. H. I claim the use of two port covers, C C', on eat each end of the alve and connected together by a rod or rods or their equivalents 47.122.

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in combination with the crosshead, D, and regulating rod, g, con-structed and operating substantially as and for the purpose set forth [This invention consists in the use of two port covers one at each end of the valve connected together by a rod or rods or their equivalents applied in combination with a crosshead and screw-rod  $\epsilon$  valve in such a manner that by turning said screw-rod either d. and hand or by the action of the governor, the steam is cut off at any desired point or the speed of the engine is regulated automatically if desired in a simple and effective way.]

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47,123.-Refrigerator.-Owen E. Mosher, New York

City: City: I claim the combination of the ice chamber, B, trough, C and water tank, D, when the said parts are constructed and arranged in he manner and for the purposes herein specified. [This invention consists in applying a water tank to a refrigerator

having an ice chamber fitted in it in such a manner that the water in the tank will be kept at a low temperature and the water drawn from the tank as required for use. The object of the invention is to btain cool water from a refrigerator without using the waste water from the ice champer which always has an unpleasant flavor.]

47,124.-Baling Press.-George C. Paine, San Francisco,

Call: I claim, first, The peculiar arrangement and construction of the double toggie levers connected with the follower, D, in combination with the chain or ropes, s. pulley, H H, and friction rollers, g, whereby I am enabled to locate the shaft and wheel on the outside of the vertical press box for the purposes deacribed. Second, The levers, I N, and bars. n n, connected together and ap-olied to the top, K, of the press box as shown, in combination with the catches, L L, all arranged substantially as and for the purpose herein set forth. Third, The loops or catches, R R, applied to the shafts, p, con-nected at their upper ends by the rol, q, and cranks, r r, and ar-ranged relatively with the sides, O O, substantially as and for the purposes herein set forth. Fourth, The connection of the pintles of the hinges of the side do ors, O, by means of the pulleys, P P, and cross chain, Q, sub-stantially as and for the purpose specified. 47,125.—Apparatus for R-effning and Distilling Petrole-

47,125.—Apparatus for Refining and Distilling Petrole-um.—James Perkins and Wm. H. Burnett, Newark,

um.—James Perkins and Wm. H. Burnett, Newark, N. J.: First, We claim the combination of the receivers, C and K, with he agitator, N, and s dimen' receiver, M, substantially in the man-er and for the purposes described. Second. We claim the combination of the parts, C E K N and O, ubstantially in the manner and for the purpose described. Third, We claim the "ake of the exhaust pump., H and R, in com-ination with the d.stilling and condensing apparatus described sub-tantially in the manner and for the purposes set forth.

stantially in the manner and for the purposes set forth.
47,126.—Feed Wheel as a substitute for Ratchets or Pawls.—O. C. Phelps, New York City: I claim the combination of the shifting apparatus above described with said wheel and clutch as and for the purpose herein set forth.
47,127.—Percussion Cap-holder for Fire Arms.—Rufus S. Pickett, New Haven, Conn.:
F rst I claim the combination of the ratchet wheel with the endless belt and the forward study. when the whole is constructed and fitted for use substantially as herein described.
Second, I claim the combination of the endless belt with the guide, m, and cup, I, when the whole is constructed, and fitted for use substantially as herein described.

47.128.—Harvesters.—Amos Rank, Salem, Ohio: Fist, I claim the combination of a hinzed platform with a guard, g, and guard levers, h, when the rear ends of said levers are at-tached by a sliding connection to the platform substantially as de-scribed.

Secribed. The connecting of the ball or guard, g, at a fixed point to be called a standard of a platform in such a manner that while the ball is always connected to the platform the bearing point i, of the line always remains the same substantially as herein described. Third, The arms, b b, applied at the ends of the gu d, g, substan-tially as described.

47,129.—Churn.—John Rankin, New York City: First, Iclaim the use or employment of a blower for forcing a blast of air into the churn box, substantially as described, in combi-nation with two screw dashers arranged one above the other and so as to create a circulation of the cream, all as and for the purposes set forth herein befree. Second, I also claim the employment in combination of two screw dashers, one above the other when one feeds from the middle to ward each end, and the other feeds from each end toward the middle.

middle. Third, I also claim the employment of the internal and external gears, i, and pinions, f g, in combination with the friction rim disc, k, and friction pulley. m, of the blower shaft, the whole ar-ranged and operating as specified. 47,130.-Steam Boiler.-Edwin Reynolds, Mansfield,

Conn.: claim the arrangement nd construction of a boiler substan-ly as described.

taily as described.
 47,131.—Machine for Cutting Tobacco.—F. W. Ritterhoff, C. A. Colquitt and William Mulchahey, New York City:
 We claim the slotted adjustable disk, L. in combination with the lever. K, ratchet wheel, J. screw rod I, and follower, H, constructed and operating substantially as and for the purpose described.

and operating substantially as and for the purpose described.
47,132.—Process for Preserving Wood.—Louis S. Robbins, New York City:
I claim the process herein described for preserving wood from mold and decay, the same consisting in first removing the surface molisture from the wood and then changing and suturating the same with hot cleaginous vapors and compounds substantially as lerein described.
As or removing the surface moisture from wood by means of hot cleaginous vapors substantially as herein described. A so removing the surface moisture from wood by means of hot oleaginous vapors substantially as herein described. 47,133, — Oil Well Pump. —John B. Root. New York City: I claim, first the encloyment, in an oil well of an additional tube so arranged and upplied in combination with the oil tube and an ex-hausting pump, that while it permits the exclusion of water from the lower part of the well by means of the seed has. It provides for the escape of the gaves from the well, substantially as herein de-scribed. The arrangement of the tube, C, surrounding and con-nected with the upper part of the well substantially as herein de scribed, whereby the oil tubeand oil pump may be removed without disturbing the seed bag.

46,134.—Churn.—Sarah E. Saul, New York City: First, I claim the laterally sliding covers, C C, in combination with the dasher shaft as and for the purpose herein shown and described. I also claim the haid rest, F, in combination with the crank, E, substantially as and for the purpose herein shown and described. [This invention relates to a new and improved churn of that class in which a rotary dasher is employed, and it consists in a dasher of such construction in connection with sliding covers, and also in con-nection with an angular cream box or receptacle; and further in the employment of a hand rest with a crank, whereby it is believed several advantages are obtained over ordinary churns of the class

47,135.—Clasps for Clothing.—Chandler Seaver, Boston,

A (133.—Chapper for Crothing.—Chandler Seaver, Bost Mass.: I claim m) improved clothes fastener attachment, the same of sisting of the plates, a and d, and the stud, f, they being constru-and to operate in connectio. with an eyelet or hole in the outer of the garment substantially in the manner as herein before plained.

47,136.—Base Burning Store.—S. B. Sexton, Baltimore, Md.: First. I claim a base burnlug store, which is so constructed that

M.1.: First. I claim a base burning stove which is so constructed that the gas which is generated in the coal supply cylin ær. C. can be con-ducted off through the too plate of saul cylinder and around the teed opening at pleasure substantially as herein described.

cified ]

Second, A chamber, D, with a valvular bottom and escape plpe, d, arranged over the coal supply cylinder or magazine of a base burn-ing store wubstantially as described. Third, The draft flues, c , when carried out of the top of the chamber, B, and conducted into a chamber, a, having an ascending flue leading out of it substantially as described. Fourth, The combination in a base burning store of the projecting ledge, h, formed on the lower edge of the opening, through case, J, and a flanch, i, projecting from the base rim of the cylinder sur-rounding the chamber, B, substantially as described. Fifth, The application of a supplemental grate, S, to the magazine of a base burning storesubtantially as described.

250

of a base burning stovesubstantially as described. 47,137.—Manufacture of Propellers.—James Sutherland, New York City: I claim constructing a propeller out of two parts by forming the hub of each part substantially as herein shown and described and itting the two parts together as and for the purposes set forth. (This invention consists in constructing the propeller in two parts y so forming the hubs of each half that the cams fit together and come a prefet buh and a parallel marked them allowing the much of the state of the set of the purposes of the purpose of the set of the

form a perfect hub and propeller wheel, thus allowing the wheel to be forged of wrought iron and producing a propeller of superior strength, lightness and durability.]

strength, lightness and durability.]
47,138.—Machine for Distributing Fertilizers.—J. H. 'Thomas and P. P. Mast, Springfield, Ohio: First, We claim the stats or strips, C, suspended from the bar, B, and projecting down through the opening in the bottom of the hop-per, A, when connected at the bottom by bar, d substantially as and for the purposes set forth. Second. The shafts, C, pivided with the projections, a and e, as and projecting down through the distribution with the bar, D, and bottom pieces, F and F, as and for the purpose set forth.
47,139.—Device for Raising and Lowering Lock Gates. —William Thomas, Ottawa, III.: I claim the combination of the block and tackle, the roller levers, ratchet whee's, the pavis, the springs and frame of the machine being operated and used as herein before set forth for the uses and purposes aforesaid.
47,140.—Medical Compound Lobr.

47,140.-Medical Compound.-John Thurmon, Pike County, Mo.: I claim the medical compound prepared as described.

47,141.—Insulator for Telegraph.—S. F. Van Choate, New York City: Iclaim, first, the combination of the cavity, A, face plate, D, and pin hook, C, for the purposes set forth. Second, The wooden bracket, B, plate, D, and hook, C, as above combined when coated with the composition as above, and for the purposes set forth.

purposes set forth. 47,142.-- Addressing, Machine.--N. E. Warren, Cleve-land, Ohio, and G. W. Warren, Hillsdale, Mich.: We claim, first, The curved lever, C C, operated by the bent spring, G, in combination with the adjustable head, D, when arrang-d und operating as herein set forth. Second, We claim the pail, F, rock shaft, L', slotted rm, L'', and adjustable rod, J, in combination with the quod ratchet, i, operating as specified.

ljustable rod, J, in combination with the quod ratchet, i, operating s specified. Third, We claum the adjustable head, D, with the faces, d d', ar anged and operated as and for the purposes specified.

ranged and operated as and for the purposes specined.
47,143.—Railway Carriage.—True West, Roxbury, Mass.:
Icl im the combination and arrangement of the four struts, E E
E, the four pendulous rods or hangers, F F F, and the two semi ciliptic springs, GG, disposed on each side of the truck frame, R, with the suid frame, the axle boxes, CG, thereof, and the platform or carriage bedy, A, the whole being substantially as represented in Figure 1, of the drawings a herd n before explained.

Figure 1, of the drawings a herd'n before explained. 47,144.—Electro-magnetic Musical Instrument.—Lo-renzo Wesson, Chillicothe. Ohio ; First, Iclaim an electro-magnetic apparatus for playing music with variable power or expression, by automatically varying the bat-tery power exerted on the magnets to accord with the number of magnets in use or with the strength of sound required, in any man-Second, Iclaim a music board, B, provided with independentmov-able type, acting upon or constituting circuit breakers or circuit dosers, to regulate or govern Lie Kone, power or length of sounds Third, I claim the key board, C, connected with a series of mag-nets, and constructed substantially as set forth, with two or more circuits, by which any of the said magnets may be put in action at will.

will. Fourth, In combination with the key board, C, and series of mag-nets, I claim the levers, G, plates, I, and wires, J, all arranged as described, and adapted to operate substantially as and for the pur-rous set form

nets, I claim the levers, G, plates, 1, and macho, and described, and adapted to operate substantially as and for the purpose set forth. Fifth, Ic combination with the electromagnets, E E' E2, music bor d, B, and additional battery, F', I claim the lever G, operating substantially as described, to open communication between the additional battery and magnets, when required.

47,145,...(hurn,...Ilenry P. Westcott, Seneca Falls, N. Y.: I claim, First, The employment, in combination with the arm, E, lever, D, and arc, g, of a spring, f, substantially as and for the pur-pose set forth. Second, I claim the use of a bellows, B, or tts equivalent, in combi-nation with the receiver and dasher haft, in the manner and for the purpose substantially as set forth. Third, J claim the peculiar form of upper dash shown in de-scribed, for the specific purposes set forth.

scribed, for the specific purposes set forth. 47,146. — Pump. — Joseph F. White, Keene, N. H.: I claim the combination in a double-acting pump of a valve chest, White provided with transmistar valve chambers, A, with a rotating travelet, carrying that a direction s, and are which have partial ro-tary motion, in borizontal direction s, and are which have partial ro-taring valves, substantially as above described.

[This invention consists in a double-acting force pump, in which the pistons are made to extend radially from a hollow pump tube which rotates with the pistons.]

47,147.—Apparatus for Dividing Sugar in Blocks.—Wm. H. Whitmore, Boston, Mass.: I claim the combination of the concluit, one or more saws, and the separators, arranged substantially in manner and so as to operate as specified.

we

ecified. (148.-Oll Ejector.-George L. Witsel and Edward Burke, Phikadelphia, Pa.: We claim the combination of condensing and exhausting pumps, conjunction with induction and eduction pipes, arranged within n well, substantially as and for the purposes described. Second, Connecting both the exhausting engines to a lever, which caives a rapid vibrating motion, substantially as and for the pur-ses described.

poses uescribed.
17,149.—Bow Pin for Ox Yoke.—Orville O. Woodruff, Killingworth, Conn.:
I claim the combination of the two levers, AA. constructed with man, D, substantially as and so as tooperate in the manner and or the purpose specified.

tor the purpose specified.
47,150.—Window Cord Fulley.—Wm. C. Ames, Hartford, Conn., assignor to Landers & Smith Manufacturing Co., New Britain, Conn.:
I claim as a new and improved article of manufacture, viz.: a window or Bash cord pulley case, having the face plate, a, midway, or nearly so, of the case, a, to to be attached to the back side of the i mb casing of the window frame, substantially as described.

47,151.—Mode of Weaving Fabrics with Button Holes therein.—John Conner (assignor to himself and Henry A. Ayling), Boston, Mass.: I claim the improvement in weaving suspender webbing, etc., to form button or other similar holes therein, by the employment of a reed having a construction, and operating in the manuer substan-ually as set forth.

47,152.—Mangle.—Josee Johnson, New York City, as signor to John Ward, Jr., Brooklyn, N. Y. Ante-dated March 30, 1865 : I claim the combination and arrangement of the screw, Q, the

spring, O, and the links, N, with the rollers, B' and B, and the frame, A, substantially as and for the parpose set forth.

A, substantially as and for the purpose set form.
47,153.—Seed Drill.—Griffith M. Murphy (assignor to Lyman S. Paine), Lewisburgh, Pu.:
I claim, First, A sliding or transferable spring, g, whereby the power required to throw the drill tube out of working position may, at the will of the operator, be increased or diminished, substantially as described.
Second, The arrangement of the lever, C, entirely above the drag bar, A, substantially as described.

47,154.—Shaft Coupling for Carriage.—Francis B. Morse New Haven, Conn., assignor to Frederick C. Day

New Haven, Conn., assignor to Frederick C. Day-ton, Jr., I claim as a new article of manufacture a shaft coupling com-nosed of a lack or stationary part, forged with two eyes, and a cav-ty for retaining an elastic presser, an elastic presser and a plain lead with one eye, when constructed, combined and fitted for use, ubstantially as herein described.

47,155.—Forming Skeleton Skirt.—Datus E. Rugg, New York City, assignor to himself, F. S. Otis, Joseph I. and J. O. West, Jedediah Wilco & Co., and Henry Piohendoon:

York City, assignor to himself, F. S. Otis, Joseph I, and J. O. West, Jedediah Wilco & Co., and Henry Richardson: Iclaim the method herein specified of shaping or forming ladke<sup>3</sup> skelet on skirts by sustaining the hoops in the proper position rela-tively, while being connected together by tapes, galloous, or their equivalents, for the purposes specified. 47,156.—Railway Car.—Signor Vallo (assignor to him-self and Joseph Chapman), Philadelphia, Pa.: I claim, First, Connecting the foot pieces, E E E E, with the springs, J, by means of the legs, FFFF, bars, GG, and spring seats, H H H, substantially in the manner and for the purpose above de-scribed.

If if H H, subtabliary in the mainter and for the purpose above de-second, Combining the spring seats, H H H, with the bars, G G, by means of the pins, e e e, on the inner edges of the said seats, and corresponding holes m the bars, G G. Third, The combination and arrangement of the foot pieces, E E E, with the legs, if F F, by means of the hinges, a, and springs, a', substantially in the manner and for the purpose above described. Fourth. Combining the rods, M M, with the foot pieces, E E E E, and guards, L L, to prevent the said foot pieces swinging forward by the motion of the cars, and also to allow them to be borne agai st the wheels at the proper time, substantially in the manner described and for the purpose set forth.

17,157.—Brush.—Albert M. White (assignor to himself and Barnard Larvey), Port Chester, N. Y.: I claim the mode of securing the several bunches of bristles in the iolid back of a trush, by means of separate staple like wires, C, ap-bled substantia ly as berein described.

plied substantia ly as berein described.
47,158.—Apparatus for Concentrating Liquids.—Chas. A. Wood, Dorchester, Mass., assignor to Daniel C. Hood, of the same place, and W. H. S. Jordon, West Roxbury, Mass.:
I claim as an improvement in vacuum pans the pan, A, in combi-nation with a steam jacket, D, of wood or other non-conducting ma-terial, operating substantially as set forth. for the purpose specified. I also claim an enatic packing for the joints of vacuum pans, op-erating substantially as described.
I also claim the within-described apparatus for conducting liquids, and dome, C, and the condenser, HI I, the whole combined and oper-ating substantially as et forth.
47,159.—Buckle.—Charles E. Woodman and Charles B.

and ubulk, or and the consister, if i, the whole combined and operating substantially as set forth.
47,159, -Buckle. -Charles E. Woodman and Charles B. Hatfield (Assignors to Charles E. Woodman), Boston, Mass.:
We claim the combination and arrangement of the holding bar, b, and the straight-edged tongue, C, with the bar, a, the overlapping tonge, B, and the buckle frame, A.
We also claim the combination and arrangement of the compound or double tongue, C, and the bar, b, with the overlapping tongue, B, and the bar, b, or its equivalent, the bar, d, and the frame, A.
We also claim the combination and arrangement of the compound or double tongue, C, the bar, b, or its equivalent, the bar, d, and the frame, A.
We also claim the combination and arrangement of the consponder double tongue, C, the bar, b, or its equivalent, the bar, d, and the buckle frame, A.
We also claim the combination and arrangement of the cross bar, d, with a single tongue and an overlapping tongue, and the buckle frame.

frame, A.
We also claim the combination and arrangement of the cross bar, d, with a single tongue and an overlapping tongue, and the buckle frame.
We also claim the construction of the overlapping tongue with a slot, or its equivalent arranged within it, substantially in manner and for the purpose set forth.
We also claim the combination of the connections, e e, with the two cross bars, a b, and the tongue, B, applied to them, the said bars and the buckle frame, as specined.
47,160.—Preparation of Materials to be Used in the Purification of Gas.—Alexander A. Croll, London, Eng.:
I claim, First, The combining the neutral saits referred to, or as substantially as described.
Second, I claim the use or application of the chloride or sulphate of manganese referred to with charcoal or wood sawdust, as a disinfectant.
[This inventionrelates to combining neutral saits, or saits as nearly

[This invention relates to combining neutral salts, or salts as nearly

cellular matter, and employing such mixture after it has been allowed to cool, for the purlfcation of gas.]

47,161.—Cork Pull.—Frans Gustavus Bielefield, Berlin. Prussia, and Charles C. E. Schwartz, Hamburg: We claim the combination of the rod, B, the metallic spring, C, and the button, D, substantially as and for the purpose specified.

47,175.—Writing Tablet.—Thomas Weaver, Harrisburg, Pa.: I claim, First, The construction of a tablet attachment for the hand that moves with it and under it, and presents a continuous writing surface under the pen or pencil, whose parts are so propor-tioped and arranged as to form, when folded, a pocket vade mecum. Second, The combination and arrangement of the paper case, M X'N X, with the rells, M N, their driver, Q, the tablet leai, L A, its becaring, Q, its spring, A; also with the digital leaf, B K, its hinges, K IY, its key hole, B, its stopper, R', for the ink bottom, B', stu-ated in the hand side of paper case, substantially as and operating in the manner as herein described and set forth. Third, The combination and joint operation of the metscarpal plates shown in Fig. 3, with each other, and with the digital leaf, B K, and with the carpal plates shown in Fig. 2 and 6, by means of the slot, F, the keyhole, E, the concave-convex slots, D D', their Fourth, The combination and described. Fourth, The combination and arrangement of the carpel plate, shown in Fig. 9, and the wtrist by the hinged locking bracelet shown in Fig. 9, and the wrist by the hinged locking bracelet shown in Fig. 9, and the wtrist by the hinged locking bracelet shown in Fig. 9, and the wtrist by the banged nocking bracelet shown in Fig. 9, and the wtrist by the banged locking bracelet shown in Fig. 9, and the wtrist by the banged locking bracelet shown in Fig. 9, and the wrist by the banged locking bracelet shown in Fig. 9, and the purposes herein set forth. 47,176.—Movable Fire-place with Gridiron Attachment, 47,162.—Drying and Charring Peat.—Fred'k Ludewig Hahn Danchell, London, Eng: I claim, First, The improved arrangement of the apparatus for drying blocks of peat, as shown and described in reference to sheet 1, a d particularly the arrangement of the endless bands and rollers, by which the blocks are turned over in passing from one set to an-other.

other. Second, The arrangement and distribution of the air passages of the apparatus for drying pest. Lastly, The application of a steam blast for producing the requi-site currents of air fordrying and charring peat or other carbona-ceous substances

ceous substances 47,163.—Breech-Loading Fire Arms.—Cyprien Chabot, Philadelphia, Pa.: I claim, in combination with the hinged breech block swinging upward and for ard, the lever, H, and its latch hung thereto, but so as to have a degree of motion indevendent thereof, and the spring bolt, e, for the purpose of locking the breech block when down, and for unlocking it by the same motion that raises up again, as herein described and represented.

escribed and represented. 7,164. —Windlass for Tightening Ship's Standing Rig-ging.—Jasper G. Codmus, Port Richmond, N. Y.: I claim the frame, 4 suspended by the eye, e, from the rope or hroud to be tightened, in combination with the winch barrel, f, and hand spike or lever to turn said winch barrel, as and for the pur-oses specified.

47,165.—Platform Scales.—James H. Conklin, York-town, N. Y.: I claim the combination of the lever, A, with the other parts, C and F, of a scale, in the manner and for the purpose substantially as set forth.

set forth. 47,166.—Steam Pressure Indicator.—W. M. Davie and Charles T. Webber, Janesville, Wis.: We claim the arrangement of the soroll spring, c, the cylindrical box or chest, a, shaft, c, pulley, I, chan, K, connecting rod, d, cross bar, f, and hand wheel, g, substantially as and for the purposes set cortex. 47.167.

47,167.—Washing Machine.—John H. Duck and Erwin S. Gould, Elgin, Ill. We claim the pluion, N, and wheel, T, in combination with the shaft, C, and rubbers, O' O' O'', constructed and operated sub-stantially in the manner and for the purpose described.

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47,168.—Mining and Tunneling Machine.—Herman Haupt, Cambridge, Mass., and J. Y. Smith, Alexandria, Va.:
First, We claim the pick or series of picks in combination with a mechanism for imparting rotary motion thereto, to operate in the manner and for the purpose substantially as herein set forth.
Second, We claim the method herein described of mounting the pick or picks upon bevel gear disks, bevel gear and driving pinion being at a near the circumference of said disks, as set forth.
Third, We claim the method of hanging the rotary pick disks in a substantially as set forth.
Fourth, We claim the method of hanging the rotary pick disks in a swinging frame so arranged in relation to the gear mechanism as that a translatory movement may be imp red to picks without interferine with them rotation.
Fith, In combination with the swinging frame and rotary picks, we claim the method normality as set forth.
Stribd, in a swinging frame, substantially as set forth.
Stribd, We elaim the sourcing of a mechanism in for laterally reciprocating the contain for the sparatus substantially as as forth.
Stribd, We elaim the substantially as a forth.
Stribd, We elaim the stationary cutter in front of the same relay reciprocating the swinging frame, substantially as and for the purpose set forth.

Trame, under or between the stationary cutter in front of the purpose set frame, under or between the rotary picks, for the purpose of remov-ing the core of the ore or coal, substantially as set forth, Eighth, We claim locating within the winging frame a shaft pro-vided with pinions at either end thereof, and arranged in relation to the gear mechanism so as to receive from the prime mover and im-p rt to the picks rotary movement, substantially as herein set forth.

-Beehives.-William Henschen, Hennepin Co., 47,169.

Minn.: I claim the arrangement in the construction of a straw beehive of I straw rope, or layers of rope, with the splints, I, top frame, C, and and bottom frame, D, substantially as and for the purposes herein lescribed.

47,170.—Lubricating the Packing of Stuffing Boxes, etc.
 47,170.—Lubricating the Packing of Stuffing Boxes, etc.
 —Ivon Bruce Miller and William Hartley Miller, Philadelphia, Pa.:
 We claim the application of the substance, mode and material above described to the stuffing boxes or other joints of cugines or other machinery, or any other substantially the same mode and material

above description of the substantially the random model of the machinery, or any other substantially the random material. Second, We claim the application of the above material to other materials used for the manuacture of packing, as cotton and hemp saturated with it. Third, We claim the application of above material, or any other substantially the same, to the rod or stuffing box, or to the packing thereof, by using it through the cylinder of the engine or any other application thereof whereby the rod will carry the sail material to the packing.

Third, We claim the application of above material, or any other substantially the same, to the rod or stuffing hox, or to the packing thereof, by using it through the cylinder of the engine or any other application thereof whereby the rod will carry the sail material to the packing.
Fourth, We claim the substance above described as an adjunct to the various patent packings.
Fifth, We claim the mode and material above described, or any other substantially the same, and that will produce the interded effect, as a cover or coating in place of multil nor other material for ropepacking, as applicable in the packing made of powdered and fibrous substance. for instance.
Sitth, We claim the above described material as applied to the packing of pistons of engines and pumps.
47,171.—Braiding Guide for Sewing Machines.—Louis Planer, New York:
I claim, First, Iroviding the groove, J, with a concave bottom, and a spring, L, to operate in the manner and for the purpose herein specified.
Second, The arrangement of the set screw, M, with spring, L, for the bottom of the groove, J, substantially as herein set forth.
47,172.—Ground Augur.—David Ring, Damariscotta, Me. Antedated March 26, 1865.
Iclaim, First, The disks, D and E, provided with the top and bottom cutters, h and J, substantially as set forth, and for the purpose described.

described. Second, Rendering the borer expansible by means of the oblong slots, f. substantially as described.

slots, f, substantially as described. 47,173.—Lamp for Burning Oil.—Thomas S. Speakman, Camden, N. J.: I claim, First, The use, in combination with lamps for burning animal, vegetableor mineral oils or fatty matters, of a wick, or its equivalent, for conveying to the fame a supply of water substan-tially as and for the purpose herein set to rth. Second, The use of the heat of the fame for producing the aqueous vapor which is conveyed to the fame.

All the set of the fame for producing the aqueous vapor which is conveyed to the fame.
 47,174.—Oll Ejector.—L. W. Turrell, Sami. Stanton and L. C. Ward, New York City:
 We claim, First, A contrivance for raising oil like that hereinbefore described, that is to say, one wherein the oil is drawn up through a central passage or tube the round which is an annular passage or tube through which the compressed at is made to act upon the oil, substantially in the manner and for the purpose described.
 Second, The manner of securing the internal tube, F, within the internal tube, A, by means of the perforated disk, E, and the coupling clamp, G, substantially as described.
 Third, The manner of securing the tube, J, in its position by means of the disc, K, and coupling clamp, H, constructed and arr nged substantial tube, arranged in the manner and for the purpose above described.

47,175.-Writing Tablet.-Thomas Weaver, Harrisburg,

as and for the purposes herein set forth. 47,176.—Movable Fire-place with Gridiron Attachment, —S. W. Wetmore, Eric, Pa.: I claim the movable fire-place, constructed with narrow sides, to be placed in the nature of a failse door, in the doorway of the cooking stove, and to be used in connection with the adjustable folding grid iron suspended before it.

DESIGN. 2,041.—Show Case.—George Q. Pragnell, New Yo City : I claim the design above described for the rails of a show case.

REISSUES.

1,926.—Shirt Collar.—Wm. E. Lockwood, Philadelphia, Pa., assignce by mesne assignments of Walter Hunt. Patented July 25, 1854: Iclaim so indexting shirt collars made of a fabric composed of paper and muslin, or an equivalent fabric, that the indentations will represent the stitches of an ordinary dressed linen collar.

1,927.—Shirt Collar.—Wm. E. Lockwood, Philadelphia, Pa., assignee by mesne assignments of Walter Hunt. Patened July 25, 1854: I claim a shirt collar made of a fabric composed of paper and

-Show Case.-George Q. Pragnell, New York

muslin, or an equivalent fabric, having a smooth white surface coated with transparent varnish, for the purpose specified.

coated with transparent varnish, for the purpose specified. 1,928.—Revolving Fire-arm.—Roilin White, Springfield, Mass. Patented April 13, 1858: Iclaim in that class of arms consisting of a fixed barrel with a ro-tating cylinder having a series of parallel chambers, which are brought in succession in line with the barrel to be fired, making a recess or aperture through the breech, and communicating with, but of less area than the rear end of the chamber, and of a form, sub-stantially as described, suited to and in combination with the ham-mer, or the equivalent thereof, to strike through such recess against the rear end of the cased cartridge which contains the fulminate priming, as set forth.

1.929.

ming, as set forth.
329.—Tobacco Pipe.—The Tobacco Pipe Company, Baltimore, Md., assignees by mesne assignment of Andrew J. Bowen. Patented June 10, 1862 : We claim. First, The two tubes or channels, a and b, in the stem, combination with the bowl, c, and cup or receptacle, d, as herein forth.
Second, The device by which the cup or receptacle, d, is attached the bowl, c; i. e, the male screw in the latter and the feumle raw lather former, or their equivalents, in combination with the banels, a and b, bowl, c, and cup, d, substantially as shown and scribed and for the purposes set forth. second, Tu-Second, Tu-to the bowl, c; rew in the fo a and



ed as Solicitors and Attorneys for procuring "Letters Patent" for inventions in the United States and in all foreign countries during here inservious in the United states and in all foreign countries during the past secondary years. Statistics show that nearly ONE-THIRD of all the applications made for patents in the United States are solicited gh this office ; while nearly THREE-FOURTHS of all the patents throw taken in foreign countries are procured through the same source. It is almost needless to add that, after scenter year? experience in pre-paring specifications and drawings for the UnitedStatesPatent 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 l'atent Office; but they take pleasurein presenting the annexed testimonials from the thre last ex-Commissioners of Patents.

ast ex-Commissioners of l'atents. MESSRS. MUNK & CO. --- Itake pleasure in stating that, while I held he office of Commissioner of l'atents, MORE THAN ONE-FOURTH OF LL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence thus indicated has been uily deserved, as I have alwaysobserved, in all your intercourse with he office, a marked degree of promptness, skill, and idelity to the nterests of your employers. Yours very truly, CUAS. MASON.

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

following very gratifying letter. MRSNRS, MONN& CO. :--It affords me much pleasure to bear test mony to the able and ellicitent manner in which you discharged you autes as Solicitors of Patents, while I had the honor of balding the suice of Commissioner. Your business was very large, and you suu tamed (and I doubt not justly deserved) the reputation of energy marked ability, and uncompromising fidelity in performing your pro fessional engagements. Very respectfully, your obedient servant, J. Hotr.

J. HOLT. Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Hoit as Commissioner of Patents. Upon resigning the office he wrote to us as follows: MESSES, MUNN & Co. :--It gives me much pleasure to say that, dur-ing the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency; and that I have ever found you raihbul and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy. Very respectfully, your obedient servant, WM. D Bishor.

#### THE EXAMINATION OF INVENTIONS.

Persons having conceived an idea which they think may be pater able, are advised to make a sketch or model of their invention, and submit it to usr, with a full description, for advice. The points of novelty are carefully examined, and a written reply, corresponding with the facts, is promptly sent, free of charge. Address MUNN & 30, No. 37 Park Row, New York.

As an evidence of the confidence reposed in their Agency by in-ventors throughout the country, Messrs. MUNN & CO. would state that they have acted as agents for more than TWENTY THOUSAND inventors! Infact, the publishers of this paper have become identified with the whole brotherhood of inventors and patentees, at home and abroad. Thousands o inventors for whom they have taken out pat ents have addressed to them most flattering testimonials for the ser vicesrendered them; and the wealth which has inured to the individ uals whose patents were secured through this office, and afterwards illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! Messrs. MUNN & CO. would state that they never had a more efficient corns of Draughtsmen and Specification here that a more encent corps of Draughannear and Specification Writers than those employed at present in their extensive offices, and that they are prepared to attend to patent business of all kinds in the and quickest time and on the most liberal terms.

#### PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The service which Messrs. MUNN & CO. render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there; but is an opinion based upon what knowledge they may acquire of a similar invention from the records in their Home Office. But for a fee of \$5, nanied with a model, or drawing and description, they have 9.00 special search made at the United States Patent Office, and a repor setting forth the prospects of obtaining a patent, &c., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through the Branch Office of Messrs. MUNN & CO., corner of F and Seventh streets, Washington, by experienced and competent per sons. Many thousands of such examinations have been made through sons. Address MUNN & CO., No 37 Park Row, New York.

#### THE VALIDITY OF PATENTS.

Persons who are about purchasing patent property, or pstentees who are about erecting extensive works for manufacturing under their patents, should have their claims examined carefully by comoctent attorneys, to see if they are not likely to infringe some exist Ing patent, before making large investme the validity of patents, after careful exam Written opinions or on into the facts, can be had for a reasonable remuneration. The price for such services is always settled upon in advance, after knowing the nature of the in-vention and being informed of the points on which an oping n is so-keited. 'For further particulars address MUNN & CO., No. 37 Park Row. New York.

The Patent Laws, enacted byCongress on the 2d of March. 18-11 grd The facture have, endered by congress on the 2d of march 18-1 from the blow in full 10 ce, and prove to be of great benefit to all parties who are concerned in new inventions.

The law abolishes discrimination in fees required of foreigners, ex-cepting Datives of such countries as discriminate against citizens of the United States-thus allowing Austrian, French, Belgian, English, Russian, Spanish and all other foreigners, except the Canadiaos, to enioy all the privileges of our patent system (except in cases of de-signs) on the above terms. Foreigners cannot secure their inventions by filing a caveat; to citizens only is this privilege accorded.

#### CAVEATS.

as desiring to file a caveat can have the papers prepared in the shortest time by sending a sketch and description of the investion. The Governmentfeefor a caveat is \$10. A pamphlet of advice re Sarding applications for patents and caveats is furnished gratis, on application by mail. Address MUNN & CO., No. 37 Park Row, New York.

#### REJECTED APPLICATIONS.

Messre MUNN & CO. are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close and prosecution of rejected cases, on reasonable terms. The close proximity of their Washington Agency to the Patent Office affords them rare opportunities for the examination and comparison of ref erences, models, drawings, documents, &c. Their success in the prosecution or rejected cases has oeen very great. The principal portion

of their charge is generally left dependent upon the final result. All persons having rejected cases which they desire to have prose cuted, are invited to correspond with MUNN & CO., on the subject giving a brief history of the case, inclosing the official letters, &c.

HOW TO MAKE AN APPLICATION FOR A PATENT. Every applicant for a patent must furnish a model of his inventi t susceptible of one: or, if the invention is a chemical production, he busic furnish samples of the ingredients of which his composition onsists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the Government fees, by express. The express charge should be pre-paid. Small models from a distance can often be sent cheaper by mail. The safestwayto remit money is by a draft on New York, payable to the order of Messrs. MUNN & CO. Persons who ive in remote parts of the New York correspondents; but, if not convenient to do so, there is but littlerisk in sending bank bills by mail, having the letter regis-tered by the postmaster. Address MONN & CO., No. 37 Park Row New York.

Patents are now granted for SEVENTEEN years, and the Governmen fee required on filing an application for a patent is \$15. Other changes in the fees are also made as tollows :-

On filing each Caveat\$10	1
On filing each application for a Patent, except for a design. \$15	5
On issuing each original Patent\$20	1
On appeal to Commissioner of Patents\$20	1
On application for Re-issue	i i
On application for Re-issue	1
On granting the Extension	
On filing a Disclaimer\$10	
On filing a Disclaimer	
On filing application for Design (seven years)	
On filing application for Design (fourteen years)	

## SEARCHES OF THE RECORDS.

Having access to all the official records at Washington, pertaining t the sale and transfer of patents, MESSRS. MUNN & CO., are at all time ing to ready to make examinations as to titles, ownership, or assignment of patents. Fees moderate.

#### ASSIGNMENTS OF PATENTS.

The assignment of patents, and agreements between patentees and manufacturers, carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American Patent Agency, No. 37 Park Row, New York.

#### FOREIGN PATENTS.

Messrs. MUNN & CO., are very extensively engaged in the prepara tion and securing of patents in the various European countries. For the transaction of this busidess they have offices at Nos. 66 Chancery the transaction of this boulevard St. Martin, Paris ; and 26 Rue des Eper enniers, Brussels. They thing they can safely say that THREE-FOURTH of all the European Patents secured to American citizensare pro

cured through their agency. Inventors will do well to bear in mind that the English law do limit the issue of patents to inventors. Any one can take out a patent there.

Circulars of information concerning the proper cour in obtaining patents in foreign countries through MUNN & CO'S Agency, the requirements of different Government Patent Offices, &c bad, gratis, upon application at the principal office, No. .7 ow, New York, or any of the branch offices. INVITATION TO INVENTORS. Park Row, New York

Inventors who come to New York should notfall to pay a visit to the extensive offices of MUNN & CO. They will find a large collection of models (several hundred) of various inventions, which will afford them much interest. The whole establishment is one of great interest to inventors, and is undoubtedly the most spacious and best arranged in the world

MUNN & CO. wish it to be distinctly understood that they do ate or traffic in patents, under any circumstances ; b they devote their whole time and energies to the interests of their

#### COPIES OF PATENT CLAIMS.

SMESSRS. MUNN & CO., having access to all the patents granted since the rebuilding of the Patent Office, after the fire of 1836, can fur nish the claims of any patentgranted since that date. for \$1. EXTENSION OF PATENTS.

le patents are annually expiring which might readily be extended, and if extended, might prove the source of wealth to their fortunate possessors. Messrs. MUNN & CO. are persuaded that very many patents are suffered to expire without any effortat exten-sion, owing to want of proper information on the part of the patentees, their relatives or assigns, as to the law and the mode of proce dure in order to obtain a renewed grant. Some of the most valuable grants now existing are *canded points*. Patentees, or, if deceased their heirs, may apply for the extension of patents, but should give pinety days' notice of their intention. Patents may be extended and preliminary advice obtained, by con-ulting, or writing to, MUNN & CO., No. 37 Park Row, New York.

#### UNCLAIMED MODELS.

Parties sending models to this office on which they decide not to apply for Letters Patent and which they wish preserved, will please to order them returned as early as possible. We cannot engage to retain models more than one year after their receipt, owing to their vast accumulation, and our lack of storage room. Parties, there fore, who wish to preserve their models should order them returned within one year after sending them to us, to insure their obtaining them. In case an application has been made for a patent the mode is in deposit at the Patent office, and cannot be withdrawn.

It would require many columns to detail all the ways in which the Inventor or Patentee may be served at our offices. We cordially in. to call at our extensive offices, No. 37 Park Row, New York, where any questions regarding the rights of Patentees, will be cheerfully answered.

Communications and remittances by mail, and models by express (prepaid) should be and ressed to MUNN & CO. No. 37 Park Row, New York.



Correspondents who wish information from us through this column must, as an evidence of good faith, sign their names to their letters. We throw aside all anonymous communications

W. C., of N. J.-We don't know what the "trap process" of tempering springs is. One way to temper them is to make them hard first and then draw the temper in hot sand heated to 550 or 570 degrees, at which temperature they are dark purple to blue. Oil or tallow smokes at 470 degrees, and takes fire when a light is presented. At 570 degrees it goes out when the light is withdrawn.

R. B. C., of Mass.-It is not new to make a ratchet drill with vertical teeth; such drills were made and sold fifteen years

- E. W. D., of Conn.-The wisest and the most learned men are always the most ready to admit their errors, while the greatest fools and ignoramuses are the ones to insist most strongly that they never make mistakes. In the case referred to, all that twas said was that the boat with the pulley engine ran faster than the one with the crank engine, but you must know that it is very easy for interested parties to conduct such experiments so as to y result they please
- T. W. D., of Cal.-Petroleum is composed of the same elements as India-rubber, viz. : hydrogen and carbon. It is probable that by the destructive distillation of india-rubber part of it might be converted into oil closely resembling some portions of petro-leum, but we know of no fact that would suggest the possibility of convertingpetroleum into india-rubber.
- Horace, of Pa.-To calculate the power of a steam engine multiply the area of the piston in inches by the pressure per inch in pounds, the product by the length of the stroke in feet, this product by the number of strokes in a minute, and divide by 33,000.

J. S., of N. S.-For cotton machinery of all kinds address Whiting & Sons, Northbridge, Mass,

Nassau, of N. J.-It is rather a complicated problem, but it seems to us that the oscillations must be continu

- Critic, of R. I.-The earth in its rotation on its axis turns one degree in four minutes; bodies, therefore, at the equato rare carried along about seventees miles in a mirute from west to east. Portions of the earth nearer the center are also moving around from west to east, but with less velocity. If a hole were made through the center of the earth at the equator and a stone were dropped into it the stone would continue its eastward motion at the rate of seventeen miles a minute till it came to portions of the earth moving in the same direction but with less velocity. when it would over take them and strike the eastern side of th
- B. H. M., of N. H.-India-rubber varnish for cloth should be of vulcanized rubber.
- L. W. S., of Mo.-You can procure a newspaper file suitable for the SCIENTIFIC AMERICAN from Alfred Goulding, Worcester, Mass
- J. P. V., of Cooksville.-Your improvement seems to be new, and we should think a patent could be obtained for it. what State doyou reside?

F. G. F., of Ohlo .- You have the right spirit. An inventor can never succeed if he allow a single failure to discourage him.

J. S. E., of Wis, -We cannot admit to our columns a communication that prejudges a case that may involve litiga" tion in cour

C. C., of D. C.-We cannot publish your letter, for the reason that it might prejudice the rights of the patentees in ad-vance of a judicial decision. The patent must stand on its own merits, without any interference on our part.

J. S., of Ind .- We have credited you \$1 on account of your subscription. The article to which you refer was prepared expressly for our paper or we should not have published it, as we dislike long communications. We do not think your proposed article on natural and mental philosophy would be acceptable.

J. W. H., of N. Y.- You can procure soluble glass of Lewis Feutchwanger, No. 55 Cedar street, this city. We believe the emery wheels made with it are rendered insoluble by having the least possible excess of alkali, so that hot water is required for the solution.

O. D. M., of N. H.-The sample which you send us we take to be very thin tin foil pasted upon paper.