the city in the most primitive and offensive manner, at the rate of 2,000 loads nightly, for 250 nights of the year. This, or all it can use, the poudrette manufacturing company takes of the city at \$4,000 per annum, while the city pays \$17,500 per annum for carrying it to that liberal purchaser. At the European valuation, this manure, allowing half of it to be rubbish, would be worth \$2,750,000. At a low American valuation, say five dollars per hundred feet, it would amount to \$312,500, or, for the whole city, \$625,000. Hints from this system might be profitably adopted in villages, and even by the builders of isolated houses.

New Method of Removing Hyposulphites from Photographic Prints.

Messrs Tichborne and Robinson of Dublin, have ascertained that chloric and perchloric acids completely oxidize weak solutions of hyposulphite of soda. The following are the author's directions for carrying it out in practice:-Prepare a solution of twenty-four grains of chlorate of baryta in each ounce of water, and add to this quantity twenty minims of perchloric acid (of about 12 per cent). This is the eliminating liquid. Take a porcelain or other dish, and place in it a pint of hot water, then add two ounces of the above solution. The bath is now ready. Having washed the prints sufficiently in the ordinary way, plunge them into the warm eliminating bath, and let them remain there for an hour or so. They afterwards need only be washed with plain water in order to cleanse the print, then to be dried and mounted.

The process is undoubtedly a simple and economical one. The question then arises-Is it effective? On this, the chief point, we cannot offer any decided opinion, as our experiments are not yet completed in this direction ; but, so far as we have gone, the results have been decidedly encouraging. Messrs. Tichborne and Robinson have produced prints in which nothing could be desired in point of tone, showing no evidence of bleaching action, and which are stated by Mr. Tichborne to be perfectly free from all traces of hyposulphite. One of these lies before us as we write, and it speaks well for the success of the process.

We hope to lay before our readers a full account of our experiments, and such details as may be necessary for the satisfactory working of the new method.-British Journal of Photography.

"PHOTOGRAM."

A correspondent proposes to rectify a manifest error introduced of late years into our language, in the progress of invention. "Photograph" has a termination devoted to the verb active, or otherwise to the name of the agent : "photogram" is the proper form for the name of the effect or pro duct. The suggestion is unimpeachable. The same argument by which the introduction of the word "telegram" was successfully enforced requires us to accept "photogram." We might as properly speak of sending a telegraph, as of buying a photograph. Both are abhorrent to classical order. The reason is, that graph is the root of the present active-to write, or, using the participle substantively, anything writing : while grom is the root of the perfect participle passive-written, or substantively, anything written.

Positions of the Crank and the Piston.

I have no desire to enter into any controversy upon this subject, nor yet to be placed in a false position in the minds of the readers of the SCIENTIFIC AMERICAN, as I value their good opinion too' highly to lose it by hasty statements.

I have said in a former letter that it was not of any im portance to know the relative position of the crank and the piston in setting valves, but I have not said that the crank and the valve had no relation to each other. Their true relations will be found by considering the indicator diagram which shows us exactly where the steam enters to the piston, how far it follows, how much it expands, the amount of compression at the end of the stroke, and other matters not necessary to consider in this connection. All this we read as in a printed page. Now what do we do when we find errors in the diagram? Alter the crank? No, sir: we alter the eccentric, and the crank takes care of itself; for the economy of the machine depends on the eccentric and valve, all other things being equal.

No valve can be set exactly right without an indicator card to rectify errors of adjustment. Exceptions occur to this statement as to all others, but they are only accidents and not reliable, for reasons well known to all well informed en-



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On application for Extension of Patent\$50	i j
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60,457 .- COTTON OR HAY PRESS .- James S. Allums, Cusseta, Geo.

Least the mode herein described of constructing the frame and supporting the same by strong iron rods in the manner and for the purpose set forth. Also the combination of the frame so constructed with the moles of sup-porting the frame and the screw in the manner and for the purpose set forth.

60,453.-BLACKSMITH'S FORGING APPARATUS.-Leonard and

Ira Andrews, Biddeford, Me. We claim the arrangement of the treadle, c, link, d, crank shaft, a, balance wheel, b, truck, f, shaft, i, having the trucks, h, and cam, k, hammer, m, and anvil, t, in order to constitute, when the trucks, f and h, are connected by a belt, a machine — the an be operated by a single person, in the manner herein set forth, and working as described. 60,409.-STEAM GENERATOR.-William C. Baker, New York

bu, 409. —STEAM GENERATOR. — William C. Baker, New York City.
First, I claim the partition, p, dividing the front from the rear of the boller when combined with a tubular boiler constructed as herein set forth and directing the heat in its course between the tubes as, and for the purposes, described.
Second, I also claim the supplemental water chamber, g, combined with the circulating tubular boiler as specified.
Third, I also claim the substantially as and for the purposes set forth above.
Tourth, I also claim the connections or bends which bear against and support each other vertically and laterally by which the tubes are supported as and for the purposes sets forthe advection.
60 460. — A PPAPATUS FOR CLEANING, AND, HULLING, WHEAT.

60,460.—APPARATUS FOR CLEANING AND HULLING WHEAT

AND OTHER GRAIN.—E. P. Barrabe, Paris, France. First, I claim the case, D, and its plates, c, in combination with the shaft, C, and its plates, b, when each of the latter plates is greater in diameter than the plate next above it for the purpose specified. Second, The dividing shaft, E, and disk, d, in combination with the shaft C, its adjustable roller, f, and the lever, k, or its equivalent, the arranged and operating substantially as set forth.

60,461.-PLOW.-Ira W. Bartlett, Otter Creek, Ill.

First, I claim the axle and wheels, E G G', combined with the rod, H, and lever, I, when employed in connection with the beam, A, for governing the depth of the plow as herein set forth. Second, The combination of the ratchet bar, I, and set screw, n, with the too the coller bar, L, arranged and operating as herein set forth:

60,462. - PRESERVING FRUITS, MEATS, AND OTHER SUB-STANCES.-E. S Barthelomew, Westfield, N. Y. assignor

to himself and C. H. Bållow, Cleveland, Ohio. First, I claim the combination of the air pump, **B**, and close combustion re-tort. **D**, receiver an **B** purifier, **G**, provided with the perforated coil, h', with the hermerical preserving chamber, A, arranged and operating substantially as set torth.

the hormetic ipreserving chamber, A, arranged and operating substantially as set orth. Second 1 also claim a preserving chamber formed within clined or con-verging side, a an combination with the several eduction pipes, c c, and main eduction pipe, b, when used in combination with an exhausting pump. B, or equivalent, substantially for the purpose described. Third, 1 also claim the sulphurous acid gas generator, E, in combination with the retort, D, and induction tube, f, when used in connection with the air pump, or equivalent for the purpose described. Fourth, 1 also claim the employment of sulphurous acid gas in preserving meats, by injecting a small per centage thereof into the preserving chamber, in combination with the nitrogen and carbonic acid gases, substantially as set forth. in con forth.

60,463.-Low WATER DETECTOR.-B. H. Bartol, Philadel-

phia, Pa. Iclaimthepipe, A, rod, d, and steam whistle, C, constructed and arranged n respect to each other and to a steam boiler, substantially as described. 60,464.-INVALID TRAVELING CHAIR.-C. L. Bauder, Cleve

land. Ohio.

Iand, Unio. First, I claim the foot piece, **b**, arms, E and E', in combination with ad-justable back, B, and sear, B' hinged and hung so as to operate conjointly as and for the purpose substantially as set forth. Second, Thelips, I I', in combination with the arms, EE', and hinged foot piece, as and for the purpose set forth. Third, The bracket, C', consisting of two arms, n n', in combination with the levers, e, connecting rod, d, link, c, and chair arranged as and for the pur-poses set forth.

60,465.-RAILWAY CAR.-G. and G. T. Benjamin, and H. S.

Weston, Millersburg, Ohio. claim the double window, B B', the rod, D, and deflector, F, in combi-m with the car, as arranged in the manner and for the purpose herein set We clain

60,466.-METAL PLATED SOLE.-Erastus Blakeslee, Ply-

mouth, Conn. I claim plating soles for boots and shoes with strips of metal, when the said strips are formed and arranged so as to completely cover the face of the sole, substantially as and for the purpose specified.

60,467.-HORSE HAY FORK.-C. C. Blodgett, Watertown,

Conn. First. I claim, in combination with the tubular sheath and center rod of a hay fork as described, the slotted claws or barbs, elongated at their end above the pivot a point so that when the claws are projected from the sheath, the said end shall be brought in contact with the sldes of the sheath, substantially as and for the purpose set forth. Second, I claim the combination with the tubular sheath of a hay fork, as described, of a center red or bar, provided with flanges arranged relatively to each other and to the locking mechanism of the fork in such manner that

without the necessity for intervening mechanism, substantially as and for the nurpose herein specifie 60,471.-MEANS FOR PROPELLING VESSELS.-Charles W. Ca-

hoon, Portland, Me. I claim the application of the undulatory motion of the sea to the propul-sion of vessels by means of pumps, and substantially as described. I also claim controlling the movement of the connecting roas by which the pumps are actuated so that the length of stroke of the pistons may be gov-erned, substantially as described.

60,472.-TANNING.-Joseph W. Calef, Salisbury, N. H. as-

00,412.-1ANNING.-JOSEPH W. Calel, Salisbury, N. H. As-signor to himself and John R. Folsom, Stoneham, Mass. I claim in the process of taning the employment of the ingredients first cescribed, when used as and in the universe of the substantially as set forth. I also claim, in combination with said taning ingredients, the employment of the material for hardening sole leather, substantially as set forth. Also, the employment of the preservative solution in connection with the taning process, substantially as set forth

60,473.-CHURN.-Alexander Carbnow, Potsdam, N. Y.

60,473.—CHURN.—Alexander Carbnow, Potsdam, N. Y. First, I claim the arms, B B, the standard, E E, or their equivalent as ar-ranged and combined with a drive and pinion wheel, and connected with a two or charn for the purposes herein specified. Second, I claim the arms, K K K, with the paddles, 111 II 1, the breakers, m m m and n n n, as represente in figures, 2 3 and 4, or their equiva-lents, for the purposes herein specified. Third 4 claim the peculiar arrangement of the arms, B D, the standard, E E, the drive wheel, 1f, the pinion wheel, h b, and the shaft, ii, and their peculiar for the purposes herein or the purposes herein specified. Fourth, I claim the peculiar arrangement and Combination of the paddles, II 11, etc., and the breach other for the purposes herein specified. Fourth, I claim the peculiar arrangement and Combination of the paddles, II 11, etc., and the breakers, m m m m and n n n, for the purposes herein spe-cified. Fifth, I also claim the ad insting of the drive wheel, ft to the minion wheel

cified. Fifth, I also claim the adjusting of the drive wheel, ff, to the pinion wheel, h h, for the purposes herein specified.

60,474.—AIR ENGINE.—Peter Chick, Taunton, Mass. I claim, First, The inverted semi-sphere in the upper portion of the fire box substantially as shown and described. Second, The semisphere in combination with the fire box, substantially as shown and described. Third, The arrangement of the water injection pipe in such a manner that it may be withdrawn at any time, substantially in the manner shown and de-scribed.

60,475 .- COMPUTING MACHINE. - John H. Chidester, Cleveland, Ohio.

land, Ohio. First, I claim the series of disks, D, and toothed wheels, B, arrangel upon the shart, G, in combination with the case, A, index i enings, b b b, and na-meral openings, a a arranged and for the purpose set forth. Second, I claim the notches, c, and flange, F, of the discs and wheels, B, provided with a series of numerals, in combination with the spring, h, re-cess, C, and shart, G, arranged in the manner and for the purpose set forth. Third, A computing machine when constructed, arranged ind operating in all its parts, substantially as herein set forth.

60,476.-CARPET LINING.-George W. Chipman, Melrose, Mass.

I claim as an improvement in the manufacture of carpet linings, the con-struction herein described, viz.; a lining in which a thin sheet of fibro¹⁹ ma-terial is confinedbetween two sheets of fabrics of close texture, by reason of the edges of said sheets bein; cemented together.

60,477 .- DISTILLING APPARATUS .- John A. Coffey, London,

Ling Hilld. I claim the improved constructions and arrangements setforth in regard to the distillatory portions of such apparatus, it being understood that I do not claim any of the mechanical details *per se* and apart from the purposes of my said invention.

60,478.-PAINT FOR COATING WOOD, STONE, ETC.-William

UU, ± 10.— I'AINT FOR UOATING WOOD, STONE, ETC.—William Coggeshall, Springfield, Ohio. I claim, First, The method herein described for coating substances by the application, ary, to properly prepared surfaces of the hereinbefore described crude article or any equivalent compound substantially as set forth. Second, The use of the aforesaid crude article or any equivalent substance in combination with any coloring matter when applied dry, substantially in the manner set forth.

60,479, —CAR COUPLING. —V. and E. Cole, Detroit, Mich. We claim the pin, a, with its rubberspring, b, and pointed link, B, arranged to operate with the headed slide, B', spring, C, and bar, E, in the manner and for the purpose herein specified.

60,480.-VAPOR BURNING STOVE.-O. K. Collins and Wil-

60,450.— VAFOR BURNING STOPE.—O. R. Collins and Wir-liam B. Grover, Woodbury, N. J. We claim the burner, B. consisting of the chamber, y, communicating with an elevated reservoir, the flange, b, and disk, c, with the intervening an-nular space, x, communicating with the said chamber, y, the whole being ar-ranged substantially as and for the purpose described. Second, The combination of the above with the pipe, f, and valve, g. Thirr, The gas generating burner, B, in combination with a pipe, F, water tank, G, and valve, i, and pipes, c' and E.

60,481.—Door SPRING.—James M. Connel, Newark, Ohio. I claim the holiow slotted mandrel, C, or its equivalent, provided with a tongue which projects into the arm, G, substantially as specified. Second, The mode of journaline the mandrel, C, or its equivalent on the studies, B, projecting into the casing, K, and attached to the base plate, A, sub-stantially as described. Third, The coils, D, in combination with the hollow slotted mandrel, C, or its equivalent, the tongue, C, and arm, G, substantially as described. Fourth, The arrangement of the coils as conical frusta upon a core or man-drel of corresponding character as and for the purpose described. Fifth, The arrangement of the arm, x, and the semi-cylindrical portion, G', rotating between guices, K K, on the casing, K, and occupying in the rear, the enlargement, K', substantially as described. Sixth, The recesses, e, forsecuring the tangential prolongation of wire coil, substantially as described. Seventh, The general combination of parts consisting of the mandrel. C, or its equivalent, tongue, C, coiled springs, D D, arm, G G', casing, K, studs, B B, and base plate, A', substantially as described. 60,481.-DOOR SPRING.-James M. Connel, Newark, Ohio.

60,482.-HAMMER.-David T. Crockett, Newark, N. J.

I claim a hammer, screw driver, and tack extractor combined as shown, formed of one piece of metal as a new article of manufacture.

60,483.—CORN PLANTER.—Isaac Crum, Port Union, Ohio. I claim in combination with a hoc or its equivalent, having tube a, and aperture, c, the distributing plate, g, constructed and operating as above de-sorbed and set iorth.

60,484.—Apparatus for Finishing and Boxing Paper Collars.—John J. Currier and Samuel Wells, Jr., assignors to themselves and James H. Plaisted, Boston

Signors to themselves and James H. Plaisted, Boston Mass. We claim, First, A machine for finishing and boxing shirt collars made of paper or other material, consisting of the rollers, B C and D, cylinder, E piston, F, and wheel, P, arranged and combined substantially as described. Second, The combination and arrangement of the cylinder, E, piston, F, and rollers, B C and D, substantially as and for the purpose specified. Third, The wheel, P, and the devices for moving the same, consisting of cam, IQ root, M, belt crank, G, arm, R, ratchet wheels, U and X, arm, Y, lever, S, rod, L, and spring, N, substantially as described. Fourth, The combination and arrangement of the cylinder, E, piston, F, and wheel, P, said wheel having devices attached for giving it an intermit-tent motion substantially as described. Fifth, The combination and arrangement of the cylinder, E, piston, F, shaft, G, lever, J, ring, H, rods L and M, spring, N, and cam, 10, subst ntially as and for the purpose specified.

60,485.-SAW MILL.-James Davis, Buffalo, N.Y.

I claim, First, The placing of the saw arbors, D, in sliding frames C C, arranged with gearing and racks substantially as shown and described to admit of the saws, G, on the two arbors, D D, being adjusted shaultaneously toward and from each other by the turning of a single, I, as and for the purpose specified.

Second, Adjusting the plates, M, upon shaft, L, bym cans substantially as de soribed, in combination with the adjustable slide, J, as and for the purpose

set forth. Third, The two carriages, O O', provided with the dogs, PP, and operated

FOR THE WEEK ENDING DEC. 18, 1866.

gineers.	to each other and to the locking mechanism of the fork in such manner that they shall not only guide and center the rod but also constitute the means	through the medium of the drum, R, and chains, Q Q, all constructed and operating substantially as shown and described.
Many persons confound the velocity of the piston at dif-	whereby its motion in the sheath may be limited or stopped, substantially as herein shown and set forth.	60,486.—SAW MILL.—James Davis, Buffalo, N. Y.
ferent points of the stroke with the relative position of the		I claim adjusting the roller, N N', by means of bars, d, levers, O, weights, S, notched bars, P, guide, Q, and wedges, R, as and for the pu pose specified.
crank and the piston. These things are, I hardly need say,	venting the withdrawal of the rod from and the rotation of the same within	60,487.—RAILROAD SWITCH.—S. T. Denise, Branch Port, N. J.
entirely different and have no connection with each other.	the said sheath, substantially as herein shown and set forth. Fourth, I claim the herein-described device for locking and unlocking the	I claim the bars or rails, F, provided with swiveled pieces, G and H, respec-
	center rod, the same consisting of a hoop or sleeves, F, loosely encircling the sheath, and combined with the spring, G, and locking pin, h, substantially in	tively, substantially as and for the purpose described.
as there is no room for argument in this matter, and I thank	the manner and for the purpose herein shown and set forth. Fifth, I claim the guard formed on the center rod, and constructed and ar-	60,488.—WEARING APPAREL MADE OF PAPER.—A. T. Drui-
you for your courtesy in giving me a hearing.	ranged so as to protect the locking and unlocking device, substantially as	son, Poland, Maine, and E. P. Furlong, Portland, Maine.
Egbert P. Watson.	herein shown and described.	We claim, as our invention, the new manufacture, consisting of articles of wearing apparel made, in whole or in part, from paper formed into crinkles or descue arbitistic subjects and and and articles of the startical weather the startical we
EGBERT T. WAISON.	60,468.—FRUIT JAR.—Joseph Borden (assignor to T. and J. Bodine), Bridgeton, N. J.	or flexures while in a pulpy or semi-pulpy condition, substantially asset forth.
A COMPARISON of the expenses of British and American	I claim the cover, B, the set screw, D, projecting from the underside of the	.60,489.—DUMPING WAGON.—Daniel Dennett, Buxton, Me.
	same in combination with cross bar, E, serving as a nut for the said screw, and adapted to recesses or projections in the neck of the vessel, all as set	First, I claim the tail board, D, with its oblique sides, so arranged as to en- able the body to tip between the fore and rear axles of the wagon, substan-
government throws light upon the contrast between the con-	forth.	tially as described. Second, I claim the combination of the tailboard, D, with its oblique sides,
dition of the common people under republican and under aris-	60,469.—CARPET STRETCHER.—John H. Bosworth, Bath, Me.	beams, A A, and rod, B, all arranged as described for the purpose specified.
tocratic rule. With a larger population, our civil service	I claim the tubular and serrated head as constructed and applied to one of the parts of the staff of the carpet stretcher in manner and for use as set	60,490.—HEAT RADIATOR FOR STOVE PIPES.—Emanuel Det-
costs but about two-fifths that of Great Britain, or twenty-nine	I also claim the combination of two toothed heads, two bars, and a slide	wiler, Milwaukee, Wis. First, I claim the T, iron ribs or braces, A, combined in relation with the
millions against seventy-three millions of dollars per annum.	tube arranged and applied together, substantially in manner as hereinbeff re	flues, d g, substantially as herein set forth for the purpose specified.
THE culture of the pomegranate is attracting attention in	set forth.	Second, The horizontal flues, dg , and vertical flues, E , arranged in relation with each other and with the flues, MN , and the pipe, \mathbf{D} , substantially as here-
California. A gentleman at Martinez has a large plantation	60,470.—WATER AND STEAM SEPARATOR FOR STEAM GEN- ERATORS.—Richard C. Bristol, Saint Clair, Micn.	in set forth for the purpose specified.
of this fruit in bearing. It is said to be nearly as easy to	First. I claim in combination with the steam generating apparatus, A. the	60,491.—IGNITING ILLUMINATING SIGNALS.—Jacob J. Det-
cultivate as the peach.	vessel, C, disconnected portions, A' B', of the steam pipe and the drain pipe, C', arranged for joint operation in separating the water and steam flowing	willer, Greenville, N. J. First, I claimarranging the fuse or quick match, C, in connection with the
1	through the pipe, A', discharging the water through the pipe, C', and the	signal, and the stock, A or B, substantially as shown and described for the
NUMEYER'S inexplosive gunpowder is about to be tested by	steam alone through the pipe, D', substantially as hereinset forth, Second, I claim the within-described arrangement of the vessel, C, and its	purpose specified. Second, Making the stocks, A and B, with a hole, d, in its axis, in combination
the British Government.	connections relatively to the boiler. A, so that the water separated from the steam and descending in the pipe, C', shall flow directly back to the boiler	with the transverse hole or groove, e, to receive the end of the match and the fire-from the percussion cap, substantially as set forth.

JAN. 5, 1867.

Third, Enveloping the signal and capping the lower end of the stock in a metallic case, for the purpose of protecting it from punctures and dampness substantially as shown in Fig. 12, and as described. 60,492.-BONE BLACK KILN.-Edward P. Eastwick, Balti

more, Md. I claim connecting two or more vertical retorts by means of intervening bed plates and adapters or couplings resting in the floor of the upper chamber of the bone black kiln, supporting the upper retorts independently, and al-jewing a separate evansion and contraction of the lower retorts, substan-tially as herein described. 60,493.-CHURN, BEER COOLER, ETC. - Samuel S. Elder,

OU, 320.—OHURN, BEER UOOLER, ETC. — Samuel S. Elder, Springfield, Ill. First, I claim the combination of the hexangular casing, A, and dashers, D" and G, revolving in opposite directions, when respectively constructed and arranged substantially as set for th. Second, I claim the combination of the dashers, D" and G", when carried in opposite directions upon a system of shafts, F F' and G, and collar, D' and D" arranged and operated substantially in the manner and for thepurpose set torth.

60,494 —ComB. —James Emerson, Lowell, Mass. I claim, First, The comb, A, when made in the proper form to fit the upper lip, with guards in front to hold the moustache, when made substantially as described. Second, I claim the nippers, i, in combination with the comb, for the pur-pose of holding the comb in the moustache as described.

60,495.-WAGON WHEEL.-Benjamin M. Esterle, San Fran-

cisco, Cal. Let us a my invention and improvement in carriage wheels, the use of the plate, $F_{\rm c}$ constructed as shown in $F^{\rm e}_{\rm c}$ 3 of the drawings, so that it may be u so on the inside of the front wheels of a wagon, and pass or slip over the lock or friction plate fastened to the carriage for the wheel to rub against in turning the wagon.

60,496.—STEAM GENERATOR.—Henry Feyh, Columbia, Ohio, assignor to himself and George T. Emory. Antedated

Second, The combination of the feeding pipes, c. leading from the water space and below the water level, with the end couplings, t, and with pipes a torced circulation of water in steam boliers, substantially as described. Second, The combination of the feeding pipes, c. leading from the water space and below the water level, with the end couplings, t, and with pipes leading from said couplings above the water level in the bolier, substantially as described.

60,497.-ROCK DRILL.-C. D. Foote, Fond du Lac, Wis.

50,437.—ROCK DRILL.—C. D. POUe, Fold the Lac, we can be a seriled, so arranging the cylinder and its attachments that the same shall be fed up to their work, substantially as set forth. Second, Mounting the cylinder and its attachments upon a horizontal frame, hinged to the side of main frame, so that the drilling mechanism may be swung out of line with the hole being drilled, without removing the main frame, as set forth.

Swung out of first want the network of a manner as to operate the drill by a blow dire dri from the end of the piston, substantially as set forth. Fourth, The rod, F, or its equivalent, arranged to operate substantially as

Fourth, The cost F, or is equivalent, arranged to operate substantially as set forth. Fifth, The drill-holding device, with the opening in its side to permit the insertion or removal of the arranged to operate the ratchet wheel, T, for the purpose of feeding the machine forward, substantially as described. Seventh, The mechanism so arranged as to raise the drill from the rock at its cutting point and retarn it again at each blow of the hammer, as herein described.

60,498.-STOVE-PIPE DAMPER.-J. Frazer and O. S. Garret-

son, Buffalo, N. Y. We claim, First, Connecting the two disks of a pipe damper together by leans of logs, ft', and corresponding slots, or their equivalent, in combina-ou with the axial rod, C, substantially in the manner and for the purposes it for the source of the statement set for th set forth. Second, We also claim the two scallop or equivalently-formed disks, B B', combined to form a pipe damper, substantially in the manner and for the pur-posesset iserth.

60,499.-LAMP BURNER.-John A. Frey, Washington, D. C.

60,499.—LIAMP BUUNER.—John A. Frey, Washington, D. C. Antedated Dec. 4, 1866. First, I claim the square apertures, L, and the perforations, M, of the circular burner, to regulate and keep the burner cool without any metallic tubes passing into or through the oil or fluid. Second, I also claim the outer air chamber, B, in combination with the apron, N, and spring, T, as herein described. Third, I also claim the circular guard, F, on the top of the laup, in combination with the burner, as herein described, to prevent any sudden transmission of air.

ation with sion of a

Fourth, I also claim the cone-shaped reservoir of water in the center of the lamp, for the purposes set forth. 60,500.-Engine for the Utilization of Ammoniacal Gas

-Jean Frot, Orleans, France. I claim the herein-described apparatus, by means of which ammoniacal gas may be substituted for steam in motor engines, the same consisting substan-tially of a combined condenser and dissolver, arranged as described, in which the apparately vapur is condensed and dissolved continuously as herein de-scribed and set hurth. 60,501:-POTATO DIGGER.-Allen Gilmore, Fort Atkinson

Wis. First, The combination of shovel screen, c, screen, D, and revolving tooth, 2, with carriers, $f^2 f^3$, applied to a carriage, A, and operating substantially as

82, Whit carriers, 12 to, applied to a carriage of and operating the shorel, C', in combination described.
Second, The arrangement of a pressure roller, g', in front of the carriers, f3, substantially as described.
Third, The arrangement of a pressure roller, g', in front of the carriers, f3, and over the shovel, c', substantially as described.
Fourth, Sustaining the shovelscreen, C, against back ward strain, when said screen is suspended at its rear part from a shaft, b', by means of segments, d', and bearings, e, substantially as described.
Fifth, Tbe clearer, S, in combination with the carriers, f3 f3, substantially as described.

Fifth, The clearer, S, in combination with the carriers, f3 f3, substantially as described. Sixth, Conducting the potatoes from the screen. D, upward and forward, and delivering them at a point which is near the front part of the machine, by means substantially as described. Seventh, The use of a rake, K, for separating the vines from the potatoes, said rake being arranged on an elevator, and caused to discharge the vines over gate, J, and guard, F, substantially as described. Fighth, The application of a screen, K, to the inclined bottom of the eleva-tor, for separating the smaller from the larger potatoes, substantially as de-scribed. Ninth, The construction of the screen, D, with a guard, F, upon the near end, substantially as and for the purposes described.

60,502.-SIGNALLING APPARATUS.-John Sacheverell Gis-

60,502.—SIGNALLING APPARATUS.—John Sacheverell Gisborne, Liverpool, England.
 First, I claim the pulley, e, stud, c, pointer, d, and handle, f, arranged substantially in the manner described, as means of giving motion to one or more endless or double-line, flexible, double-motion conductars, K, to give either audible or visible signals or both.
 Second, In combination with the above, the spring, g, constructed to fall into the potches, h, in the manner and for the purpose set for the.
 Third, The dials, b and I, placed close together, substantially as shown on the drawings, so that they are illuminated by one lamp and can be seen at a glance.

glance. Fourth, The employment of one or more flexible, endless or double-line conductors, K, as means for conveying or communicating motion for operat-ing signalling apparatus, and for conveying or communicating the motion of a rudder stock, substantially as described. Fifth, The combination of the pulley, o, disk, q, case, n, with opening, x_1 and motion conductors, K, either with or without the bell or signalling appar-ates, substantially as described.

60,503.-CLAMPS FOR GLUEING THE TIPS OF BILLIARD CUES, -Samuel Gissinger, Lawrenceville, Pa.. assignor to him-

60,507.-JACK FOR THE MANUFACTURE OF BOOTS AND SHOES.

-Charles M. Gustin, Laccarappa, Me. First, Iclaim the combination of the bolt, G. and friction washer, o, to prevent a too easy and ready revolution of the yoke, A, upon the bolt, in a hori

venta too easy and ready revolution of the yoke, A, upon the oort, in a not-zontal plane. Second, The combination of the crank stop, d, sliding in the blocks, e e, with the holes in the segment, C, as and for the purpose specified. Third, The sliding toe rest on the top of the arm, f, when secured at any point in the manner described and for the purpose set forth.

60,508.—Attaching Covers to Kettles, Boilers, Stoves, ETC.-William Hailes, Albany, N. Y., assignor to himself

ETC.—William Hailes, Albany, N. Y., assignor to minsten and S. H. Ransom. First, I claim securing the covers to vessels or other objects by a pivot con-nection, insuch a manner that the covers will be held down in place by an overhanding hook, G. or its equivalent, substantially as described. Second, The combinating of the hook, h, and the perforated portion, t, with the projection, a, and its stud, b, substantially as and for the purposes de-scribed. Third, The construction of the projection, a, with a stop, c, and a notch, e, formed on it, substantially as und for the purposes described.

60,509.—Spiral Friction Clutch for Machinery.—James

Hanley, New York City. I claim the friction cord as herein described, and applied substantially to ontrol the movement of machines.

60,510.-SAWING MACHINE.-Henry Hassenpflug, Hunting-

ton, Pa. I claim the arrangement of the slotted arms with respect to the saw frame, insuch a manner that the saw may be set at any required distance in advance of the frame, substantially as set for the

60,511.-COMBINED BLACKING BRUSH AND BOX. - Frank Hatch, La Crosse, Wis. I claim the combination of an adjustable and attachable liquid blacking reservoir, as set forth in specification and drawings accompanying my appli-cation.

60,512.—FILTER.—Thomas Hayes, Cambridge, Mass. Iclaim the passages, c d ef, and valves, g h i j, operated by cams, F G, all arrange i for the purpose of reversing the current of water through the fil-terer, substantially as set forth.

60,513.-GRAIN SEPARATOR.-S. Heffebower, Alexander, Va.

and J. M. Reed, Loudon County, Va. We claim the combination of a pressure roller with one or more rollers, with an adhesive covering, to which the cockle will become attached and thereby removed from the wheat, substantially as described.

60,514.-TREATING ORES OF COPPER AND OTHER METAL TO OBTAIN METALS AND OTHER PRODUCTS THEREFROM

To OBTAIN METALS AND OTHER PRODUCTS THEREFROM, -William Henderson, Glasgow, Scotland. First, I claim the two several improved processes hereinbefore described, for extracting copper from any ore in which it may be for ndas a sait of cop-per, whether iron or other metal bo er by not found us and to re. Second, The improved process and processes hereinbefore described, for separately obtaining from the sulphured cores of copper, silver, zinc, or other metal, the copper, silver, zinc, or other metal therein contained, whether the object be to obtain from such sulphurets one only or all of the metals therein contained. Third, The manifacture of the product hereinbefore denominated iron powder by the process hereinbefore described, to be used in the processes hereinbefore described, as a precipitate. 60 515 - CAP, BRAKE - A Hieley South Bend Ind

60,515.—CAR BRAKE.—A. Higley, South Bend, Ind. First, Iclaim the stirrup, I, and spring, M, in combination with the pawl, K. and ratchet, j, arranged and operating as and for the purpose set forth. Second, The lever, G, and friction coupling, D, in two sections, as set forth, in combination with the pawl, i, ratchet, b, and pulleys, E E', as and for the purpose described. Third, The write, I', bar, H, spring, I, and chains, c d e, in combination necembra. The swite, I', bar, H, spring, I, and chains, c d e, in combination pulleys, F E and E', arranged and operating as and for the purpose

60,516.—FLUX FOR WELDING, PUDDLING, AND BRAZING IRON AND STEEL.—Anthony J. Hindermever, Rohrerstown, Pa. I claim the use of the herein-described compound as a flux for welding and brazing, and as a physic for cleansing and improving iron in the operation of puddling.

60,517.-PADDLE WHEEL.-William H. Holland, Chelsea,

Mass. I claim my improved paddle wheel ot propelle as constructed with its main and auxiliary floats, C D, three series of radial roits or arms, and two series of radial auxiliary float arms, arranged and combined together, and with rings and hubs, substantially as hereinbefore described.

60,518 .- PADDLE WHEEL -- William II. Holland, Chelsea,

Mass. Mass. I claim the arrangement of the main and anxiliary floats of the wheel with respect to each other and the side frames, substantially as specified and represented, each main float under such arrangement being extended diagonally or obliquely across the entire wheel, and its auxiliary float being made to extend from the middle of the m in float at an acute angle thereto and joined to one of the side frames, as specified. I also calim the arrangement of each main float and its brace or auxiliary so as to stand obliquely in the wheel in directions opposite to those of the ext and goes in float and its brace or auxiliary so as to stand obliquely in the wheel in directions opposite to those of the ext adjacent main float and its brace or auxiliary float, the whole being as represented in the drawings and as hereinbefore described.

60,519.—PIANOFORTE.—G. H. Hulskamp, New York City. I claim the combination of the wooden bridge, d, and the rest plank, h, with the agraffe, A, substantially as and for the purpose set forth.

60,520. — Repeating Action for Pianofortes.

Hurd, Boston, Mass. I claim for the purpose of supporting the hammer of a pianoferte action near is string in position to give a repeating blow, the combination of an elastic support of the hammer but, with a lever, o, when this is connected with the key layer, straing the hammer by means of the link, m. Also be amployneed of the right and 1.2-hand screw in the back, n, for the purpose of a justing the position of lever, o.

60,521.-FOOT BATH.-Isaac A. Isaacs, Cleveland, Ohio.

I claim the tube, D, funnel, C, in combination with the perforated bottom, B, guard, b, and pail, A, arranged in the manner and for the purpose set forth. 60,522.-WATCH-CHAIN FASTENING.-Henry Jahne (assignor

to himself, Gerrit Smith, and Anthony J. G. Hodenpyl), New York City.

I claim a watch-chain fastening composed of a case, b, containing a spring oil, c, operated by the guard, f, and provided with the mingred shackle, a, at one end and a ring at the other end, as a new article of manufacture. 60,523.-BARS OR SLATS FOR REFRIGERATORS.-John C.

Jewett, Buffalo, N. Y. I claim the construction of ice racks for refrigerators of bars of wood sheathed and hermetically inclosed in zinc or other sheet metal, substantially in the manner and for the purposes herein set forth.

60,524.-TANNING.-James J. Johnston, Alleghany City, Pa.

60,5024.— IANNING.—JAINES J. JOHNSIGH, AREGUARIY CHV, I A. First, I claim placing skins of animals in air-tight vats from which the air has been exhausted and then treated with tanning liquid and agitated in the manner and for the purpose described. Second, Inconnection with the above the application of hydrostatic press-ure in the manner and for the purpose described. Third, The combination and arrangement of the vats, A B and C, furnished with trunnions, o and e, frames, x, and pressure device, the whele being con-structed, arranged, and operating in the manner substantially herein de-scribed and for the purpose set for th.

60,525.-CENTER TABLE.-Edwin Lampman, Catskill, N. Y

60,532.-MARKING STAMP.-William B. Mason (assigner to

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himself and Chas. H. Moore), Boston, Mass. I claimmaking the face of the type elastic to yield to the small inequalities of the surface printed in combination with a small elastic base fless in area han the face of the type) to yield to the targe inequalities of the surface

printed. Ard in combin tion with the elastic face and small elastic base, I claim so arranging or holding the solid body of the type in the case that it can rock when required to adapt the surface of the type to the irregularities of the surface printed.

60,533.-Device for Detaching Horses from Vehicles.

— B. A. McConnaughey, New Market, Ohio. I claim the tugs, D D, connected to the end of the traces and fitting within the openings therefor provided and held by the bar, m, when used in com-bination with the springs and lever, a, for detaching the horse, substantially as herein set forth.

as never set forth. 60,524.—Type Case.—Leonard H. Miller, Ottawa, Ohio. First, I claim a type case when formed with detachable boxes, B, set nuts or frame, A, substantially in the manner and for the purpose set forth. Second, In combination with a case, A, and independent boxes, B, Iclaim a removable partition, C, constructed and used substantially as set forth. Third, Iclaim the boxes, B, when constructed with oval bottoms, substan-tially as described. Fourth, I claim the boxes, B, when formed with flanges, B', for interlock-ing the boxes when placed in the case, substantially in the manner set forth. CO 505

60,535.-PUMP.-Oliver Miller, Salem, Ohio, assignor to him-

self and Thomas D. Ball. First, I claim the chambered chest, F, with its valves, e e', in combination with the cylinder, B B, pistons, b', valves, g g', and induction pipe, A, all arranged in relation to each other and operating conjointly, for the purpose

set forth. Second, I claim in combination with the foregoing cylinders, C C', wi'h the respective plungers, ohambers, D D''', and valves, I I', pipe, H, valve, d, and nozzle, G, arranged and operating in the manner and for the purpose set

forth. Third, I claim the chamber, J J', of the chest, E, valves, e e', and openings, m m', in combination with the cylinder, B, pipes, $\mathbf{D}^* \mathbf{D}^{\prime\prime}$, and chamber, \mathbf{D} D''', as and for the purpose set forth.

60,536.-Composition for Making Sharpening Stones. Robert R. Miller and A. W. Carver (assigners to B. Hoopes and C. Berie), Philadelphia, Pa. Antedated Dec.

We claim the composition formaking sharpening stones, consisting of the materials herein described, combined substantially as specified.

60,537.—Retorts for the Manufacture of Illuminating GAS.—Adolph Millochau, New York City, assignor to the American Improved Gas Retort Company.

I claim the platform or false bettom, c. openings or pipes, k, and cap ate, e, in coubination with the retort, a, substantially as and for the pur-ses set forth.

60,538 .- Composition for the Cure of Ague .- John Monfort, Jessamine county, Ky, assignor to himself and J.

E. Billingsley. I claim a composition of matter composed, compounded, and prepared, sub-tantially as and for the purpose set forth. -ROTARY SIFTER.-Mark F. Morse, Boston, Mass.

00,000. — RUTART OIL TER. — JAIR T. T. START, "I Start of a start of the disk, D, its series of eams, gg g, the stud, i, and the spring, I, with the sifting drum, its shaft, and supporting frame, the whole being to operate as specified.

60,540.—BREECH-LOADING ORDNANCE.—William J. Murphy. Cork, Ireland. First, I claim the barrel, a a, with its quading, d d, and plunger or breech piece, b, in combination with the wildin-described devices, or their equiva-lents, whereby the pressure of the water maybe caused to operate the breech piece, all substantially as set forth.

precent substantially as set forth. Second, The combination of a barrel, a movable breech piece, and a cham-ber containing a horizon during the discharge of the piece. Third, The barrel, a a, with its openings, d_{i} cylinder, f_{i} plug, i, and open-ings, k 1 m, or their equivalents, in combination with the plunter, b, and its pisten, c, the whole being constructed and operating substantially as and for the purpose described.

60,541.-WHISTLE FOR STEAM AND OTHER ENGINES.-John Murray, New York City. Antedated Oct. 7, 1866. I claim the sbowe described whistle, for steam and other engines, as a new article of manufacture, substantially as and for the purposes set forth.

60,542.-SAWING SHINGLES.-Francis B. Northrup, Newark,

N. J. First, Iclaim sawing a block of wood into shingles or other analogons things having alternate butts and points, by means of a gang of reciprocating saws, when arranged and inperated substantially as described. Second, the projections, c, on the cross bars of the two gates when used in combination with the two reciprocating gates having a gang of sawsoperating substantially as described.

60,543 .- SHOE BINDING .- M. and R. B. Packard, North Bridgwater, Mass. We claim, as a new article of manufacture, a shoe binding having a con-struction substantially as set forth.

60,544.-CAR COUPLING.-E. E. Packer, Jr., and John Daley, (assignors to themselves and Edgar L. Thompson), Phil-

adelphia, Pa. First, We claim the combination of the compling roll. B, with the cylinder, C, and screw socket, B, of the cylinder, A, sub-Latially upon the priaciple, and in the manner hereith before described and for the prizzose gas edited. Second, The combination and arrangement of the Lyer, E, stud, m, link, n, and pawl, o, substantially in the manner described and for the purpose specified.

60,545. - DEVICE FOR FASTENING BLIND SLATS.-William Palmer, New York City. I claim the adjustable half-elliptic spring, D, as arranged and constructed and for the purposes as set forth.

Alfred Paraf, Mulhouse, France. I claim the process of developing chromic acid in dyeing and printing opera-tions by the application to the fabric of an insolub le salt of chromium, and the subsequent action of a moist atmosphere, substantially as set forth.

60,547.—Self-sealing Fruit Can.—Thomas Parker (assign-

or to himself and Theodore Rube), Germantown, Pa. First, I claim the construction of a tin can with a class list the full diameter of the can, substantially as and for the purpose set forth. Second, The laying of the top of the can as a bacing for the rubber ring, r , as shown in fig. 3, substantially as and for the purpose set forth. Third, The furgreesion of lugs sunk in the bod y of the can, or their equiva-lents, substantially as and for the purpose set forth.

60,549.—PROCESS OF TANNING.—Julius A. Pease, New York

I claim the use of the above-mentioned material for tanning, either alone \mathbf{A} in combination with other materials, substantially as described.

60,550.-STRAW CUTTER.-John G. Perry, South Kingston,

60,548.—TANNING.—Julins A. Pease, New York City. I claim the tanning of hides or skins, substantially as above descri

-Dyeing and Printing Textile Fabrics and Yarn.

ribed

60,539.

N. J.

60,546.-

City

R. I.

-Balluer Gissinger, Hawrencevine, I a. assigned to min-	60,525.—CENTER TABLE.—Edwin Lampman, Catskill, N. Y.	R. 1.
self and David E. Hall, Pittsburg, Pa.	I claim the arrangement of the disk, C, as constructed with the leg, A, pin	First, I claim the combination of the two-flanged cylinder, G and H, so
I claim the springs, o, or their equivalent, formed in such a manner as to	or plug, a, and top, D, as and for the purpose herein set forth,	arranged and geared together that the puriphery of the flanges of the cylin- der, H, shall move faster than those on the cylinder, G, and be so situated in
have a bearing on the cue at two different points of its length, in combination		der, H. shall move taster than those on the cylinder, G, and be so situated in
with the conical chamber, i, piston, e, and spring, f, the whole being arranged	60.526.—FEMALE SYRINGE.—Simon M. Landis, Philadelphia	relation to each other that a shear cut shall be made in the direction of the
and operating substantially in the manner herein described and for the pur-	Pa. , , , , , , , , , , , , , , , , , , ,	center of the shaft, G, cr radial, instead of tangential, thereto, as shown and specified.
post set forth.		Second, The feed roll, N, having flanges that work in concert with those on
60,504.—PRINTING PRESS.—George P. Gordon, Brooklyn,	I claim the funnel-shaped cavities with or without grooves of the syringe	the cylluder, G, in combination with one or more entling cylinders of a hay or
	bulb tube. Also the box applicable to spigots of any size in combination with syringe	feed entier, substantially as herein described and for the purposes set forth.
N. Y.	bulb tube, as herein described.	Third, Making the flanges against which the knives out with projections, t t
First, I claim, in combination with the inking rollers, M, held and carried in		t, substantially as herein set forth and for the purposes specified.
a rocking roller frame, I, the use or employment of a third or supplemental	60,527.—FARM GATE.—A. Larrowe, Cohocton, N. Y.	Fourth, The hub, x, screws, s s, and stud, c, in combination with the wheel,
roller, M3, whether said third or supplemental roller, M3, shall vibrate or not,	I claim the gate constructed as shown and used in connection with the	C, and cylinder, G, substantially as herein described and for the purpose set
substantially as and for the purposes shown.	hooks, d, and pins, c, all arranged to operate as herein shown and described.	forth.
Second, I claim the grippers, T, to relieve the printed sheet or card from the form or types, constructed and operated substantially as shown.	60 599 Common parts Then D C Latting North Onloans	60,551.—GATE.—E. Petteys and T. C. Leggett, Chestertown,
Third, In combination with a revolving ink-distributing table or disk, N, I	60,528.—Cotton-bale Tie.—R. G. Latting, New Orleans,	N. Y.
claim the use or employment of the firstor rollers, and a third or supple-	La.	
mental roller, M3, or its equivalent, for the purposes specified.	I claim a buckly arranged with two loops, d g, constructed as described in	I claim, First, The arrangement with the gate, F, and link hinge, E, of the rock shaft, B, and arms, DD', substantially as described.
	combination with an angular ridge, c, formed by the depression of the center	Second, The arrangement or the palette, I, plate, L, and arm, D', as and for
60,505.—Capstan.—William D. Grimshaw, Newark, N. J.	of the plate, as and for the purpose described.	the purpose described.
First, I claim the combination of the shaft, b, spring, f, nut, g, bargel, e, and	Second, I al o claim the hook, h, or its equivalent, for strengthening the	
ring, d, with the base, a, in the manner and for the purposes specified.	open loop, g.	60,552.—Apparatus for Cooling and Preserving Meat,
Second, I claim the pawl, o, constructed in the manner specified, in com-	60,529. — College Cabinet. — William W. Layering, San	FISH, VEGETABLES, AND OTHER SUBSTANCES.—Charles
bination with the pointed spring socket, r, wheel, n, and handspike socket, m, as and for the purposes set forth.		F. Pike, Providence, R. I.
	Francisco, Cal.	
60,506.—ENGRAVING.—J. C. Guerrant and B. J. Field, Leaks-	Iclaim a cabinet constructed as described and having a door serving for a	First, I claim the application of the ventilator, B, or its equivalent, to the Refriger ator, constructed and refrigerated, substantially as herein described
ville, N. C.	blackboard and held up by the bars, e e', substantially as described.	and for the purposes herein stated.
	60,530MANUFACTURE OF YARNEdward T. C. Lutton,	Second. The making of the pipes or tubes, D, larger at the lower end than
First, We claim the arrangement, substantially as described, of the adjust- able plates, E F G, with their slots and set screws, in combination with the		at the numer end, substantially as and for the purpose herein states.
supporting plate, A, for the purpose and substantially in the manner set forth.	- I maacopiaa, I a	Third. The combination of the pipes of tupes, D, la rgr at the lower ends
Sucond. The levers, O O' and () Q', with the adjustable arm, P, and joints,	I claim yarn from the entire surface of which the superfluous projecting fibers have been sheared, for the purpose specified.	than at the upper ends, in combination with the ice box or receptacle. C. and
g and h, arranged substantially is set forth, in combination with the adjust-	fiber's have been sheared, for the purpose specified.	the water tank, E, or their equivalents, substantially as herein described.
able staff, L, and sleeve, M, for the purpose of allowing universal motion and	60,531MACHINE FOR FORMING BRIDLE FRONTSIra Man	Fourth, The structure of the ice box or receptacle, C, pipes or tubes, D, wa-
aujustment to sald levers, O O' and Q Q', as set forth,		ter tank, E, and its appendages, provision chamber, A, and its fixtures, venti- lator. B, or other equivalents, substantially as herein described and for the
Third, The vibrating arc, S, and pattern frame, T, constructed, arrangel,		purposes herein stated.
and operating substantially as described, and for the purpose set forth, in com. bination with the plate, A, and its adjuncts, as set for th.	First, I claim the guides, B B', either fixed or graduating, for the purpose	Fifth, The application of a fructing mixture of salt and ice, or its equivalent,
Fourth, The arrangement, substantially as set forth, of the stylus or trac-	herein specified and described.	to a refrigerator or structure, substantially as herein described and for the
ing point, m, and its adjuncts, whereby it will be always kept against the pat-	Second, The galdes, B B, in combination with the centers, D D', substan- tially as specified and described.	purposes herein stated.
tern as described, in combination with the adjustable sleeve. T as set forth	This represent a ward we control with the centers D D' and the	60,553.—FILTER COOLER.—S. Montgomery Pike, Cincinnati,
Fifth, We claim the ring holder, Y, with its set screws, r. or equivalent	presser, E, substantially as specified and described.	
device, arranged and made adjustable by means of the staff. V, and sleeve, W.	Fourth, The sliding center board or piece, I, substantially as specified and	Ohio.
substantially as set forth.	described.	First, I claim the outer metallic case, B, and inner case, C, with their series

of perforations, b and C', respectively constructed and arranged as and for the purpose above described and set forth. Second, The cooler, D, lawing the flutes, d, in combination, with the inner case, C, as above described and for the purpose specified. Third, The outer perforated case, B, the inner perforated case, C, and cool-er, D, in combination with the casing, A, of the filter cooler, all arranged as above shown and for the purpose set forth.

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60,554.-FAN, BRUSH, AND RACK.-Britton Poulson, Fort Wavne, Ind.

I claim the hereinbefore described arrangement of parts consisting of the lelf-formed base, A, rod, B, set sorew, B', head, C, and radial arms, D, when all base also encloses the actuating clock work constructed as described, omin unitating by means of the crask wheel, K, rod, L, and arm, M, a forcar ecipre caling motion to the rod, B, and arm, D, in the manner and of the purreciprec pose set forth

60,555.- MANUFACTURE OF LEATHER Hose. - James and

50,55. — MANUFACTURE OF LEATHER HOSE. — James and James A. Punderford, New Haven, Conn. First, We claim forming the joint in leather hose by the application to the surface of the laps of a vulcanizable (un), and curing the same after such ap-plication, substantially as herein set South Second, Coating the inner, or otter, or both surfaces of leather hose with vulcanizable gum, and curing the same after such coating, substantially as herein set forth. Third, Coating the outer and inner surface and the joint or laps by a single sheet of fabricated rubber, substantially as herein set forth.

60,556.—COMBINED POKER, TONGS, WRENCH, ETC.—John Richards, Washington, D. C. I claim the construction of the fire tongs when arranged and combined with the wrenches. Can at J. hook, H. Poker, C, and regulating screw, K, as herein described and for the purposes set forth.

60,557.—Compound ●11 for PAINT, ETC.—Darius S. Robin-

Son, OSWEGO, N. Y. I claim the art of mixing, combining, and compounding the atoresaid ar-ticles o ingredients, and making a liquid compound or composition called and designated by me "elastic oil," possessing the qualities and answering all other general purposes for which linseed oil and other pure cits are used. 60,558.-DRYER FOR PETROLEUM AND HEAVY OILS.-Samuel

F. Rogers Malden, Mass. Antedated Dec. 12, 1866. I claim the with -described petroleum dryer, constructed substantially as set forth.

60,559.—BURNING FLUID.—William B. Rogers, Chicago, Ill. I claim a burning and carbonizing fluid which is composed of the several ingredients herein mentioned, mixed together in about the proportions speci-fied.

60.560.—STEAM-GENERATOR FLUE BRUSH.—Charles, Jr., and

•0,500.—STEAM-GENERATOR FLUE BRUSH.—Onaries, Jr., and John Ross, New York City. Antedated Nov. 6, 1866. We claim the construction of a brush for cleansing tubular boilers by com-bining fusci metal among wires, as in figs. 1 and 3, whereby to hold the wires of the brush firm, substantially as set forth. Second, The arrangement of metal containing wires and cutters, so as to form cutters, and a section of brush as shown at E. figs. 5 and 6, adapted to be put on and off and of the size to fit the tubes to be cleansed, substantially in the manner and for the purpose as herein set forth.

60.561 - FRUIT PICKER .- J. F. Saiger and A. Davis, Shelby,

Ohto. Ohto. We claim the skeleton spring head, B, tension rod, C, and adjustable screw nut, E, in combination with the hood, D, bag, F, and handle, A, when arranged in the manner and for the purpose described.

60,562.-STEAM GENERATOR.-Herrman S. Saroni, Baltimore, Md.

First, I claim a shallow water drum, or drums, or tubular heater, or heat-ers, interposed between the burner or burners, and the boiler, substantially as and for the purpose described boiler with the tubular heater, substanti-Second, The combination o the boiler with the tubular heater, substanti-ally as described, and so arranger that a space shall be lett between them, for

The purpose set forth. Third, The combination of the boiler, tubular drum and burners, substan-tially as described, so that the drum shall act as a heater cap to the burners, and permit the flame to pass to the bottom of the boiler, as set forth.

60,563.-Sole Edge Finishing Tool.-Franz M. Schmitt,

Jamaica Plains, Mass. I claim the block, A, provided with opposite flat faces, and polishing sur-aces, and separate projections, c d, or the same and one or more notches, e, all substantially as explained.

60,564.—PAN FOR EVAPORATING SUGAR.—Herman F. Schro-

der, Cincinnati, Ohio. I claim the provision of one or more hollow disks adapted to receive water, and be hermetically closed. The said disks being adapted for attachment of a common evaporating pan, or kettle, and having a crank or other means of rotation, as and for the purposes set forth.

60,565.—FRUIT GATHERER.—Henry L. Scott, Plessis, N. Y. I claim the combination with the basket, A, of the shears, E E', when the foat strip, e', to form one of the ribs of the basket, and when the several parts of the in-strument are combined and arranged in the manner and for the purpose here-in specified.

60,566.-VENTILATING FAN FOR GAS BURNERS.-Henry Scher, St. Louis, Mo. I claim

laim a ventilating wheel, constructed, operated and applied in the man-shown and describe., and for the purpose set forth. 60,567.-CHARGING SHELLS, ETC.-Tal. P. Shaffner, Louisville,

Ky. First, I claim the application of nitro-cotton (known as gun cotton), for te purpose of serving as a cushion and an explosive substance in shells, produces, etc., wherein nitroleum (in chemistry known as nitro-2iycerin), or ther explosive liquid compounds is used as a charge, substantially as here-ber redescribed.

inher redescribed. Second, I claim the application of india-rn bber as a cushion lining, for the propae of lessening the concussion upon the niroleum or other explosive in a substantially as hereinbefore described. Third, I claim the honeycomoling of india-rnbber, with openings between the cells for the parpose of perfecting the cushion, and for the object of has-tening the spread of fire throughout the said honeycomb cushion lining, sub-stantially hereinbefore described.

60,568.-METHOD OF GRADUATING VESSELS.-Tal. P. Shaffner,

Louisville, Ky. I claim, irrespective of size, form, or material, the bottle graduated sub-stantially as described and represented.

stantially as described and represented.
60,569.—ELECTRIC FUSE.—Tail. P. Shaffner, Louisvile, Ky. Iclaim, First, The tray head, a, or d, with its chambers, be, one or both, as and for the purpose or purposes described.
Second, The indented or flanced cylinder, j j', with its cap, k, and head, d, for the direction of the flame of the fuze as described.
Third, I claim the mode of attaching the pires to the fuze head, by means of a non-coalducting cement, inserted into a chamber in said head, or in the cyrinder in immediate connection therewith as described.
Fourth, I cla m the protecting water-proof membrane, or cover, n, for closing the month of the composition chamber, b, to preventaccess of moisture to the said composition.

60,570.-Hydraulic Press to Prevent Corrosion.-Tal.

60,570.—HYDRAULIC I KESS TO I REVEAT CONTOSTOR.— Int. P. Shaffner, Louisville, Ky. I claim a non-corrosive lining to the chamber of a hydraulic or other press, and to the piston or that end of it presented to the said chamber; and this I claim which er the said parts consist wholly of material capable of withstand-ing the action of acids, or whether only such parts are thus protected as are exposed to the said action. and to the piston of that the sentence of the

Louisville, Ky. I claim the process of making nitro-cotton, commonly called gun cotton, or other nitro-fiber, under pressure. The MINING REASTING.—Tal. P. Shaff-

to the action of alkaline lye while heated in vacuo, substantially asherein specified.

90,576.—FENCE.—W. B. Shelton, Congruity, Pa. I claim, First, The combination of the posts, A, strip, A', boards, B, and clamps, C, constructed and arranged substantially in the manner and for the purpose set forth. Second, The mode of forming the corners by means of the post, A, strip, A', boards, B, and clamps, D, respectively constructed substantially as set forth.

60,577.—LAMP SHADE.—Allen Shepard, Ashland, Mass. Iclaim the combination of the support, B, and cap, C, with the corrugated shade, A, whensaid parts are arranged to operate as set forth. Second, As a new article of manufacture, i claim the corrugated shade, A, provided with the support, B, and cap, C, as shown and described.

60.578.-WELL TUBING.-N. H. Sherburne, Elgin, Ill., and w.

J. T. Whipple, Chicago, Ill. eduin the combination of cylinder, B, pipe, A, screen, m, and disk, L, whole constructed, avranged, and operated substantially in the manner for the purpose described. the whole

60.579.—Belt Fastening.—S. J. Sherman, Brooklyn, N. Y. 1 claim the arrangement of the hooks, A, on the adjustable fastering, C E b, and adapted for use on belts and waist bands, substantially in the manner af for the purpose herein set forth. D, and

60,580.—ATOMIZING TUBE. — Asahel M. Shurtleff, Boston, Mass., assignor to himself, Benj. S. Codman, and F. O. Whitney.

I claim combining with the atomizing tubes, operating as described, an ad-usable plug, or $|||| \circ quivalent, placed in or connected with the tube, b, sub-$ tantially as set forth.

60,581.-HANGER FOR STOVE HOOKS, ETC.-Joseph Sigourney, Azel T. Robinson, and James Shepard (assignors to J. Sigourney, Azel T. Robinson, and B. B. Lewis), Bris-

tol, Conn. We claim, First, The band, F, with the swayed groove, B, when applied to astovepipe, in the manner and for the purposes described. Second, Incombination with the toregoing, we claim the cast-metal hook or hanger, the whole constructed and used as set forth.

60,582.-SHOULDER BRACE.-Alonzo N. Smith, Hallowell,

Me $\mu\nu$. I claim the combination of the back pieces, B B, made with the spaces, the elastic cross pieces, b, attached as specifical, tars, ΔA , and lacings, a, arranged and operating as and for the purposes set forth.

30,583.-ARTIFICIAL TEETH.-Francis W. Smith, Philadel-

phia, Pa. I claim the use of flanged beaded plates, constructed substantially as de-scribed out of strips drawn from plathum wire, for confining artificial teeth to vulcanized gum or other plates, as above specified and shown. 60,584.-BLIND FASTENER.-G. Truman Smith and William

E. Sparks, New Haven, Conn. We claim the combination of the latch, A, provided with the lever, B, with the latch, C, when constructed and arranged so as to operate in the manner and for the purpose specified.

60,585.—REFINING HYDROCARBON.—Hamilton L. Smith,

Gambier, Ohio. I claim the charcoal filterer, G, in combi ation with the receiver, D, fan, , heater, C, coiled pipe, B, arranged and operating as and for the purpose set

60,586.—PUMP FOR DEEP WELLS.—William B. Snow, Titus-

ville, Pa. I claim the grooved metallic packing section or sections, B secured in the tubing of an artesian well, in combination with an elongated piston, C, work-ing through the same, the range of which is above and below said packing section or sections, they being of less interior diameter than the tubing, ar-ranged substantially in the manner and for the purposes herein set forth. 60,587.-BOOTS AND SHOES.-Horace P. Stewart, Oak's Cor-

ner, N. Y. I claim forming the hells of boots and shoes by the alternate, or nearly so, arrangement of welts and taps so as to build up the right shape without par-ing away the material to any considerable extent, substantially as herein specified.

60.588.—MANUFACTURE OF BOOTS AND SHOES.—Horace P.

Stewart, Oak's Corner, N. Y. I claim the instrument as described for shaping the heel welts, having its supporting arm, B, of the upper die swing on the base, A, which bears the other die substantially as and for the purpose herein specified.

60,589.—Combined Gang Plow and Cultivator.—Wm. W.

St. John, St. Louis, Mo. Antedated Dec. 2, 1866. I claim, First, The combination of the frame, A CCD D, with the beams, I claim, the drat plows and either the cultivator plows, F' and their at-achments or the gang plows, M4, and their attachments, substantially as de-ceptored

tachments of the gaug proves, net, and each, and each, and each and scribed. Second, The combination of the wheel stands, B', with the frame, A C C D D', in such manner asto admit of lateral regulatory movements, substantially as and for the purpose set forth. Third, The combination and arrangement of the levers, M3, with the beams, M', and chord or chain, M4, substantially as set forth. Fourth, The employment of the guiding bars, M2, when constructed and

used as and for the purpose set forth. Fifth, The attachment of the draughtrod, M, for the plow beams, M', to the pole, P, substantially as described.

60,590.—Stuffing and Varnishing Wood.—H. R. Stone and E. N. Schultz, Greenwich, N. Y.

We claim the compound which we have above described to be appled either to oll finish or varnish finish, and to be used for the purpose of filling or stuffing the pores or interstices of all kinds of porous woods, thus making a perfect enam ded surface impenetrable to air or w atr, and which cannot be injured by either.

60,591.-Compound for the Cure of Diseases in Hogs.-

D. W. Stow, Thornton, Ind. I claim the compound herein described in combination with the operation described as a remedy for the cholera, etc., in hogs, substantially as set for th. 60,592.—BREECH-LOADING FIRE-ARM.—Thomas L. Sturte-

WJ.592.—BREECH-LOADING FIRE-ARM.—Thomas L. Sturte-vant, Boston, Mass.
 First, I claim, in combination with the hammer, trigger, guard lever and the barrel applied to the stock and so as to operate with a stutionary breech, c, as described, mechanism substantially as hereinbefore specified, whereby by one movement of the trig erguard lever the barrel may be caused to be raised to receive a cartridge, the hammer ple sot at half or full cock, and the spent cartridge shall be expelled from the barrel.
 Second, I also claim the combination and arrangement of the main and auxiliary hammers and a screw, whereby the main hammermay be either caused to actuate the auxiliary hammers or be thrown out of action there-with as occasion may require and for the purpose hereinbefore explained. Third, I also claim the construction of each of the grooves, d, with its rear end open, when such groove is combine i with the barrel and the trigger guard ever, and is to operate therewith as and for the purpose described.

60,593.-FILTER FOR PETROLEUM.-George W. Sylvester, Newark, N. J.

Interval K, N. J. I claim, First, A petroleum filter so arranged as to keep the crude oil in rolonged contact with the filtering material, and to admit of the clarified oil being off by a stop cock or its equivalent, substantially as herein set orth. Second, Parallel diagrams or their equivalent serving to lengthen the path-way of the descending oil, substantially as herein arranged and for the pur-verse of forth.

way o

60,614.—TACKLE BLOCK.—John Briggs, Louisville, Ky., as-signor to himself and E. A. Holmes, Passaic, N. J. I claim the combination and arrangement of the sheave pin, C, sheave, B, collar, D, pin, G, bushing, F, hook, E, pins, e e, and cheeks, A A, when all are constructed as herein shewn and described. 60,615.-BROOM HEAD.-Willard P. Brooks (assignor to him-

60,594.—RAILROAD SIGNAL LIGHTS.—Elisha H. Tobey, Watertown, N. Y.

First, I claim the a revolving refl Second, Connecting the said plate, F_i to the head, H_i by means of the lugs, f_i and one or more keys, e, substantially in the manner shown and decribed. Third, The arrangement of the spring locking latch or lever, C_i is combination with the pivoted head, H_i substantially as shown and described and for the purposes set for the.

60,597.—INDIA-RUBBER COVERED UMBRELLA.—James H.

Walker, Bergen, N. J. I claim the India-rubber umbrella-covering formed in the manner speci-ed as a new article of manufacture. 60,598.-GAS-HEATING PARLOR STOVES.-William S. Walker,

Alexandria. Pa.

AlcAandrid, 1 a. I claim the detachable top, A B, for a stove, the said top consisting of the oren, B; the valve, b2, the two hot air chambers or flue spaces, a2 a2, and the recesses, a'', in the outside plates for receiving within them the faces of the smoothing irons as described, the said parts being constructed, arranged and combined together as and for the purpose described.

60,599.-TRACE FASTENING.-John R. Watkins, Baltimore,

I claim the use of a barrel with slot and splral spring and pin with catch hereon, making a secure and ornamental fastening for a trace to the end of thereon, mak

60,600.-HOOKS AND EYES.-Israel Weinberg, Philadelphia, Pa.

Γa. I claim the construction of the eye having curved forked ends, E, for the purpose of regulating, tightening, or loosening the waistbands of pantaloons, so as to correspond with the shape of the body and suit the wearer, as herein described.

60,601.—Open Fire Places.—Marshall D. Wellman, Pittsburg, Pa.

UURS, Fit. I claim the use of a damper or dampers, so constructed and arranged rela-tively to the grate bars of a fire place or other furnace as that the area of the opening between the bars for the admission of air into the fire shall be in-creas of a minished by the operation of the damper or dampers, substan-tially as hereinhefore described Second, The use of a reflector or reflect or splaced in front of and within the fire cha uber of an open fire place, substantially as and for the purples herein-before set forth.

60.602.—Cooking Stove.—Marshall D. Wellman, Pittsburg.

I'a. Iclaim the use, in cooking stoves, ranges, and other furnace grates, of dampers, slites, or shutters, in combination with a close fire chamber, so con-structers and arranged, substantially as here inbefore described, as that the air be admitted below the surface of the fuel to a particular part or portion entering of the fire chamber, while it is excluded from ontering the fire chamber at other points.

60.603.-MILK CAN.-Bollin C. Wickham, Pawlet, Vt.

I claim the construction and arrangement of milk cans with reference to the supporting bottom and ears, as herein described, to be operated in the manner and for the pur pose set for th.

60,604.-CORN PLANTER.-Albert Windeck and Andrew Run-60,604.—CORN PLANTER.—Albert Windeck and Andrew Runsteller, Peoria, III.
We claim, First, In a seeding machine the oscillating semi-cylindrical bottom, C, sin combination with the casing, B, when arranged substantially in the manner and for the purpose set forth.
Second, The combination of the dropper, c, lever, J, and valves, K and L, in the runner shank, constructed substantially as and for the purpose set forth. Third, In combination with the valve crank and lever, J, we claim the box I, when said several parts are constructed and arranged as set forth. Fourth, The combination of the treadle, G, hinged roller, F, and runner, P hinged to the frame at e, substantially as and for the purpose set forth. Synth, In combination of the the droppers, C, the digustable silde, c, whe constructed as a substantially as set forth.
Sith, The runner, P, and its shank, D, when constructed as set forth. Seventh, In combination with the dropper c, the digustable silde, c, whe constructed and arranged substantially as est forth.
Sith, In combination digustable substantially as set forth.
Stud, In combination with the dropper casing, B, we claim the cotton dropper constructed and arranged substantially as described.

60,605.—PUMP.—E. B. Winship, Racine, Wis. I claim the combination and arrangement of depressions, 12345678, flange w, loose packing, B, ribs, D, and openings, F, substantially as set forth and described.

60,606.-WHIP.-Edmund F. Woodbury (assignor to himself

and H. A. Strong), Rochester, N. Y. First, I claim a whip, having the handle or any other portion covered with a knit fabric, substantially as herein described. Second, I claim covering the handle or any other portion of a whip by clraw-ing on the same a piece of tubular knit fabric, and fastening it thereon in any subtable manner, substantially as and for the purpose herein described.

60,607.—BREECH-LOADING FIRE-ARM.—Theodore Yates, Mil-

60,607.—BREECH-LOADING FTFE-ARM.—Theodore Yates, Mil-waukee, Wis.
Fir.4. I claim the construction of the breech, C, having the rectangular
•pcnig with the overhanzing shoulder at the top, and having the wall or shoulder, m, for the breech block to rest against, substantially as described.
Second, In combination with the breech, C, I claim the block, D, having its uppe arm pivoted on a line with the upper surface of the bore, and its lower arm abutting against the shoulder, m, in line with the lower surface of the bore, with its upper iront corner beveled as shown, said block being arranged to operate as herein set forth.

60,608.—CARRIAGE-CURTAIN EYELET.—C. W. Acker, Water-

town, N. Y. I claim the toothed struck-up plate, C, and notched struck-up plate, D, in combination with the slitted elastic plate, E, constructed and applied sub-stantially as described for the purpose specified.

I claim the arm, D, with its adjustable point, c, in combination with the compass, A, constructed and operating substantially as and for the purpose described.

60,610.-ANVIL FOR SWEDGING CALKS FOR HORSE SHOES.-Peter Badore, Montpelier, Vt. I claim the swedge, A, for drawing the steel from which the toe calks are to be formed, to an edge, when said swedge is constructed substantially in the form herein shown and described.

form herein shown and described. 60,611.—SrEAM GENERATOR.—Robert Bailey, Idaho City. First, Iclaim a sectional steam boiler divided into four principal parts, two central sections, B' B', and two external jackets, B B, constructed, combined, and arranged as herein described. Second, I claim the combination of the hollow grate bars with the central sections, B' B', and the jackets, B B, arranged and connected as herein de-ceribed. Third, I claim the damper, k, for giving direct or indirect draught through the boiler, in combination with the fire spaces, D and e e', and the exit flue, F arranged and operating as and for the plapose herein described. 60 619 — Washing Mary Marker Longer Rollard Almont Mich

60,612.—WASHING MACHINE.—James Ballard, Almont, Mich. I claim the reciprocating rubber, B, having the hand lever, γ_c connected to it through the medium of the hinge l bar, E, with elastic cord, D, or equiva-lent attached, substantially in the manner as and for the purpose hereinset

60,613.-SLEIGH BELL.-Abner G. Bevin, Chatham, Conn. I claim the sharp edged lugs, a, extending from the sides of the shark, A, and resting on the head of therivet, to the other end of which the bell is se-cured and adapted to cut into the leather and prevent the turning of the rivet, as and for the purpose specified.

60.609.-ELLIPSOGRAPHS.-H. M. Albee, Webster, Mass.

60,572.—ARTILLERY AND MINING DEMOTING. ner, Louisville, Ky. I claim the combination of biasts to be discharged simultaneously by elec-tricity, in such manner as will effect a conjunctive force of the respective charges, thereby increasing in disruption of matter beyond what can be ob-tained by separately discharging the said blasts.

60,573.-METHOD OF BLASTING WITH NITROLEUM.-Tal. P.

Shaffner, Louisville, Ky. First, I claim the combination of nitroleum with sand, for the purpose of blasting and distributing the explosive force throughout the drill hole or space where the same are employed, in the manner and for the purposes de-

blasting and distributing the explosive force an ouga out and out the space where the same are employed, in the manner and for the purposes described. Second, I claim for blasting purposes the use and interposition of a column of water between the "tamping" and "blasting "charges, when the same are arranged in the manner and for the purposes described. Third, I claim to blasting '' and '' blasting '' charges, when the same are arranged in the manner and for the purposes described. Third, I claim as a method of blasting in rock the adjustment and arrangement of the "tamping" and '' blasting '' charges in such manner that the former shall be placed at or near the surface or upper part of the drill hole, while the latter is located at the bottom thereof or in such a manner as that the gases of the two charges may be united disrupting the rock, in the manner and for the purposes described.

60,574.-HAME FASTENING.-M. R. Shalters and T. Catern,

Alliance, Ohio, assignors to themselves, Samuel Ray and S. Thomas.

claim, First, The bar, A, provided with hooks as seen at each end and in the hook, B, secured to and operating with it, as and for the purpose set with the book, B secured to and operating with II, as and for the purpose sector forth. Second, Thebar, C, with links formed in it and used in connection with the Lar, A, constructed as and for the purpose set forth.

60,575 .- PROGESS FOR RENDERING AND BLEACHING TALLOW,

LARD, ETC. -John S. Shapter, New York City. I claim the bleaching of tallow and other fatty matters by subjecting them

First, I claim the combination with a revolving reflector box or other re-ceptacle for a signal light of a signal or dial plate capable of being rotated in a plane at right angles to the plane in which the said box is revolved, as here-in rhown and described. Second, In the apparatus herein described I claim the combination of the dial or signal plate with the gearing by which it is revolved under such an ar-rangement that the raising or low oring of the said plate in the signal frame shall cause it to be thrown in or ont of gear, substantially as shown and set forth.

Third, Incombination with the main signal frame I claim a reflector box or other receptacle for the signal light, under such an arrangement that the said box whiles it ding vertically in said frame shall also be capable of being ro-tated in a horizon alpiane, substantially as shown and described. Fourth, In the herein described apparatus I claim the combination with the reflector box nd revolving dial plate, whose axes of rotation are at right aplate are respectively revolved, arranged for operation, substantially as shown and set forth.

60,595.-DRILL FOR ROCKS, WELLS, ETC.-R. S. Torrey, Bangor, Me.

Bangor, Me. First, I claim the self-operating reversible ratchet, J, so constructed that it will reverse its motion with the same stroke, and will give the desired mo-tion to the drill at every vibration of walking beam, B, for drilling purposes in combination with friction roller and spring, L Second, I claim the dog or hand, K, connecting, P, Fig.'s 12 and 7, ad-justable slide, N, Fig.'s 1 and 2, nnt, 3, sleeve, 2, Fig. 6, which is attached to center post, A, Fig. 1, in combination with the circular slanted plate for regu-lating the stroke or dog or hand, K, Fig. 1, to each stroke of walking beam, B, in the manner and for the purpose substantially as described. Third, I claim the reversible shift, H and H, Fig.3, in combination with grant. H, and pinion, I, Fig.'s, 1, 3, and 3, the whole operating in the manner and for the purpose set forth.

60,596 .- SHOE PEG FLOAT .- G. G. Townsend, Rochester, N.Y

I claim, First, The employment or use of the suxiliary or detachable float, plate, F, substantially as and for the purposes shown and described.

self and F. B. Crippen), Fairmount, Minn.
 I claim the combination of the metallic point or piece, B, the rod, C, bolts, D, or equivalent, and the wires, I, with each other, and with the handle, A, and socket, EF, when said point, rod, bolts, and wires are constructed and arranged substantially as herein described and for the purposes set forth.
 60,616.—SELF-OILING AND ADJUSTING BEARING FOR MACHIN-

ERY.-Thomas S. Brown (assignor to himself and John

P. Adriance), Poughkeepse, N. Y. Iclaim the combination of the bed, A, part, B, with its bearing surfaces, as described; and lip, h, slotted shell, c, cast with part, B, forming the oil cham-ber, a the grooved part, E, slotted caps, F, and semi-spherical washers, H, ar-ranged with the journal, C, provided with the ring, D, substantially as and for the p prose specified.

60,617.-ANVIL ON WHICH TO RIVET TRUNKS.-Walter D. Burnett, Newark, N. J.

claim the adjustable rotating block, C, secured to a frame, A, and arranged th pins, c, or other equivalent stops, substantially as and for the purpose set

I further claim the connecting of the pins with springs and a treadle, to operate in the manner substantially as and for the purpose specified.

60,618.—POTATO DIGGER.—Chas. B. Cannon, Keokuk, Iowa. I claim the improved potato digger, consisting of the fluted wheels, n3 n4 the prongs, U, the carrier, W, and sercens, V. the various parts of which are constructed, arrange 1, and operated substantially as herein described and for the purpose set forth.

60,619.—SAW SET.—John Clarridge, Pancoastburg, Ohio. Iclaim a improved saw set formed by the combination of the cylinder, B, cones, g and L, scales, J and C, index pins, K and F, set screws, EF I N and R, with each other, and with the frame, A, substantially as herein described and for the purposes set forth.

60,620, —SUGAR-CANE PLANTER. — Eusebio Cortes, Sagua la Grande, Cuba, assignor to Jose A. Mora, New York City. First, I edim the cane planter, constitute of the wire box, C, plows, D, plows, I, hepper, J, inclined clutte, K, lant'e, H, and adjustable wheels. A E, substantially as and for the purpose specification. Becond, I also claim the lever, F, and wheel, E, in combination with the frame, A, and plow, D when constructed and applied as ligrein shown and described.

60,621.-SAWING MACHINE.-T. H. Cushing, Dover, N. H.

60,621.—SAWING MACHINE.—T. H. Clushing, Dover, A. H. First, I claim the combination of recip ocating saws, J, with rotary plan ers, W W, arranged with a carriage or bed, K, placed on curved ways or guides, b, for the purpose of sawing and planing sticks in curved form sim-ultaneously or at one operation, substantially as shown and described. Second, The frictionroller, R, attached to the pendent swinging frame, S, which is connected to the lever, T, as shown in connection with the two shafts, O P, provided with the gears, c d, the belt, h, and the adju-table bear-ing, a⁴, of the shaft, P, arranged with lever, T, to operate substantially as and for the purpose specified. Third, The taper blocks, U U, when used in connection with a carriage or bed, K, working on curved ways or guides, b, and reciprocating saws, J, substantially as and for the purpose set forth.

60,622.—STEAM TRAP.—T. N. Davey, Jeffersonville, Ind.

Virst. I claim the stemor upper portion. A and the case, B, when com-bined with the funcet barrel, can, or key, H, and the arm or handle, J, con-structed substantially as described, Second, I claim the cam, H, when used in connection with the adjustable spring seat, G, and spring, E, substantially as herein shown and described.

60,623.-TRELLIS FOR GRAPE-VINES.-B. F. Elliott, Cedar

Rapids, Iowa. I claim the combination with the hinged uprights, A, of the wedge pieces, E, and staples, F, substantially as and for the purpose esectibed. I also claim the rails, G, hung to the uprights, A, so as to turn or swirg thereon, substantially as and for the purpose specified. 60,624.—METAL LOOP FOR TAGS.—Samuel B. Fay, Franklin,

Pa I claim the hook for tags consisting of the loop wire, A, with both ends turned or bent into circles, adapted to lay side by side and applied to the tag in the manner described for the purpose specified.

60,625.-COTTON CULTIVATOR.-A. K. and B. H. Foster, Hal-

00,620.—COTTON CULTIVATOR.—A. K. and B. H. Foster, Hallettsville, Texas. First, We claim the share, D, composed of two parts, d d, arranged in V-form with a space, e, between their front ends and attached to a standard, F, and to the front ends of the handles, B B, in the manner shown and described, or in an cquivalent way, to a dimit of being adjusted at a greater or less distance apart at their front ends, substantially as shown and described. Second, the reciprocating culter, L. opratic: from the wheel, D, through the menium of the soraws, i, and the rock bar. I, provided with the arms, p p', in combination with the share, E, substantially as and for the purpose specified.

fied Third, The fitting or securing of the screws, i, to the wheel, D, by means of the concentric annular grooves, c c', in the side of the said rim, b, of said wheel to receive the nuts, a, of the screws, i, whereby the screws may be readily applied to and detached from the wheel and secured at an equal dis-tance apart, substantially as described.

60,626.—PREPARATION OF PAPER ETC., FOR PHOTOGRAPHIC

Use.—William Gibson, New York City. I claim the production of an insoluble enamel or surface or size in or upon paper, silk, cloth, fibrous and textile articles of all kinds, wood, leather, cluss, porcelain, earthen ware, metals, india-rubber, gutta-percha, *papier mache*, passe-partout and com positions by the successive application thereto of an adhesive mixture or body and astringent mixture or solution, substan-ially as described. •1 a nadnesive mix tially as described.

60,627.-CLOTHES PIN.-T. L. Goble, Orange, N. Y.

I claim a clothes pin consisting of two jaws, A, pivoted or hinged together, combination with the shackle, B, arranged to slide upon the said jaws, abstantially as and for the purpose described.

60,628.—SAWING MACHINE. - Edwin Hard, Canal Dover, Ohio.

I claim operating the saw carriage by means of the bevel pulleys, Υ Clutch, A', lever, B', curved lever, G', adjusting par, D', and gage rod, E', arranged and operating substantially as described for the purpose specified. 60,629.-STEAM-ENGINE GOVERNOR.-A. A. Henderson, Na-

val Hospital, near Norfolk. Va. I claim the shaft, B, the sleeve, C, the eccentric plates, D and E, and cam, E' and shaft, G, with its lug wheel, H, and ratchet, I the arm, J, and the spring, S, and the eccentric rod, C', with its guide pins, e and e', when con-structed, arranged, and combined substantially as herein described for the purpose specified.

60,630 .- SOLAR TIME INDICATOR .- James Higgins, East Cam-

bridge, Mass. I claim the combination of the ring, A, having slots, a and c, in it with the ring, B, provided with the scales, D D', and sets crew, C, the same construct-ing a solar time indicator, substantially as herein shown and described.

60,631.—MALT EXTRACTOR.—Leopold Hoff, New York City. First, I claim the within described process of malting by soaking the barley with a decoction of fennel, instead of plain water, as set forth. Second, The beer of health, obtained by mixing the wort obtained by the above-named process with the hygienic ingredients, as herein set forth.

60,632.-HYDRAULIC GOVERNOR.-S. M. Hunter, Terryville, Conn.

First, I claim regulating the speed of a water wheel or a steam engine by the action of an engine driven by water or other non-elastic fluid, in the man-ner herein set for I. Second, I also claim the oscillating valve, T constructed substantially as described, in combination with the non-elastic fluid engine.

90,633.—SASH FASTENER.—Benjamin S. Hyers, Pekin, Ill. I claim the catch, E, operating within the toothed roller, A, in combination with the plate, F, inclined tooth back, C, and toothed roller, A, substantially as herein shown and described and for the purpose specified.

60,634.—FIFTH WHEEL.—Joseph Irving, New York City. I claim the safety clip, E, consisting of the part, c, with the semi-circular recesses and the recessed part, d, between which the irith wheel plays in the recesses, having a yielding presure, and secured and operating in the manner and for the purpose specified.

60,635.—MANUFACTURE OF WATER AND FIRE-PROOF PAPER.

-Thomas Irving, John McNeil, George W. Rich, and Cyrus J. Tay, Elwood, N. J. First, I claim water-proof paper, prepared as herein described, as a new ar-ticle of manufacture. Second, The within-described process of manufacturing water-proof paper by treating manilla, or hemp, or other fibrous material, with the logrec buts and in the manner set forth.

60,636.—APPARATUS FOR SCRAPING HIDES.—Henry Lampert,

00,030.—APPARATUS FOR SCRAPING HIDES.—Henry Lampert, Nunda, N. Y.
First, I claim the revolving beam, A, mounted on the vertically adjustable shaft, B, in combination with the block, g, carrying the scraper, e, and kinfe, f, and with suitable mechanism to impart to said worker a reciprocating mo-tion, substantially as and for the purpose described.
Second, The eccentric, b, lever, a, and serrated arc, d, in combination with the cleats, c, shafts, B, and beam, A, constructed and operating substantially as and for the purpose set forth.
Third, The worker, composed of a block, g, with scraper, e, and knife, f, in combination with the spring, h, pitman, G, cross head, F, and eccentric wrist purpose described.
Fourth, The screw rod, j, andnut, k, in combination with the worker, g e f, spring, D, and pitman, G, constructed on perating substantially as and for the purpose described.

ose described. urth, The screw rod, j, and nut, k, in combination with the worker, g e f, g, h, and pitman, G, constructed and operating substantially as a sa for spring, h, and pitman, the purpose set forth.

60,637. — Sprinkling Attachment for Brooms. — Peter

ou, usi. — SPRINKLING ATTACHMENT FOR BROOMS. — Peter Louis, New York City. I claim the within-described sprinkling attach went for brooms, compused of reservoir. A, provided with a socket, a, a number of ho is, b, in its buttom, and with a vent hole, c, in its top, for the purpose herein set forth and de-scribed.

60,638.-ROTARY STEAM VALVE.-James L. Mackey, Sey-

60,638.— RUTART STATES mCur, Ind. First, I claim the valve, A, with a V-shaped partition, B, and apertures, cd a 'b, in combination with the sleeve, C, and shell, D, constructed and oper-ating substan ially as and for the purpose described. Second, The transverse channel, m, in combination with the hollow plug valve, A, V-shaped partition, B, and with aperture, jy'k k'll'cd, substan-tially as and for the purpose set forth.

Second, I claim the zodiacal belt, I, in combination with the pillar, B, the dial plate, C, the frame, H H, the sun, G, and the earth, K, arranged and applied, substantially as and for the purposes herein described. Third, I claim the adjustable moon, N, in combination with the earth, K, and its axis, ff, and applied substantially as and for the purposes herein set forth. Fourth, I claim the radiating points, c c, representing the ways of the sum

forth. Fourth, I claim the radiating points, c c, representing the ways of the sun in combination with the radiating points, c d, and the earth, K_1 and applied substantially as and for the purposes herein described. Fifth, I claim the hemispherical night cap, M, in combination with the earth, K, axis, ff, and the sun, G, and applied substantially as and for the pur-poses herein described and representes.

60,643.-CORN STALK CUTTER AND CORN HUSKER.-Jacob

Russell, Brooklyn, N. Y. First, Iclaim the construction of rollers, C C', of circular cutters, ff, and ongitu in al cutters, h h, these latter intersecting the cutters, f, so as to cu It is an existent of the same time that the same time that they are split longitudi-r and at the same time crowd the ears of corn back, substantially as de-ord at the same time crowd the ears of corn back, substantially as de-ord at the same time crowd the ears of corn back, substantially as de-ord at the same time crowd the ears of corn back, substantially as de-ord at the same time crowd the ears of corn back.

Second, The husking bed consisting of non-elastic rollers arranged in an inclined plane and rotated substantially as described in combination with knives on rotary cylinders, which allow the stalks to pass between them, but crowd the ears of corn back upon the bed, substantially as as the forth. Third, The inclined Dridge, G, interposed between the roller, C', and the husking bed, substantially as and for the purpose described. Fourth, The yielding gate, J, arranged over the inclined husking bed so as to operate substantially as and then separating the husks from the stalks, and then separating the husks from the ears, substantially as described.

60.644.-GATE AND DOOR LATCH.-B. D. Shaw, Beverly,

Ohito. I claim the combination of the catches, D D, and pivoted lever, E, con-tructed so as to operate substantially as herein shown and described.

60,645. - RAG ENGINES FOR PAPER MAKING. - James M.

Shew, Piper Mills, Md. I claim placing a spiral scroll or voluted flange on the ends of the cutting cylinder of a rag eng ne of a paper mill, substantially as and for the purposes herein described.

60,646.—Adjustable Miter.—Peter A. Snyder, Jersey City, N. J.

I claim the arrangement with the pivoted blades, a b, leaves, c d, and flat stock. A, of the screw, e, nut, b, and groove, f, when the plates are construct-ed as to admit of the ready adjustment of the pivoted blades, a b, and leaves, c d, when said stock is resting on a flat surface as herein set forth.

60,647.-WOOD TURNING LATHES.-Mathias Speule, Detroit, Mich.

MICH. First, I claim the arrangement of two clamps which are coupled together, one to contain the pattern last and the other the last to be finished in com-bination with the guide wheel, F, and cutter wheel, G, constructed and operating substantially as an a for the purpose described. The swinging head, B, and adjustable platform, C, carrying the clamps, D D', in combination with the guide wheel and the cutter wheel, substantially as and for the purpose set forth.

60,648.—SAW MILL.—E. H. Stearns, Erie, Pa.

600,648.—SAW MILL.—E. H. Stearns, Erie, Pa. First, I claim relieving the saw from friction of the log while resting on the carriage, N, hy means of the flat wheels, a, grooved wheels, a', axies, o, and boxes, a'', flat track, b, and angular track b', constructed and operating sub-stautially as described for the purpose specified Second. I claim constructing a cast support joined to and forming an inseparable part of the saw guide in such a manner that when the guide is moved nearer or farther from the saw arbor when changing saws, due can the support will recently inove with d, arranged and operating substantially arbitrat learning guide in constructing and operating substantially arbitrat learning by the saw by the log carriage and currensing the same by means of frietion rule are low of the near the number the number

means of friction pulleys, i and l', when caused to bear upon the pulley, in, and when rigidly fixed to shafts, f f, each having a continuous and positive revolving motion from bolts applied to pulleys, i i', all constructed and operating substantially as described.

60,649. - SAWING MACHINE. - Washington H. Stewart, Logansport, Ind.

I claim the brace, E, provided with a ratchet in combination with the pawl, G, saw bar, H, pitman, J, and crank wheel, L, for the purposes and substantially as described.

60,650 .- FORK AND CAKE LIFTER .- P. D. Sunnie, Shirleysburg, Pa.

DURG, 1'a. I claim an improved culinary instrument formed by combining the fork, B, and the flat blade, C, in one piece pivoted at one end of the handle, A, and held in place when reversed for the use of either the fork or the blade by the yoke, c, unde pressure of the spiral spring, g, arranged and operating as described.

60,651.-SHEEP RACK.-Byron D. Talor, Wilson, N. Y I defen an improved sheep rack formed by the combination of the endpicees or frames, A B, the binders, e, the sides, D, of the hay rack, the revolving troughs, F, levers, E, and revolving covers, G H, with each other, the p arts being constructed and arrange substantially as herein shown and described and for the purposes set forth.

60,652.-DOUGH MIXER.-S. J. Talbott, Milford, N. H.

I claim a scultating dough mixer consisting of the can, A, double me-tallic cover, B, hoop, J, trunnions, E, handle, F, hooks, G H, and frame, C, constructed and operating in the manner as and for the purposespecified. 60,653.-Tool FOR CLEANING BOILER TUBES.-Sidney Van

Auken, Binghamton, N. Y. I claim the doubly yielding spring arms, B, in combination with the seg-mental scrapers, C, and cams, a b, constructed and operating substantially as and for the purpose set forth.

60,654.—REVERBERATORY FURNACE.—J. M. Whiteside, San

Francisco, Cal. First, I claim the arrangement of a revolving stirrer, in combination with he oven, A, constructed and operating substantially as and for the purpose th e oven. serbed

disserbid. Second, The protecting cap, b, in combination with shart of which gives motion to the stirrers sub tantially as and for the purposes set forth. Third, The arrangement of the supply tank, E, and stop-cock, i, which is operated automut cally from the driving shart (c', in combination with the gen-erator, h, tube or tubes, g, and oven, A, constructed and operating substan-tially as and for the purpose described.

60,655. - COMBINED ROLLER AND HARROW. - George H.

60,655. — COMBINED ROLLER AND HARROW. — George H. Woodruff, Jerseyville, III.
First, I claim the employment of the pivoted lever, 0, for the purpose of elevating the harrow, so that only the rollers may be used substantially as shown and described, and for the purpose set forth.
Second, The wheels, B B, in combination with the rollers, C C, and frame. A constructed and arranged in such a manner that the rollers may be removed. and only the wheels used, or the wheels removed, and for the purpose set forth.
Third, I also claim the beams, G G', standing obliquely to the frame, A, when the said frame, A, is provided with wheels, B B, and rollers, C, constructed and harrow, for the purpose set forth.
Fourth, The adjustable seat in combination with the frame, A, when the said frame, A is provided with wheels, B B, and rollers, C, constructed and harrow, for the purpose set forth.
Fourth, The adjustable seat in combination with the frame, A, when the said frame, the second harrow, for the purpose set forth.
Fourth, The adjustable seat in combination with the frame, A, when the said frame, the second harrow, for the purpose of regulating. The depth of the harrow treth, e, substantially as described, and for the purpose set forth.
Fifth, Attaching the pole or tongue, E, by means of birgrauted bar, or straps, P, to near the center cross-piece, K, of the frame A, in combination with the guide, a2, substantially as shown and describe i, and for the purpose set forth.

Store, Penn. Wirs, I claim the combination in a fork for elevating hay, or similar mate-rial, of the following devices: First, a shaft for penetrating such material, second, a barb or barbs, for sustaining the material while being elevated; and third, a device for relieving the barb or barbs for discharging the material, substantially as set forth. Second, I claim a penetrator in combination with one or more sustaining prongs or barbs, and a discharging device substantially as set forth. Third, I claim the barbs, E, arranged substantially as set forth. 60,656.-MANUFACTURE OF BUTTER FROM WHEY.-James

Suggett, Cortlandville, N. Y. I claim the manufacturing of butter from whey, substantially in the manner herein described.

60,657.-CUSHION FOR BILLIARD TABLE.-Levi Decker, New

York, N. Y. I claim the cord, E, employed in combination with the elastic strip, D, and cushion, c, in the manner and for the purposes specified.

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Second, The boiler, A, of a cooking stove, when constructed with a central vertical pipe, B, opening through it, and also with transverse pipes, E, across the same, as and lor the purpose set forth. Third, A cooking apparatus, when so constructed that there shall be a direct communication from the heater through the boiler into the chamber without the interposition or bottom pinet to the latter. Fourth, So arranging the indicated the over, substantially as set forth. Fifth, The oven, C, when so constructed that the heated air is introduced directly into the boiler through the doors of the oven, substantially as set forth. Fifth, The oven, C, when so construct a strike it is controlled by the flue sheet L, and damper, O, arranged substantially as set forth. 2,422.-Composition of Matter for Lubricating MA-

CHINERY AND FOR OTHER PURPOSES—The Lester Oil Manufacturing Company, New York City, assignees of John H. Lester. Patented Jan. 30, 1866.

I claim the combination of oll with the synovial fluid or other substance obtained from animal matter, substantially as described.

2,423.—Machine for Cutting Screws.—John A. Merriman

2,423.—MACHINE FOR CUTTING SCREWS.—John A. Merriman Chicago, Ill. Patented Aug. 1, 1865. First, I claim, in combination with a revolving die holder, two or more screw.cutting dies, provided with inclines and projections, arranged and operated substantially in the manner and for the purposes herein specified. Second, in combination with a revolving die holder and two or more screw cutting dies, constructed substantially as described. I claim the arrangement of longitudinally-sliding bearings operating upon said dies, substantially in the manner and for the purposes set lorth. Third, in combination with longitudinally-sliding bearings, operating di-rectly upon screw-cutting dies substantially as described. I claim the arrangement of a latch or stop for the purpose of retaining said dies in, or releasing them from the die holder at the will of the operator, substantially as herein specified.

specified. Fourth, Closing the dies by the use of the bearings, K, upon the longitudin-ally-silding cylinder acting directly upon the dies, substantially as and for the purpose herein specifica. Fifth, The silding bearings, K, the lever, i, and the dies, g, arranged and operating substantially as and for the purposes herein specified.

2,424.-MACHINE FOR PICKING COTTON.-William E. Brall,

appendix substantially as and for the purposes herein spectruc.
2,424.—MACHINE FOR PICKING COTTON.—William E. Brall, Washington, D. C. Patented February 27, 1866.
First, I claim a machine for harvesting cotton, constructed and operating substantially as described.
Second, In a machine for harvesting cotton among the branches of the plant, constructed and operating substantially as described.
Third, I claim in a catton harvesting cotton among the branches of the plant, constructed and operating substantially as described.
Third, I claim in a catton harvesting culture, the employment of one or more continuous series of said picking cylinders, so arranged as to be made to pass in closes succession through the plant to gather the cotton as described and also to neve plottens, wells, and arrangement of a continuous series of picking cylinders projecting from the face of a wheel sect at an angle to the loa of progression of the unachine or i sequivalent, so that in their down ward movement the picking eviluation and arrangement of a continuous the benach the branches, and in pictroney and chong the same, substantially as described.
Fath, I claim the combination with a series of revolving picking eviders arranged upon a wheel or its equivalent as described, of a skittor ary band or other equivalent mechanism that will rotate said cylinders, substantially as described.
Sixth, I claim the combination of the wheel, E, and its series of picking cylinders or the series arranged in a manner equivalent therein, with the car rying wheels, C, of the machine, so that the picking cylinders shall automati-cally and simultations for organism through the cotton plant, and a progress-ive movement along the row of plants, substantially a described.
Seventh, I claim in combination with the series of picking cylinders, arranged as the picking cylinders, and approprint cylinders of removing the cotton from the cylinders, substantially as described.
<

ranged as described, the series of boohed ares and the defaming wheels of their equivalents for removing the cotton from the cylinders, substantially as de-scribed. Eighth, I claim the employment in combination of two systems of mech anism for gathering and discharging the cottor, constructed, arranged and operating sub-tantially as described, and set diagonally face to face so as to operate simultaneously upon oppositesides of the plant, substantially in the manner described. Ninth, I claim the trough or receptacle for the cotton placed above the cross connection of the machine and with in the series of ploking cylind rs so as to receive the cotton as it is removed from the cylinders, substantially as described. Tenth, I claim the manner of coubining and arranging the wheels, E, with their adjuncts, the frauting of the machine, the carrying wheels, and the conse of perch, so as to leave an open spacelengthwise throug it the ma-chine beaw the cross connections which charber at bask for a bask over plants without beading them down so as to interfere materially with the cot-ton substantially as described.

balling with order of the down so as to interfere materially with the down to substantially as described. Eleventh, I claim combining with the framing and operative parts of the machine, constructed and arranged as described a tongue or perch, to which animals may be harr essed in the manner before described, to draw the ma-chine along, and main tain it in an erect position.

2,425.—HEATING STOVE.—Silas T. Savage, Albany, N. Y.

Patented March 30, 1858. I claim, in stoves or furnaces, a firebox, with a grated back for the admis-sion of the air which circulates through the ash pit, and the fine back of the grate, substantially as described.

2,427.-MACHINE FOR CUTTING STAVES.-W. Steele, Wheeling, Va. Patented October 19, 1858. The bees, c c bed-plate, K. Birst, Calaim the swinging-frame, composed of the pleces, c c bed-plate, K. nd Krife, R. in combination with cross-tie, I, constructed and operated in ne manner substantially as shown and described, and for the purpose set with

forth. Second, The apron, M, hinged to the bed-plate, K, as described, or other-wise attached to the machine, in such a manner that it can be by durinder or back of the knife, to wipport the piece during the process of cutting, and then sing down or tall back to allow the piece to drop from the knife. Third, The combination of the levers, L L, and stops, B and D, or their equivalents, as described.

2,428.—PAINT FOR THE BOTTOM OF SHIPS.—James Gamage Tarr, and Augustus H. Wonson, Gloucester, Mass. Pat-

Tarr, and Augustus H. Wonson, Gloucester, Mass. Patented June 20, 1865.
 First, We claim the composition of pair.' consisting of oxide of copper, oxides of zinc, and oxide of arsenic, used with a basis of ochre, and a suitable medium substantially as described.
 Second, The composition of paint consisting of the oxide of copper, and oxide of zinc, used with a basis of ochre, and a suitable medium, substantially as described.
 Third, The composition of paint consisting of oxide of copper, and oxide or arsenic, and with a basis of ochre, and a suitable medium, substantially as described.

2,429. - HAY ELEVATORS. - Edward L. Walker, Benford's

-J. Steadman, Pecatonica, Ill.

2,426 .- PUNCHING MACHINE -

60,639.-TIGHTENING THE TIRES OF WHEELS.-F. B. Morse,

Milwaukee, Wis.

First, I claim the lips, e e, at the ends of the tire, C, in combination with the gys, D D E. cherated through the medium of screws and one or more remov-ble or adjustable keys, F, all arranged substantially as and for the purpose of forth

set forth. Second, The arms, ff, on the lips, e, in combination with the keys, E D D, substantially as and for the purpose specified. Third, The socket, B, provided with the partitions, a a, to form two end par-titions to receive the ends of the fellies, and a central compartment to receive the tire-tightening mechanism, substantially as and for the purpose specified.

60,640.—LIFE RAFT.—James Murtaugh, New York City. I claim the expansible rings, a a, separate and arranged one within the other, with a net-work covering, forming a seating surface and a rest or hold for the feet, in the manner described for the purposes specified.

60,641.-EXTENSION WEEDING HOE.-Mitchell Pentz, Nau-

60,641.—EXTENSION WEEDING HOE.—Initiation Force, failing at the second state of the se

60.642...-TERRASPHERE.-Eleazar Root, Indianapolis, Ind. First, Iclaim the stand, A, and the pillar, B, combined with the vertical dial plate, C, the horizontal spindle, D, carrying the sun, G, and the frame, H H, carrying the earth, K, revolving on its own axis, fr, in the suspended vernier, g, and while revolving vertically around the sun, G, with the frame, H H, keeping its true angle of inclination to the ecliptic throughout her orbit arranged and operating substantially in the manner and for the purpose, herein described and specified.

RE-ISSUES

2,419.-KNITTING MACHINES.-Jonas B. Aiken, Franklin,

2,419.—KNITTING MACHINES.—Jonas B. Aiken, Franklin, N. H., assignee by mesne assignments of J. B. and W. Aiken. Patented July 8, 1856.
First, I claim the hollow circular needle plate, having grooves cut on its inner surface, substantially as described, for the objects specified.
Second, I claim the horizontal groove, c, near the bottom of the cone, so arranged in relation to the inclined operating groove that the needles may be retreated thereto, substantially as described, and retained therein when they are not wanted to operate on the fabrick null in the manner set forth. Third, I claim the switch, g, arranged substantially as described, including the needles from the inclined operating groove to the retreating groove. Fourth, I claim the use of the two sets of slating needles in rolary knitting-frames, called the plain series, and the rubbing series, arranged and operated substantially as set forth.

2,420.-Locks.-Richard B. Burchell, Brooklyn, N. Y. Patented September 11, 1866.

ented September 11, 1866. First, I claim the fixed tumbler stud, g, and key stud, l, arranged on the line of a plate passing through the center of the bolt-head in combination with tumblers of unequal shape and dimension, but so constructed that they can be spriked on either side of the key stud, and be equally operative with a key of different shape or dimension, substantially asset forth. Second, I clain constructing the head of the bolt as described, and arranged by a series of swinging tumblers to operate in conjunction therewith substan-tially as set forth. Third, I claim the tumblers, h i k, constructed and applied substantially as specified, in combination with the key stud, l, and bolt lund, c, constructed and arranged in the manner and for the purposes set forth. 2, 481 — Popera stile L LAMP COOPURG APPARATION:

2,421.—PORTABLE LAMP COOKING APPARATUS.—C. A. Har-

per, Rahway, N. J. Patented May 1, 1866. First, I claim the heater, E, when attached to the bottom of the boiler, or is supporting plate, by cleats, on which it may be moved without isturbing the other parts of the apparatus, as and for the purpose set forth.

2,530. — KNIFE HANDLE. — Henry H. Hayden, New York, N. Y., assignor to Holmes, Booth & Hayden, Waterbury, Conn.

Store, Penn.

and the forth

2,531.—Spoon Handle.—Henry Hebbard, New York, N. Y. 2,532.—BALANCE.—Charles E. Hoffman, Philadelphia, Penn.

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