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**Artificial Stone.**

Mr. Hodgson's Fire-Proof Stone, the claim of which may be seen in the list of patents granted this week, is affirmed to stand intense heat better than granite, or even than many varieties of fire brick. The granite or quartz used in its manufacture is readily made friable in the usual way, by heating and plunging in water, and neither the materials nor the process appear to be very expensive. It is worthy of attention.

**Corn Husking Machine.**

This engraving illustrates a machine already in practical and successful use, for not only ridding corn of its husks and nub, or stem, but for so crushing and cutting the husks, and more especially the short portions of stalk termed the nub, that they are prepared for fodder by the same operation.

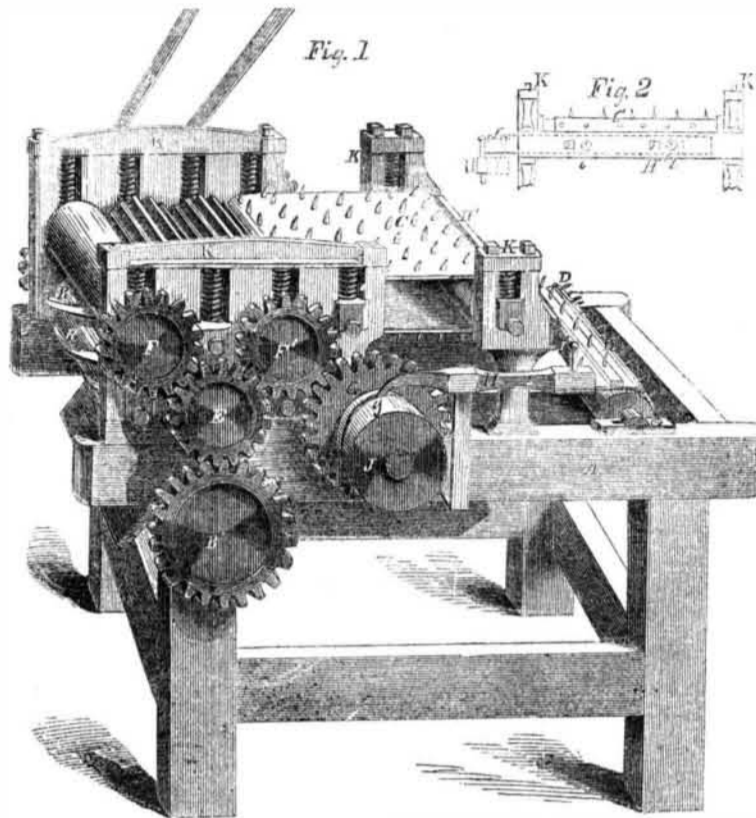
One important feature of the machine is but partly in sight in the main view, and is added above it at fig. 2. The principle features of the machine consist, 1st, in means for cutting off the nub or nubbin; 2d, in devices for carrying forward the ear thus treated, and for agitating and loosening the husks, and 3d, in powerful rollers slightly fluted, which seize all the loose parts and draw them through, grinding and cutting them fine by the same operation, while the ear of corn, being rejected by the rollers on account of its size and its smooth, hard character, is quietly dropped into a depository below.

The power may be of any kind, and may be applied at any point in the train of wheels. In the engraving it is applied to the shaft of the wheel, B, by means of a belt acting on a light and loose pulley on its further extremity. This gives motion to E, and this again to F and F', and also by gears on the further extremities to a roller between them. Both F' and the unlettered roller are fluted, though not as deeply as appears in the engraving, and both, in common with F, are kept down by stiff spiral springs as represented, upon the rollers, E and R below. These constitute the train of rollers which treat the fodder, the roller, R, being armed with knives to complete the operation, and discharge it finely cut.

There are two endless belts, the upper of which, C, is armed with spikes, the lower, D, is armed with both longitudinal slats and spikes. Both move in the same direction, and with different velocities, and serve to carry the corn forward, loosening the husks, and present it in such a manner to the fluted rollers that the latter are certain to deprive it of all the loose material before allowing it to fall through the narrow space remaining between them and the belt. The rollers which carry the upper bolts are also, as represented, pressed down by springs, so as to cause the belts to rub with some violence on the ear of corn in passing through, but these springs are much weaker than those on the boxes carrying F', etc.

The device for cutting off the butt or nubbin is a vibrating knife, I,—figs. 1 and 2. It is mounted immediately back of the cross bar, H. This cross bar has two holes countersunk, so as almost to receive a full-sized ear

**BRYSON'S CORN HUSKING MACHINE.**



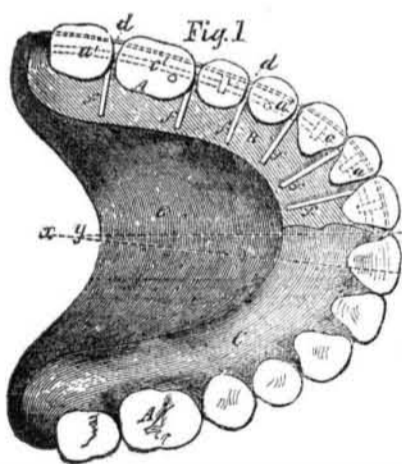
of corn, the hole being ample to admit the nub with the roots of the husks. The knife, I, is connected at its near extremity to the lever, H, and this lever is actuated by running in the oblique groove, g, in the surface of the pulley or cam, J, so as to receive a quick reciprocating motion.

The attendant takes an ear of corn in each hand, presents them butt foremost to the countersunk holes and then drops them on the belt, to seize two more. The ears thus pass

nearly endwise through the belts, and are thrust against the husking rollers, where they stand like rejected suitors, until by the continued agitation they are turned quarter around, and dropped through, a process which allows ample time for the rollers to seize and remove all the loose integuments.

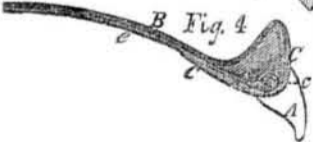
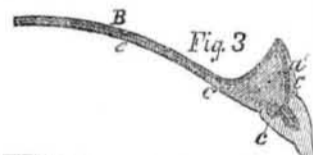
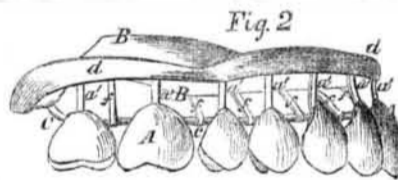
Further information may be obtained by addressing the patentee, Mr. Robert Bryson, at Schenectady, N. Y., or Eliphalet Nott, D.D. President of Union College, same place.

**Hayes' Method of Mounting Artificial Teeth.**



Conspicuous among the many quite recent improvements in dentistry stands the construction of continuous or solid gums, for connecting the teeth with each other and with the plate, when a full set or any considerable portion of a set is supplied. Although the validity of the patent therefor has been, and still is, sharply contested, we believe the material manufactured by Dr. John Allen, of this city, composed of flinty substances which melt at a little less heat than the teeth, is the most popular for the purpose, as it is almost free from any disposition to contract, and thus to warp the plate when exposed to the intense heat required in the baking process. The old process still in vogue with many dentists, employs teeth having each a corresponding short portion of gum cast on it, ready for attaching to the plate by simple riveting, but, although it requires much greater mechanical skill in the operator, the really

progressive men in the profession are now adopting the continuous gum, on account, partly, of its greater strength and superior



appearance, but mainly on account of its cleanliness. The patched up sets, made of teeth and gums in fragments simply riveted, are full of joints, forming cavities where food and saliva lodge and become offensive unless cleansed with extreme care, and it is obviously impossible, from its construction, ever fully to cleanse the narrow and crooked fissures thus made.

The improvement represented in the accompanying engravings, relate to methods of attaching the teeth to the plates by wires, etc.,

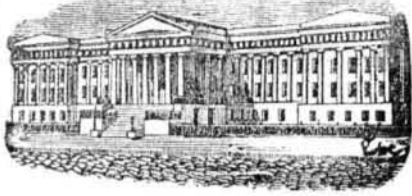
which are soldered before the gum composition is laid and finally covered by the same. The earthy composition of the gum is strong, but not sufficient of itself to hold the teeth with certainty in biting very hard substances, and even if it were, a connection of some kind is always absolutely necessary to confine the teeth in exactly the right positions until the composition hardens. We cannot be expected to teach the profession all the details for applying this invention, nor all the points of difference between this and other methods, but will endeavor to set forth its general features.

The heat necessary to consolidate properly the porcelain or earthen gums, forbids the employment of the usual metals in connection. Gold or silver, which melt at from 1800° to 2300° Fah., would be of no service as bands or ties, and even when used as solder for the quite unfusible platinum, melt and would, if used in any sensible quantities, flow away unless confined by the surrounding earths. In this invention platinum plates are used as a foundation, and platinum wires as the means of attaching the teeth thereto, after which the whole is nicely covered with the melted composition, taking care to fill all the interstices between the wires, and to apply the proper oxys of gold, etc., for producing the proper pink tint natural to the real healthy gum, after which the whole is melted at a very high heat and turned out perfect.

Fig. 1 is a set of teeth represented partly supplied with the gum composition. Fig. 2 is a side view of the set before the composition was applied; fig. 3 is a vertical section through the same, the section passing through the center of a tooth; fig. 4 is a similar section between two teeth; fig. 5 is a tooth properly wired according to this invention before its introduction into the set, and fig. 6 is the wire (a flattened strip of platinum) introduced in the tooth before it is baked. We may remark here, that these teeth, as well also as those above mentioned more generally employed, are manufactured on a large scale from a kind of porcelain, and sold to the profession, and are not, as supposed by many, made up on the spot where used, by the skill of the operating dentist alone.

Commencing with fig. 6, and proceeding backward, we may describe *a a* as the short bent wire introduced deeply in the base of each tooth in the course of manufacture. Fig. 5 is a tooth complete with the ends of the wire projecting. Figure 4 shows a tooth in place, B being a plate accurately swaged to correspond with the form of the gums and roof of the mouth, and *e* a smaller plate similarly swaged to cover the roof of the mouth alone. C is the earthenware material. The little circle, *c*, shows a cross section of a stout wire which travels continuously around the whole set to steady them, and *f* is a brace stretching from *c* to D, and soldered to each. Fig. 3 shows similar parts, but with the short end, *a*, of the original tooth wire bent around and soldered to *c*, while the long end, *a'*, is extended up and soldered to B. Fig. 2 shows all the parts in place, and indicates, by the letter *d*, a kind of folded edge (equally visible on figs. 3 and 4) formed on the edge of B. Fig. 1 explains itself, and it is only necessary to add that the additional plate, *e*, is soldered on, and the edge, *d*, is turned down, both for the same purpose, *i. e.*, to offer better facilities for joining the gum composition, earthenware, or porcelain, C, to the other parts by a perfectly smooth and finish joint, so that the set, when complete, shall be as nearly like the natural mouth as possible. Teeth thus set are much preferable to the old method on every account, and we believe usually cost considerably more.

For further information regarding this improvement address the inventor, George E. Hayes, Buffalo, N. Y. Patented Jan. 27, 1857.



LIST OF PATENT CLAIMS ISSUED FROM THE UNITED STATES PATENT OFFICE FOR THE WEEK ENDING MARCH 3, 1857.

[Remainder of last week's issue.]

MACHINES FOR MAKING AXES.—Chas. Hutchins, of East Douglas, Mass. In the foregoing I have described three machines which are employed in the successive operations to produce axe polls; but I do not wish to be understood as making claim to the mechanical construction of either of the said machines, as substantially such machines have been used separately for other purposes, although under modifications which would not answer the purposes specified. Nor do I wish to be understood as limiting my claim of invention to the use of machines constructed specifically as described, as they may be modified in many respects, without essentially changing the mode of their operation by which they are rendered useful in the production of axe polls.

I claim the preparation of the bar or block of iron by longitudinal rolling between rolling rolls, and substantially as described, to form it with a projection on one face in the middle of its length, and two projections on the opposite face, one at each end substantially as described in combination with the cross rolling between segment dies under a mode of operations substantially as described, to reduce the thickness of the cheeks towards the edges, and to the required swell on the edges of the cheeks substantially as described and for the purpose specified.

GRINDING CARB CYLINDERS.—Jonathan Parker, of Biddeford, Me. I claim the combination of the stop-motion mechanism, of the feed mechanism, or that which produces the reciprocating traverse motion of the grinder, as specified.

SEWING MACHINES.—S. F. Pratt, of Roxbury, Mass. I claim producing successive contractions, or folds in the cloth, substantially in the manner described, for the purpose of feeding the cloth, or the production of the stitches.

And I also claim the combination of the lifter spring, I, the upper spring, K, the rod, H, and the flattening spring P, they operating together and upon the cloth, essentially as specified.

BEVELING AND JOINING STAVES.—Erastus M. Pitman, of Warren Co., Va. I do not claim the reciprocating plane having reversed bits, or the manner of its motion.

But I claim the combination of the reciprocating plane, A, having reversed bits, c, c', and the motion referred to, and the carriage, D, with the inclined ways, E, E', constructed, arranged, and operated in the manner and for the purposes shown and described.

GENERATING STEAM.—C. F. Pond, of Hartford, Conn. I do not claim either singly or in combination the boiler pump, steam chest, or the surrounding same with steam or heated air; nor do I claim any part of said apparatus by itself, nor the generation of steam by bringing water, either in large or small quantities, in contact with metal heated directly by fire.

I claim the method of generating steam from water introduced in numerous fine jets, and thrown upon heated metallic surfaces, substantially as described, when this is combined with the heating of the said metallic surface on which the jets of water are to be thrown to be evaporated by the contact of steam, generated in a separate boiler connected therewith, for circulation and other purposes, substantially as described.

CENTRIFUGAL FRICTION CLUTCH.—Rensselaer Reynolds, of Stockport, N. Y. I claim the employment in the combination substantially as specified, of the sectoral friction brakes sliding radially in the wheel or pulley which rotates before the clutching takes place, and usually termed the loose pulley that the other wheel or fast pulley may be clutched by the friction of the brakes due to the centrifugal force generated by the rotation, and by which they are forced outward against the inner periphery of the wheel to be clutched, and for that purpose, thereby clutching the parts by a force no greater than that due to the friction produced by the centrifugal force under the determined proportions, weight, and rotative velocity of the friction brakes.

LOCKS.—J. Christian Reithmuller, of Pittsburgh, Pa. I am aware that tumbler plates with notches similar to those described have been used before in locks, and I therefore disclaim distinctly the use of the same.

But I claim the peculiar arrangement of the tumbler plates, t', in the box, F, viz. the tumbler plates projecting and receding alternately sidewise, their guiding grooves, t', t', in the box, F, being made accordingly, and the lever alternately, and also separating the tumbler plates by a small space, this whole arrangement of the plates, t', being for the purpose of allowing each spring, h, to act on its respective tumbler plate freely, without interfering with or disturbing the free play and action of the plates or springs adjoining.

And I further claim the providing of one of the tumbler plates with the tongue, r, and the recesses, s, s', in the bolt tumbler, E, operating together as described, and for the purpose of securing the bolt tumbler, E, in its position when the lock is in its locked or unlocked state.

And I further claim the combination of the key and bit plate. I am perfectly aware that bit plates and keys of similar construction have been used before separately, and I therefore do not claim any of these parts when used separately.

But I claim the same, when combined in the manner substantially as described.

SOAP MIXTURE.—Isaac Roraback, of the Parish of Caddo, La. I claim the compounding of them in such proportions as to form a solid of suitable consistency which I believe excels any other soap in its suitability for cleansing clothes of every description, and for toilet purposes generally, as well as in point of cheapness, convenience, and dispatch with which it is made.

WASHING MACHINES.—Louis C. Rodier, of Detroit Mich. I do not claim a washing machine having a flexible apron or jacket suspended upon springs, and partly enclosing a revolving cylinder armed with ordinary flutes.

But I claim the revolving cylinder, K, composed alternately of flanges, J, and spaces opposite said flanges, in combination with the jacket, G, arranged and operating substantially in the manner and for the purpose set forth.

TIN PANS.—E. F. Parker and J. Smead, of Proctorville, Vt. We claim a milk pan with a struck up bottom, and united to the side in the manner and for the purpose described.

PROJECTILES.—Malcom Shaw, of Sandwich, Mass. I am aware that double shells with separate chambers for explosive and incendiary materials have been used. I therefore do not claim such, independent of the devices combined therewith.

I claim the improvement upon this kind of shell, whereby I am enabled to use melted metal as the incendiary material, and which consists in lining the chamber of the incendiary material with some non-conducting and refractory substance, such as pipe clay, black lead, &c., and perforating the iron, to allow the escape of the gas therefrom, thereby providing against premature explosion, and retaining the heat in the melted metal.

MOLD CANDLE MACHINE.—Benjamin D. Sanders, of Holliday's Cove, Va. I claim causing the wick centering slide, c, to stretch and hold the wick in the mold by its operation on the wick, when bent over the slide, and said bent portion of the wick having the drawn candle attached or suspended to it in rear of the notched edge of the slide, essentially as set forth.

PORTABLE FIRE-ARMS.—John Tilton and William Floyd, of Rock House, O. We claim the combination of the levers, b and d, spring, V, and bridle, s, arranged and operating substantially as described, for effecting the simultaneous release of the trigger and removal of the muzzle cover.

PROJECTILES FOR RIFLED CANNON.—John M. Sigourney, of Watertown, N. Y. I claim recessing the cylindrical part of cylindrical shot and shells in such a manner that the contact of the said shot and shells with the bore and grooves of the gun be confined to the projecting ribs, b, and belts, A, which belts and ribs are finished to fit the bore and grooves with precision, substantially as set forth.

OPERATING SUPPLY AND DISCHARGE VALVES OF HYDRAULIC ENGINES.—Homer H. Stuart, of New York City. I claim arranging the four flap valves on the rock shaft, R, to operate in the separate compartments of the two valve boxes, placed at one end of the cylinder, and operating the same by means of the sliding arch piece, G, connected with arms at opposite ends of the said rock shaft, R, and driven by the vibrating arm, D, of the main rock shaft, B, of the engine, substantially as set forth.

The engine to which this invention chiefly applies is the semi-rotating or vibrating piston variety, like the well-known steam engines of the war steamer "Princeton." The valves receive their motion from an arm on the end of the main rock shaft, B, and are worked very suddenly, and by a motion beautifully adapted to this class of engine.

CAST IRON PAVEMENTS.—Chas. J. Shepard, of Brooklyn, N. Y. I do not claim double inclines in themselves, as wooden paving blocks have been formed as pairs of double wedges set in alternate opposite directions. But I am not aware of any metallic paving block having ever before been formed in a polygonal shape with the vertical or nearly vertical sides to steady the blocks, and with the inclines around the upper parts of said sides taking projections from the adjoining blocks, which projections are unequal distances from the angles of the blocks to prevent any two coming opposite to each other, when laid together.

I claim forming polygonal metallic paving blocks with the inclines, 2, 2, at the upper part of the straight sides and with the projections, 3, 3, to take the inclines of the adjoining blocks at unequal distances from the angles of said block, substantially as and for the purposes specified.

HUSKING CORN.—Hiram Strait, of Covington, Ky. I claim the toothed drum, D, with its projecting jaw or knife, K, and cam, X, in combination with one or more ear holders, V I H, arranged substantially as specified.

I also claim the ear holders, V I and H, when constructed and arranged substantially in the manner specified.

DOOR SPRINGS.—Leopold Thomas, of Allegheny City, Pa. I do not claim the use of the spiralspring, c, nor the roller, b.

But I claim the use of compound lever, g, h, in combination with the connecting arms, K, K', and spiralspring, c, or their equivalent, in the manner and for the purposes set forth.

MELODEONS.—Thomas F. Thornton, of Buffalo, N. Y. I claim the combination of an extra adjustable joint, E, with each of the push-down pins, b, 2, in the manner substantially as described.

[By pulling a knob, both banks of keys are united, so that quadruple notes will be sounded by playing upon one set of keys. There is an arrangement within for accurately adjusting the keys. The above couple is simple in construction, easily applied, effective, and durable. We regard it as a valuable improvement.]

GUIDE WHEELS FOR R. R. CARS.—Jno. B. Wickersham, of New York City. I do not claim guide wheels, as these have before been used against the inner sides of the track, and not against the said guide wheels, which have ever before been used in connection with a grooved rail, thereby lessening the liability for the car to run off the track, as set forth, when said guide wheels are each provided with a separate attachment for allowing of their rise and fall independently of each other, to pass any obstructions, as specified.

I claim the guide wheels, D, at the front and rear ends of the car, when combined with the grooved rail and attached to the car, in the manner and substantially as and for the purposes specified.

HARVESTERS.—David Watson, of Newark, N. J. I do not claim separate and endless apron discharging, or the cut grain from the platform, for endless aprons, and in some cases gates, have been previously used for the same purpose.

But I claim the gate, J, in combination with the inclined endless apron, I, and platform, H, when arranged and operated in the manner and for the purpose specified.

[This harvester provision is made for discharging the cut grain from the platform in sheaves or gavels, and also for regulating the size of the sheaves. It also provides for attaching the finger-bar to the main frame of the machine in such a manner that the sickle is allowed to rise and fall, and thus to conform to the surface of the ground, and pass easily and safely over obstructions.—The gate is ingeniously arranged to be easily operated by the driver at will, so that the gavels or sheaves may be always of the proper size, whether the grain be thick or thin.]

SEED PLANTERS.—Firman Goodwin, of Astoria, N. Y. I claim arranging the seed hoppers and seed cylinders, and the mechanism which operates the seed cylinders upon movable bars, D, in combination with the double crank, J, and frame, A, in the manner and for the purpose set forth.

[See engraving and description of this invention on another page.]

HULLING AND SCOURING WHEAT.—Joseph Weber, of Braysville, Ind. I do not claim a polygonal surfaced drum or cleaning chamber having a roughened series of projections or a roughened surface, for I am aware such have been used for many purposes.

I claim, first, the polygonal chamber, A, when made substantially in the manner described, so that the grain will be turned over and over during its descent through the chamber, and be rubbed without being broken.

Second, The curved and notched arms, a, a, in combination with the polygonal chamber, A, when constructed and used for the purpose described.

Third, The combination and arrangement of the polygonal chamber, A, curved and notched arms, a, a, and the smooth triangular arms, c, c, as and for the purposes described.

VALVES FOR STEAM ENGINES.—Norman W. Wheeler, of Cincinnati, O. I do not claim actuating simultaneously, by the inlet and exhaust valves, by means of steam derived from the working cylinder. I do not claim the passage of the piston over the exhaust port at the termination of a stroke, when the object is merely to cushion and arrest the motion of the piston.

I claim, first, actuating the release valves of a steam engine by means of steam pressure derived from the working cylinder, and released therefrom by the passage of the receiving piston over and beyond appropriate ports, when the receiving valves are actuated by other means substantially as described, or in any equivalent way.

Second, Actuating the receiving valves of such engine by means of the differential pressure of steam flowing into the steam cylinder, when the resistance to be overcome arises in whole or in part from steam pressure upon one of the valves, and actuated together substantially as described, or in any equivalent way.

Third, Opening the exhaust passages into the cylinder near each end thereof, but within the stroke of the piston, for the purposes set forth.

Fourth, Connecting puppet valves together in pairs, so that steam pressure upon the one which is closed will hold its fellow open as set forth.

PLATES FOR FIRE PLACES AND GRATES.—F. E. Pitt, of Nashville, Tenn. I am aware that grated, reticulated and perforated plates, (the last being described in the patent granted to Jacob Cohen, April 15, 1855,) have heretofore been used in the throats of fire places or flues of stoves, also that a fire back composed of metallic plates arranged like the slats of a window blind, is described in the patent for a cooking stove granted to G. Smith and H. Brown, May 15, 1847. I claim none of these. I am also aware that it has been proposed to place a grate with angular bars similar to mine in the flues of cooking ranges. I do not claim the plates so placed.

I claim the back plate for fire places and grates, constructed with the series of angular ridges, furrows and slots, in the manner and for the purposes described.

AGING LIQUORS.—Anson Wolcott and A. Spencer Wolcott, of East Bloomfield, N. Y. We claim the employment of swinging shelves, or their equivalents, for the purpose of gently agitating the liquors, while they are exposed to a moderate heat substantially as described.

[Wines and liquors are in general esteemed in proportion to their age. Various expedients have been resorted to for giving to liquors "age" more rapidly. In ancient times the wine was placed in skins, and hung up in the smoke of a fire, where it would receive a gentle heat. A constant movement of the particles of the liquid was thus occasioned, and the qualities due to age were obtained in less time than when not exposed to warmth. The mode frequently adopted of late years to obtain "age" in the least period of time is to put the liquors on board of ships, and send them on voyages through the tropical climates. The gentle undulations of the sea combined with the heat of the atmosphere in the tropics give both motion and warmth to the liquids by which their qualities are sensibly improved. In other words, "age" is thus imparted to them, and liquors are increased in price in proportion to the number of times they have crossed the equator. Messrs. Wolcotts' improvement consists in subjecting the liquors to what may be termed an artificial sea voyage. They place the liquor upon shelves, which are gently swung to and fro the apartment being suitably heated and kept dark. Heat and undulation are thus conveniently communicated, and the desired "age" is obtained in much less time than by any other known method. This improved process continued for one year gives a value to the liquors which requires four years' time to attain by the ordinary means.]

METALLIC ROOF.—Wm. E. Worthen, of New York City. I claim a roof composed of U shaped metallic beams, which themselves are a portion of the covering, and of arching metallic plates, plain or corrugated, connecting said beams and composing the rest of the covering, the whole being constructed substantially in the manner described.

REFLECTORS FOR LOCOMOTIVES AND OTHER LAMPS.—Isaac Carleton, of Brooklyn, N. Y. Assignor to John Wybird, of Baltimore Md. I make no claim to the passing of an air light tube through the reflector, separately considered, nor do I claim protecting the reflector by a glass, conforming to its surface and hermetically sealed at the chimney openings and the rim of the reflector as shown in the patent of Alonzo Farron, dated April 14, 1844.

I claim the air tight glass cylinder, B, passing through the reflector, in combination with the glass, G, hermetically sealing the mouth of the reflector, arranged and operating substantially as and for the purpose set forth.

MASTIC ROOFING MATERIALS.—N. A. Dyer, of Lynn, Mass. Assignor to himself and Seth D. Woodbury, of same place. I claim the employment of sulphuric acid (or an acid having a similar effect) in the treatment of substances or compositions containing hydro-carbons, in the manner and for the purposes essentially as described.

FLUXES FOR TREATING ALLOYS.—Elie Mourier and Jules Francois Edward Vallent, of Paris, France. Assignors to Henry Migeon, of New York City. Patented in France Dec. 30, 1854. We do not claim making an alloy of copper and zinc, or of zinc and copper, as this is well known, and we do not claim the employment, in combination, of the specified non-metallic chemical substance, used with said metal during the process of refining, as said non-metallic substances may be slightly varied according to the quality of metal operated on, so long as substantially the same effect is produced on the metal by the ingredients specified, or others having equivalent properties, therefore, we do not claim them.

Neither do we claim an aperture, nor two piston heads on one rod separately.

We claim measuring and distributing grain seeds or fertilizers, by two or more piston heads, and one rod or their equivalents operating in and out of an aperture in the manner and for the purpose substantially as described.

SHIPS STEERING APPARATUS.—J. B. Holmes, of New York City. Assignor to J. R. Pratt, of same place. I do not claim the manner of moving the rudder by means of a rack and pinion operating by gearing.

I claim, first, the arrangement of a pinion on the end of the tiller working in a stationary curved rack attached to the deck of the vessel in connection with a friction roller working against a smooth stationary surface to prevent the rudder from being pressed out of its place, in the manner substantially as described.

Second, I claim the arrangement of attaching the pinion to the end of the tiller, in connection with a beam in such a manner as to be able to move and pivot further into a stationary rack by the action of said lever for the purpose of producing a friction sufficient to hold the rudder thereby in any desired position, at the same time to lock the gearing to prevent any back lash on the steering wheel.

SHIPS CAPTAINS.—J. B. Holmes, of New York City. Assignor to J. R. Pratt, of same place. I claim the vertical recesses, C, and wells extending the whole length of the barrel of the capstan, and allowing of two or more turns of the cable around the capstan as set forth.

SWAGING IRON.—Julius Foster, of Brooklyn, N. Y. Assignor to John Herbold, George Kuhn and Junius Foster, of same place. I claim adjustable block, f, and rollers, h and i, set on and moved by the lever, g, when combined with the pattern, c, and flanch, l, the whole constructed and operating substantially as specified.

NAUTICAL ALARM.—E. L. Seymour, of New York City. Assignor to J. G. Wright, Chas. Wright, and H. I. Geyer, of same place. I claim the combination of frame, rods, hammers, axles, springs, pendulum, levers and gongs or bells, substantially as above described, to be placed upon the masts or rigging of a vessel, for the purpose of causing alarms and giving warning of rocks, shoals, or other dangers upon the coast or at sea, and I do not mean to confine myself to any particular materials in the construction of the same nor to the placing of the rings, levers and springs above or below the center of oscillation, but to vary the position of the same, and of the gongs and their number, as I may deem desirable, so long as I adhere substantially to the description.

REDUCING AND SMOOTHING BOARDS TO UNIFORM THICKNESS.—Tristram D. Knight, of Charleston, Tenn. I do not restrict myself to the cylindrical form of the grinder, as the disc or some other form might, under certain circumstances, be substituted with advantage.

Neither do I confine myself to the use of an emery grinding surface, as many other things are well known for abrading and polishing wood, which might be employed in the place of emery; and as an example I will mention rasps and files, but the variety of such things is too well known to require special enumeration, and too numerous to be particularly named in a specification.

I claim the combination of the reducing saw, with the finishing grinder, for the purpose described.

POINTING AND THREADING SCREWS.—D. M. Robertson, of Manchester, N. H. I claim a pointing tool, arranged in connection with one or a series of threading tools, and traversed slower than the threading tools, and so far in advance of them as to form the point of the screw blank, and prepare it for the threading tools substantially as described; and I make this claim whether the pointing tool is traversed by the devices described, or by such other devices will answer the purpose.

I claim the plate or guide, A, when made to traverse, substantially as described, whether it is operated by the devices described, or such others as will answer the purpose.

I claim the guide or rest, W, when made to traverse substantially as described, whether it is operated by the devices described, or such others as will answer the purpose.

BREECH LOADING FIRE ARMS.—B. F. Joslyn, of Worcester, Mass. Patented Aug. 23, 1855. I claim a cone

headed pin, with two or more expanding rings, substantially as shown and described for the purpose specified and in making the exterior of a breech pin, as described; cone shaped for the purpose as above set forth; also, combining the same with the radial or hinge breech, substantially as shown and described.

ADDITIONAL IMPROVEMENT. Looms.—J. O. Leach, of Ballston, N. Y. Patented Oct. 30, 1855.—Additional improvement, July 8, 1856; I claim the change in the relative position of cams 2 and 4, 3 and 5, in the manner and for the purposes substantially as set forth.

THE FOLLOWING WERE ISSUED FOR THE WEEK ENDING MARCH 10, 1857.

STOP-MOTIONS FOR STEAM ENGINES.—John T. Ackley, of Philadelphia, Pa. I claim the rod, G, with its nuts, e and e', in combination with the spring lever, H, having two fulcrums, h and i, and the spring catch lever, L, the said rod, G, being operated—in case of accident—by the cross head of the steam engine, or other convenient working part of the same, and the said catch lever, L, being connected to the eccentric rod, or to a stop valve in the steam pipe, and the whole being arranged and constructed substantially in the manner and for the purpose set forth.

CUT-OFFS OF STEAM ENGINES.—John F. Allen, of New York City. I claim, first, the arrangement of the sliding cut-off valves, A, A', to work on a separate seat arranged inside of the seat of the main valve, and having a precisely similar arrangement of ports to the seat of the main slide valve, substantially as described.

Second, Though I do not claim the closing of the cut-off valves by steam pressure, I claim the foot pieces, k k', and levers, l l', attached to opposite ends of the main slide valve, and operating in connection with pistons, E E', that are attached to the cut-off valves, and working in cylinders connected with the main steam passages, and with spring catches, J J', that retain the said pistons and adjustable sliding pieces, n n', or their equivalents, substantially in the manner specified.

[This invention may be adapted to any slide valve engine at present in use, at small expense, using the same steam chest and slide valve. It is, on this account, one of the most desirable of the many inventions lately developed for cutting off the steam instantaneously, and hence without any previous unnecessary contraction of the passages at any point between the commencement of the stroke and the half stroke of the piston. It would add greatly to the economy of most engines now running.]

GRINDING SAWS.—Emanuel Andrews, of Elmira, N. Y. I claim connecting the saw to the mandrel by the ball joint, for the purpose of adjusting it to the position of the rollers while being operated on by the stones, whether these act conjointly or independently, and to prevent straining the saw, as specified.

Second, The plate, g, for the purpose of allowing me to guide and grind a saw even in thickness, regardless of its hard or soft parts, thus perfectly balancing the saw, as set forth and described.

FELT CLOTH.—Geo. C. Bishop, of Norwalk, Conn. I claim, in contradistinction from forming a bat for felt cloth, by carding from laps, a bat made from ropings or rovings, carded and formed substantially in the manner described.

PLATES FOR TEETH.—A. A. Blandy, of Baltimore, Md. Ante-dated Dec. 11, 1856. I claim the use of plates of artificial teeth of an alloy, substantially as described, suitable for such a purpose from its chemical and physical properties, and that practically will not shrink or expand in solidifying.

PUMP.—J. F. Brickley, of Winchester, Ind. I claim arranging a rod in connection with the valve of the pump so that said valve may be closed or opened at pleasure by the user, for converting an ordinary lifting pump into a lifting and forcing pump, or vice versa, as set forth, and for the purpose explained.

MELODEONS.—Riley Burditt and Hatsel P. Green, of Brattleboro, Vt. We do not claim to be the first inventors of musical instruments in which two or more notes in different octaves are sounded by pressing a single key, for we are aware that organs, melodeons, pianos, &c., having such features have long been known; the patent of Whipple & Bowe, 1854, is an example of the kind. In their instrument each set of connecting levers has its own fulcrum board, one of said boards is hinged and rendered movable, so that its set of levers may be thrown in or out of connection with their corresponding keys by raising or lowering the fulcrum board.

The employment of double fulcrum boards involves increase in construction, and want of compactness. Besides, the end connection between the levers and the keys require to be flexible, to a certain extent, which is expensive, lacks accuracy, is liable to become loose, cannot be adjusted readily, nor conveniently removed or applied to the instrument.

But, by our arrangement, the levers are all fulcrumed on one and the same fulcrum board, which slides, and thus brings the levers into or out of connection with the keys. Our plan is simpler, more compact, cheaper, and more easily applied than the invention above described. The ends of our levers are united by means of ridged adjusting screws, by which the levers may be adjusted with the utmost accuracy and convenience. But we do not claim such adjusting screws, as they are seen in J. F. Thornton's device, 1847.

Our fulcrum board and levers may also be removed or replaced readily, without the necessity of putting the end of each individual lever, one by one, into its loop by hand, as in Whipple & Bowe's device.

We do not claim the combination of levers with push down buttons that have shoulders or collars upon them. This is seen in H. N. Goodman's melodeon, patented 1853.

Neither do we claim any part or feature of the described invention, which is seen in any other analogous instrument; but to the best of our knowledge and belief it is new to have all the levers fulcrumed upon a single movable board, as set forth.

We claim having the fulcrum of the connecting levers, B, located upon a single movable board, C, substantially as described.

[This is a simple and very effective improvement.]

ROCK DRILLS.—Thos. H. Burrigide, of St. Louis, Mo. I claim the combination of the sliding head, N, with the ratchet guide piece, M, bumper, O, spring, R, rod, b, and drill bar, A, A', when said parts are constructed and arranged for joint operation, substantially as set forth.

HARVESTERS.—Hiram Clark, of Rochester, N. Y. I do not claim double cutter bars; nor an advancing and withdrawing stroke.

But I claim giving to each of the cutting bars, alternately, an advancing upward stroke against the grain, as specified.

HARVESTING GRAIN.—Geo. R. Crane, of Caldwell, N. J. I claim operating the bars, M, N, to which the rake teeth, a, are attached, from left to right, by means of the straps, O, roller, P, cord, f, and spring, G, when the same are constructed and arranged, in relation to each other, within the divider or shield, X, in the manner and for the purpose set forth.

WIRE ROPE.—Joseph Cushman, of Racine, Wis. First I claim the arrangement of the twosets of reels, e and j, in combination with the carriage, E, whereby the strands may all be adjusted and drawn out to the proper length simultaneously, as set forth.

Second, I claim the swinging arms, m, in combination with the traveling top, H, when constructed, arranged and operating in the manner substantially as and for the purposes set forth.

RAISING OR LOWERING FARM GATES TO ALLOW THEM TO PASS OVER OBSTACLES.—Dennis E. Penn, of Tallmadge, O. I claim the section, H, with the slot, h, spring, J, stud, g, section, I, arm, h, and the notched plate, K, when arranged and operating substantially as described, for the purpose set forth.

I also claim the slide, E, and pawl, E', when combined in the manner and for the purpose set forth.

OPERATING SAW MILL DOGS.—Geo. W. Hearn, of Princess Ann, Md. I make no claim to operating the head blocks from the movement of a single ratchet wheel.

Nor do I claim the separate movement of the head blocks.

But I claim the longitudinally moving shaft, S, in combination with the shaft, S, and the clutches, ff, arranged and operating as specified.

ESCUTCHEON FOR KEY-HOLE—Edmund Field, of Greenwich, Conn. I claim the broad idea of jointing metallic or other bars by means of hinges or pivots, as this is everywhere well known.

But a key-hole drop made in two parts, pivoted together has never before been known. It is a new article of manufacture, possessing virtues and advantages not seen in any other article of the kind.

I claim the key-hole drop, C, composed of two parts, b, c, pivoted together.

[Many of our best locks are fitted so that the face of the key-hole is recessed or sunk some quarter inch or more below the general plane of the surface of the door or chest. This construction is stronger and more elegant than to have the key-hole flush, but it does not admit of an escutcheon in the usual form, as there is not room within the recess for such to be turned aside. This simple invention provides a hinge in the escutcheon, and thus completely surmounts the difficulty.]

COILING STEEL SPRINGS—Perry G. Gardiner, of New York City. I claim, first, the cone mandrel, c, d, constructed of wood, so that the spiral cone will slide off and upon the straight part of the mandrel, the straight part having the slot or groove, and being an eccentric, so that one edge of the slot will be lower than the other, and gradually rising round to the other edge or side of the mandrel, as above described.

Second, the construction and arrangement of the sliding frame, T, for carrying or feeding up the steel plate upon the cone mandrel, and having attached to it the table, Q, self-adjustable to any required inclination, for supporting and holding the steel plate while being drawn in upon the mandrel, and sustaining the adjustable rollers, n, n', with their adjustment, to suit any required thickness of the steel plate.

Third, the arrangement of the loose or sliding pressure roller, U, and the lateral motion upon the axle, b, by means of the arms, V, V', attached to the sliding frame, T, and the simultaneous graduated downward movement to press and guide the steel plate upon the spiral cone.

Fourth, the combination of the sliding frame, T, and the parts attached to it, and the pressure roller, U, and the intermediate guide plate, B, with the cone mandrel, c, d, arranged and operating in a direct motion, or reversed, as described.

Fifth, the arrangement by which the wheel, G, is thrown in and out of gear, so as to connect or disconnect the shaft, L, with the shaft, S', by which connection or disconnection may be made by hand or by the operation of the machine itself, at the proper moment, in the manner and by the means above specified.

SHEARING STEEL PLATES—Perry G. Gardiner, of New York City. I claim the arrangement of the movable bracket plate, M, so as to adjust the lower steel cutter, q, to the upper steel cutter, a, f, as required, the adjustable guide plate, F, M', and the guide bars, q and r, upon the tables attached to M, and the eccentric lever, S, the whole combined, arranged, and operating in connection with the shears, in the manner and for the purposes above described.

LUBRICATORS FOR STEAM ENGINE CYLINDERS—John Henwood, of New York City. I claim the piston, B, having the oil cup attached by a hollow stem, and provided with a valve, j, working in an oil cylinder, C, that is provided with an arrangement of passages, e, f, f', substantially such as described, leading to the steam cylinder, valve chest, or other part to be lubricated, and with a cock, having an arrangement of passages, e, f, f', k, to correspond with said passages from the oil cylinder, the whole operating substantially as specified.

[This is, in effect, a very simple and easily worked pump for the important purpose of injecting oil to any part when opposed by pressure. The small piston is raised by hand, and the small cylinder fills very naturally with oil, after which, by turning a cock, the pressure of the steam or other fluid is made to act above the piston, and thus to aid in forcing the oil to the place desired.]

NIPPLES—Wm. Cleveland Hicks, of New Haven, Conn. I claim my improved nipples (two or more prongs with or without hooks, for withdrawing loaded balls or cartridges from breech-loading fire-arms, as described) for the purpose of lighting percussion and discharging loaded balls or cartridges.

And secondly, my method of using one, two, or more nipples, or prongs, with hooks as described, to withdraw cartridges or loaded balls from breech-loading fire-arms, by causing said hooks to indent or spring the rim of a cap or primer, as described, and by catching hold of said rim, to withdraw the loaded ball, or cartridge, by the act of drawing back the nipples, all substantially as described and specified.

ENAMELING CAST IRON—Geo. W. Holley, of Niagara, N. Y. I claim the process of covering the skeleton or core plate and core rod, in the manner described, with the compound or composition with which it is proposed to coat or cover the iron, and then pouring the melted iron on or around said compound or composition, and melting or softening the same so that it will adhere to the surface of the iron as it becomes cold.

The same process may be used for coating or covering copper, brass, and other metals.

FIRE-PROOF STONE—Phos. Hodgson, of Brooklyn, N. Y. I claim the useful manufacture of a fire-proof artificial stone composed of felspar, mica, and quartz, and the other substances or materials described, in the manner and for the purpose set forth.

[This is a readily molded stone, intended as a substitute for plaster and stucco work, for architectural ornaments. The material is pulverized granite, sulphates of lime, zinc, and iron, also starch and tannin, peculiarly wetted and mixed, and allowed to stand a few minutes in an oiled mold. We shall recur to this again.]

WOODEN CHAIR SEATS—Edwin Artemas, & Cheney Kilburn, of Burlington, Vt. We do not claim a wheel having its periphery or face coated with sand or emery, for such wheels have been previously used for polishing.

But we claim shaping or hollowing out the faces or upper sides of chair seats by means of a grinding or cutting wheel, D, when said wheel has a convex face or periphery coated with sand, emery, or other suitable substance, and using in conjunction with said wheel, the screw, f, or its equivalent, with the circular plate or disk, h, attached, substantially as described.

[This invention presents increased facilities for what is one of the most important of our wooden-ware manufactures. The screw alluded to urges the chair-seat properly against the wheel. The whole is much simpler than the machines heretofore in use for the purpose, and the surfaces produced require no sand-papering.]

HYDRAULIC JACK—Geo. Lindsay, of New York City. I do not claim the device or arrangements of the pumps or working parts, or the safety and lowering valve.

Nor do I claim the device or arrangements of the piston rod, H, or of the ram, D.

But I claim the arrangement of them all combined as constituting the specific whole machine, as shown and set forth.

[The great merit of this over the admirable jack pumps before in use, is its ability to serve either as means of directly forcing apart or of as directly and conveniently drawing together. Hooks are provided for this latter end, and a new implement is thus produced of great practical value in many situations.]

CARRIAGE SPRINGS—Chas. A. McElroy, of Delaware, Ohio. I claim the springs, o, pivoted as described, and struts, n, all arranged and operated in the manner and for the purposes set forth.

CUTTING SCREWS—Thompson Newbury, of Taunton, Mass. I claim the jointed elevator passing through the bottom of a lined pan, substantially as set forth.

I claim the vibrating slotted guide piece, fixed to the carrier shaft, operated by arm, M, and pin, n, as set forth.

I claim giving the threading tool, for the purpose of pointing the blank, a motion independent of and slower than that required to effect the threading, substantially as set forth.

I claim the catch wheel, C', with its pawl and stop, in combination with the leader worm, T, as set forth.

BENDING SHEET METAL—Daniel Newton, of Southington, Conn. I claim the application to double seaming machines, of a roller, containing an angular groove, in which the seam runs in the first revolution, substantially as described.

CARPENTERS' PLANE—Oldin Nichols, of Lowell, Mass. I claim connecting the cap, D, to the plane iron, C, by the hook-headed bolt, E, with two nuts, F and G, thereon, to hold them together, and then securing the iron to the plane stock, A, by a cam shaft, H, operating upon this same hook-headed bolt, which is so adjustable as to be lengthened or shortened, that any desired pressure may always be had to firmly hold the iron to the stock, by turning the cam shaft, and still allow the plane iron to be moved in or out of the plane, to cut a thick or thin shaving without further tightening or loosening it; these parts being arranged and operated in the manner and for the purposes fully set forth.

I also claim the plate, g, secured to the plane stock, and interfering with the surface, a, of the hook, E, and the surface, e, of the cam shaft, H, to prevent wear of the hook and cam, and also to prevent the hook, E, and plane iron, C, from sliding back, when the cam shaft, H, is turned to tighten the iron to the plane stock, essentially in the manner and for the purposes fully set forth.

I also claim the application of one single handle, B, to answer for and be secure to a whole set of any number of plane stocks, either in the lower or elevated position, and changeable from one position to another, or from one plane to another, instantly, and be secured firmly thereto, by means of the hook, K, and cam, L, or their mechanical equivalents, arranged and operated essentially in the manner and for the purposes fully set forth.

PREVENTING DUST, ETC., FROM ENTERING THE WINDOWS OF RAILROAD CARS—Philip M. Pyfer, of Baltimore, Md. I claim the arrangement of rotary fans, D, D', or their equivalent, upon the outside of the body of the car, when employed in conjunction with the windows thereof, substantially in the manner and for the purposes set forth.

VALVE GEAR OF DIRECT ACTION STEAM ENGINES—J. P. Ross, of Louisville, Pa. I claim the elastic lever, I, as applied and operating substantially as described, in combination with the oscillating yoke, H, the traveler, P, and the roller, r, or its equivalent, for the purposes set forth.

[By direct acting engines in this claim is meant those which have no crank motion or balance wheel, but reciprocate directly, as in many pumping and blowing engines, and in some saw mills. The elastic lever and yoke give just sufficient lead, and yet ensure a full opening to the valve. This is an improvement in the engine illustrated in page 44 of the present volume.]

FLUID GATES OR FAUCETS—J. W. Smith, of Hartford, Conn. I claim the slide, A, guided, secured and made adjustable, as described, by the screw pin, D, and nut, e, having a guiding flange, d, to travel within guide strips, f, when the same are used in connection with an operating lever, E, loosely connected by recess, g, with said slide, for the more convenient removal of the parts and retention of the slide in case of breakage of the lever, and for the more free and independent operation of the parts, and so that the one bolt, D, holds the slide, with both the operating lever, E, and the traveler, P.

I also claim, in the combination of the lever, E, and slide, A, or therewith, the fulcrums, i and k, at different distances from the center of the slide and slotted arm, h, for operating in the manner and for the purposes substantially as set forth.

CHUCK FOR WATCHMAKERS' LATHE—Wm. Stephens, of Richmond, Ind. I am aware that a chuck has been invented to be used in connection with cement for holding the shaft and wheel; but these chucks will only allow concentric pivots to be turned. I would remark that by my improvement the ends of shafts may be drilled, either centrally or eccentrically, to allow pivots to be fitted in the ends of the shaft, in case the former pivots of a shaft are broken off. This cannot be done in the usual lathe, nor by any tool used by watchmakers.

I do not claim, separately, the sliding or adjustable jaws, D, D', for they have been previously used in chucks, but I claim the sliding or adjustable jaws, D, in combination with the sliding or adjustable pivots, C, arranged substantially as described for the purpose set forth.

[This is a valuable improvement in the facilities for this fine branch of work, but cannot well be further explained without the aid of drawings. This chuck is particularly adapted to the watchmaker's lathe by the same inventor illustrated on page 233, vol. 10.]

TABLE GAUGE FOR CIRCULAR SAWING MACHINES—M. B. Tiley, of Ithaca, N. Y. I claim the construction of a portable saw gauge for the purpose and in the way substantially set forth.

SUPPORTING THE TONGUES OF COACHES—Z. B. Wakeman, of Beloit, Wis. I desire the use of the brace or braces, or their equivalent, attached to the reach, (or perch) of a wagon or other carriage, in combination with a spiral spring, or spiral spring, applied to the tongue of a wagon, or other carriage, and pressing against the reach, for the purpose of giving direction and steadiness to the tongue, by checking its motion sidewise, keeping it in a straight line with the reach, (or perch,) while it supports it, and also preserves the set of axle in its true position, as set forth in the specification.

But I do not claim a patent for raising or sustaining the tongue, in itself, as this has been done before in various ways; but I claim the arrangement and combination of parts as set forth for the purpose of giving direction and steadiness to the tongue while it supports it.

Nor do I claim said parts, or any other arrangement or combination of parts, not used or described in this specification.

BOMB FOR KILLING WHALES—N. Scholfield and Wm. W. Wright, of Norwich, Conn. Assignors to N. Scholfield aforesaid. We are aware that their use has been applied to bombs, by being inserted in a pipe, and molten metal afterwards being poured into the pipe, and the pipe to be encased and hold it tightly, and other modes of fastening the fuse have been adopted; but we do not claim the mode here referred to, or any heretofore used, nor do we claim the application of metallic wings or feathers to govern the direction of a projectile. We claim—

First, inserting the end of the fuse through a short holding pipe, and securing it, by compressing the same, and the drawing or forcing this within the end of the fuse pipe having a conical enlargement at its rear end.

Second, enlarging the end of the fuse cord, by winding it with twine, or its equivalent, so that it cannot be drawn through the pipe, and inserting it in the fuse pipe, either with or without the fastening pipe, a, and putting gypsum, brimstone or wax around it, within the nut, A, to hold it securely.

Third, We claim the application of the sliding collar, h, on a projectile carrying a cylindrical metallic plate covering the projectile, and either slit, to form wings, k, or unslit as a cylindrical case, and so constructed that the said collar, with the wings, or wings, shall slide the rear, after being discharged from the gun, either by the action of a spring, or the resistance of the air to guide its direction.

Fourth, We claim so constructing and applying these wings, k, that they may coincide with the cylindrical surface of the projectile while in the gun, and that their rear ends may be thrown up therefrom, by their elasticity, after being discharged, so as to stand in position diverging from that surface, in the rear, substantially as described.

GRAIN CRADLES—S. D. Warren, of Lebanon, Ala. I am aware that the fingers of cradles have been "gathered." I do not, therefore, claim the principle of so doing; but I claim the combination of the standards, C, D, E, fingers H, and spreader, A, when so made and united, so that by the bar G, said fingers may be gathered or adjusted as set forth, and for the purposes explained.

CIRCULAR SAWING MACHINE—G. P. S. Wardwell, of Lake Village, N. H. I claim the arrangement of two or more saws or cutters in a swinging frame, so that either saw or cutter may be brought to a suitable position for action, while at the same time the other or others shall be removed from the way, in the manner specified, or in any equivalent manner; and this I claim, whether or not a central or axial saw, or cutter, is combined therewith, or with a singlesawing saw or cutter.

HOOP-POLE SPLITTING KNIFE—Carver Washburn, of Bridgewater, Mass. I claim the improvement of applying a knife to the feed rollers, or the latter to the former, by means substantially as described, so that one may be made to approach towards and recede from the other, essentially in manner and for the purpose as specified.

STAMPING FIGURES IN CARPENTERS' SQUARES—Heman Whipple, of Shaftsbury, Vt. I claim, first, the arrangement of a series of chase bars, joined at one side of the machine, and with the hand wheel, h, rack, or rucks, j, and pawl i, for regulating the relative positions of the anvil and chase bars, substantially as and for the purposes specified.

Second, I claim the arrangement of the levers, s, a, and m, y, and y', bars z, and z', and slot v, and pin e, for the purposes substantially as specified, whereby the one motion of the lever, a (by the treadle t,) first turns the bar, z, around to confine the chase bar, c, and then gives the requisite compression of the chase bar at both ends on to the square or plate on the anvil, to retain the same firmly, while the chases are being separately struck into said square, as specified.

SELF-REGULATING WIND WHEEL—A. P. Wilson, of Salem, Ill. I do not claim, broadly, the application of weights to adjustable sails, whereby the sails, by the action of the wind, are adjusted, so as to present a greater or less surface to it, according to its velocity, for weights to be applied, and arranged in various ways for effecting the purpose.

But I claim constructing the sails of two parts, E, F, attached, or fitted to inclined frames, which are secured to the arms, C, D, the upper parts, F, of the sails, being hinged to their frames, a, and having weights, G, and cords, d, attached, substantially as shown and described for the purpose set forth.

[This appears to be one of the most simple and effective of the many devices for regulating windmills, and one which involves very little mechanism.]

LUBRICATING GAS COCKS—C. H. Johnson, of Boston, Mass. Assignor to himself and J. G. Hamblin, of same place. I do not confine my invention to making the stud, n, in the present form, in the manner above set forth, as it may be otherwise constructed, so as to move into or out of the opening, o.

I claim, when the tapering plug of the faucet or stop cock is drawn into the tular seat, by the action of the spring, f, as specified, combining with the seat tube, a, an entrance passage, k, and groove, l, and a movable stop, m, arranged substantially in the manner and for the purpose as specified, or, in other words, so as to enable a person to expeditiously lubricate the stop cock, without the necessity of entirely removing its plug from its seat tube.

SECOND ANCHOR SHACKLE—G. Gilmour, of Chelsea, Mass., assignor to himself and H. R. Glinkard, of same place. I do not claim a hoisting block made with a pawl and tripping lever, so applied to the pawl as to enable a person to elevate the latter out of engagement with a chain, when passing around the shear of the block.

But I claim my new improved anchor shackle, as made with a spring pawl, D, and trigger, or latching apparatus, E, F, e, arranged with reference to the roller, B, and made to operate substantially as described.

I also claim making the pawl forked, or with a recess, so as to enable it to straddle the chain as described.

RE-ISSUES. CARDING ENGINES—A. D. Shackel, of Grafton, Mass. Patent No. 23,185. I claim, first, the application to carding engines of two or more variable cylinders, arranged and operated in the manner substantially as set forth, for the purpose of preventing the filling up of the main cylinder.

Second, The use of a doffer in combination with strippers or cleaners, arranged and operating in the manner substantially as described, for the purpose of preventing the filling up of the main cylinder, and producing an uniform sheet.

SAW MILLS—Wm. P. Wood and Saml. DeVaughan, of Washington, D. C., assignors of G. W. Hedge, of Brooklyn, N. Y., assignors of Lemuel Hedge, of New York City. Patent No. 18,419. We claim the means above described to regulate the deflection of the saw blade when at work, that is to say, the application of the feed rollers to the back of the saw blade, for the purposes set forth.

We also claim the driving power to the lower pulley, b, when the saw is designed to work in its downward motion, substantially as set forth.

DESIGNS. COOKING STOVES—Allen Comstock, of Quincy, Ill. STOVE DOORS—M. C. Burleigh, of Great Falls, N. Y. [Pleasing effect on the eye is the whole object of this design. It involves a central ornament within an annular bead and radial corrugations on the face or panel of the door, with various beads around the edges of the panel.]

FLOOR OIL CLOTHS—James Hutchinson, of Lansingburgh, N. Y., Assignor to J. E. Whipple and S. E. Haskell, of same place.

Bending Steamed Wood.

MESSRS. EDITORS—In late numbers of your journal I have noticed frequent mention of machinery for bending timber. The principle which effects the purpose (and without the application of this principle timber cannot be successfully bent) as has been described, consists of an end pressure to prevent the separation of the fibres on the outer surface while in the act of bending. This principle is not new. We have had it in successful operation for several years, and can bend any kind or quantity of wood we ever tried after being properly steamed. On my machine we have bent poplar timber taken from near the heart of an old tree, and every mechanic knows this to be the most obstinate of timber to bend, to form near half of a circle, whose diameter was twelve inches, the stuff bent being inch and a half square, and after being dressed hardly any mechanic would discover that it was not the natural growth. This machine has been exhibited at the Mechanic's Institute and State Fair, with timber that was bent upon it, and elicited the admiration of all who saw it. The machine I speak of is used at the Tennessee Plow Factory, in Nashville. The device is not patented, but is public property, and for the benefit of your readers interested in bending timber, I will briefly describe it.

My machine has an iron form of the shape

desired to make the inner curve of the timber when bent, and an iron lever, with one end made thin and pliant, to bend with little resistance. This lever has a hook on the end, to attach it to the form, across the end of the timber, and a shoulder on the other end, outside of which is a nut, to screw the shoulder up against the end of the timber. When the timber is properly steamed, it is placed on the form; the lever is hooked on the end, and screwed up close against the other end, and then pressed down to its position. In the middle of the lever is a joint similar to a strap joint, with a long mortise through, to receive a key. Sometimes as the bending proceeds it is necessary to drive the key in and make the lever shorter between the shoulder, in order to effect a perfect bend; and again in bending timber that is very tough it will so strongly resist a compression of the fibre—or if the growths are large it has the same effect—that the nut on the end of the lever must be unscrewed when the timber is partly bent, to admit of stretching a little; this will secure a perfect bend, and obviate the tendency of the fibres to kink on the inside of the curve. This key and nut on the lever gives the operator entire control of the timber, and enables him to manage every piece as circumstances may require.

THOMAS SHARP. Nashville, Tenn., March, 1857.

Proper Pressure to Blow-Off Boilers. MESSRS. EDITORS—Will you be so kind as to inform me if it makes any difference how high the pressure of steam is in a boiler when blown off, if the fire is first withdrawn so as not to injure the boiler? I find nothing on the subject in any books that I have on the steam engine. C. A. C.

Yes. It makes a great difference in the incrustation of a boiler whether water is discharged hot or cold. If water is calcareous, it tends as soon as boiled down a little to deposit a crust on the whole interior. It happens that hot water, instead of as might be naturally supposed holding a larger quantity of these earthly particles, does not hold as much as cold, and hence arises the difference in effects in blowing off at different pressures, and consequently at different temperatures. If the water be blown out of a boiler at full pressure, it only carries out with it the particles then undeposited, (except, of course, a certain quantity of mud stirred up mechanically); but, if allowed to cool before it is withdrawn, the cold water will dissolve a part of the scale. Wiessenborn's valuable preventer of incrustation is based on the superior tendency of heated water to deposit, and the fact of this tendency is well known to chemists, and to many engineers, though not to all. The engineers of the propellers running between this city and Philadelphia keep their boilers perfectly clean, by taking care to draw out their water cold at the end of each trip, and replace it by new, while if they experimentally or carelessly once blow it off under pressure, they coat the whole interior with a thin white limy scale. The steamers plying between this port and Fall River do not lie long enough at either end to so cool their boilers complete, but do so as far as possible, even by pumping in cold water before blowing off; and as a general rule it may be said always cool down your boiler, and let the water flow out softly if you can, in preference to blowing it out under steam.

Balancing Slide Valves. It is a question of some interest whether Mr. Worthington, or any one else, claims to have a patent on the use, in every way, of a balance piston working in a cylinder, and connected to a slide valve, so as to partly annihilate the effect of the pressure thereon. It is in common use, and has been for several years. The locomotive, "Iron Duke," in the London Exhibition, 1851, had her valves thus balanced. D. D. Owen, the slate geologist, reports the existence of great deposits of brown Hematite ore in Kentucky, which yield an average of from 62 to 66 per cent of pure iron. Cunningham's Self-Reefing Topsails, an invention by which the sail is rolled up by revolving the yard, is in successful use on a number of English vessels.