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Street Pavements.

Five years ago, in the SCIENTIFIC AMERICAN of June 1st, 1850, we presented three engravings of different kinds of pavements for streets, and expressed our opinions of the kind that would be the best for this city. At that time there were two kinds of pavements in use, viz.: the old cobble stone and the Russ; (Perrine's was just being laid.) We presented reasons against the cobble stone, Russ, and Perrine kinds, and advised our city authorities to adopt the small oblong trap block pavement, illustrated by one of the figures referred to. There was not then a single yard of such pavement in our city, but now quite a number of streets have been laid with it, and such has been the satisfaction it has given, that in a very few years the whole of our city will be paved with no other kind, as street after street of the old cobble stones are being lifted, and the beautiful little oblong blocks laid down in their place. It affords us no small degree of pleasure to witness our city authorities adopting any useful suggestions for the benefit of the city; but the greatest pleasure we have experienced relating to our new pavements, is to behold the satisfaction it has given to our carmen, and to hear the praises it has received from all our citizens.

The Ericsson under Steam.

The *Nautical Magazine* contains a letter from J. B. Kitching, one of those who went to Havre in the Ericsson,—giving an account of the voyage. We must say that its tone is not good, as it makes a charge against some "steam friends" who doubted that the Ericsson could be propelled faster, at a less cost, than other boats. For the horse power expended by her, in the passage across the Atlantic, we do not see that she consumed any less fuel than some other steam vessels. She was in ballast trim—having taken no cargo—yet it took 14 days to reach Havre. The economy of fuel by the Ericsson, (22 tuns per diem,) if correctly stated, is a strong argument in favor of steam, and is equally so against hot air.

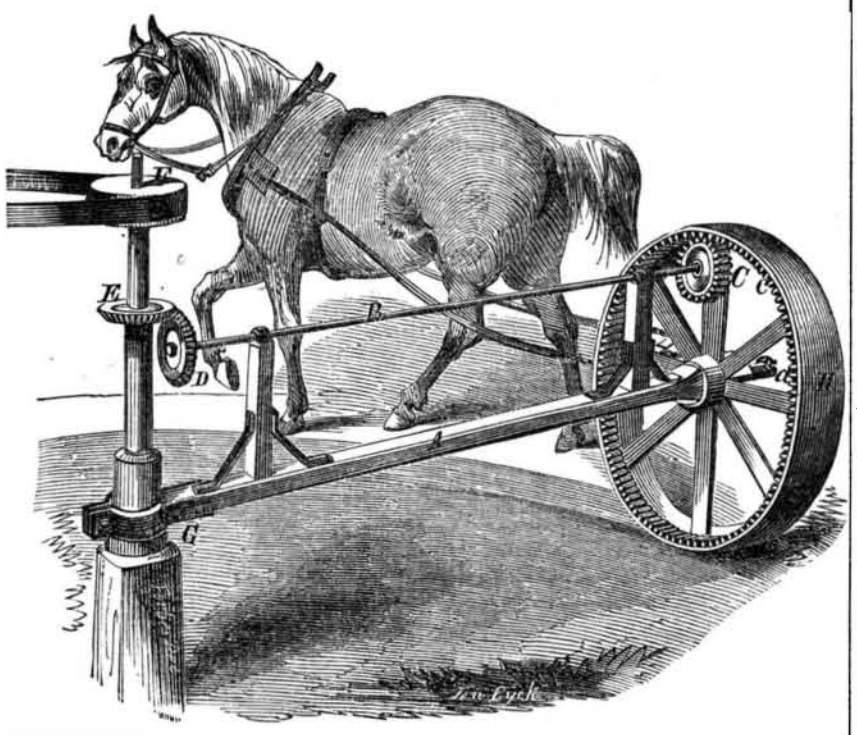
Rain fell during nineteen days last month. It has been the most rainy summer in sixty-seven years.

Improvement in Horse Powers.

The annexed figure is a perspective view of an improvement in horse powers for which a patent was granted to H. H. Fultz, of Lexington, Holmes Co., Mississippi, on the 3rd of last month. The nature of the improvement consists in placing a driving wheel on the outer end of a bar, the inner end of which turns on a pivot shaft. The horse is attached as shown in the figure, at *d*, and the driving wheel gives motion to a vertical shaft through gearing, and a horizontal shaft.

A is a bar the inner end of which is strapped to and turns on a pivot in the socket, G. On the outer end of A, the large broad wheel, H, is secured, and rotates on a journal of the shaft, A. It rests and rolls upon the ground. It has cogs, *c*, on its inner periphery, and these gear with a small pinion. C, on the outer end of the small shaft, B, which is supported and

FULTZ'S HORSE POWER.



rotates in bearings on uprights secured to bar A. D is a bevel wheel on the inner end of shaft, B, and E is a bevel pinion on a stout vertical shaft supported in the pivot post that sustains the bar, A. F is a pulley on said shaft from which the power is taken by a band to drive other machinery, such as cotton gins, presses, thrashing machines, &c. The horse being attached as represented, the driving wheel, H, rotates, and the shaft, B, drives pinion D, which takes into the pinion, E, giving a rapid motion to its vertical shaft, thus operating the driving pulley, F, from which power is taken to drive other machinery by a belt.

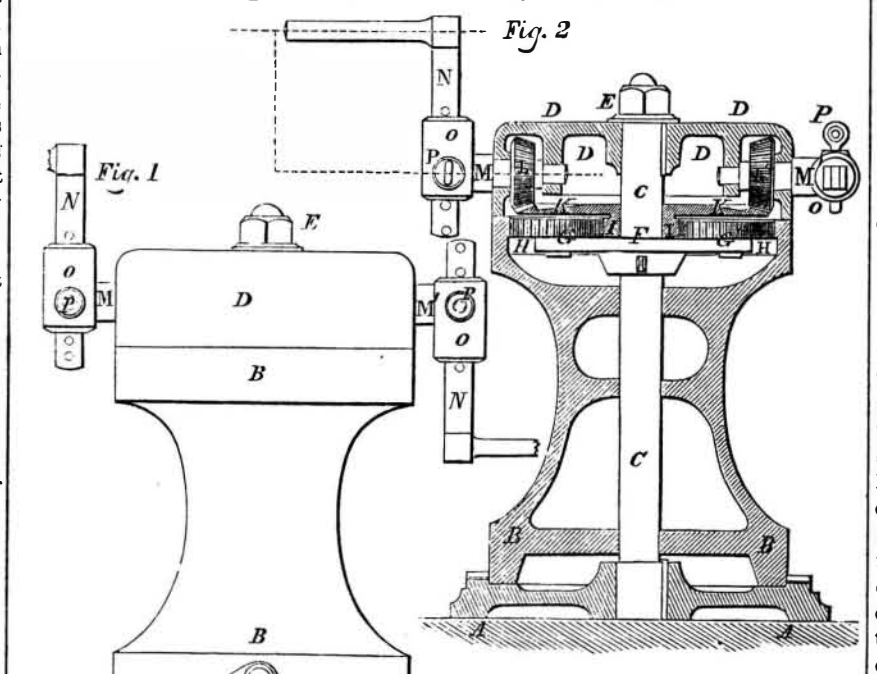
This horse power is very simple to make and run at a good high speed. It can also be constructed very cheaply. One of these has been used for a considerable time by the patentee, for driving a cotton saw gin of fifty saws, and it works admirably. Any mechanic of ordinary ability may construct such a horse power if he can obtain the castings for the wheels; if not, these may be made of wood boiled in oil. The figure tells the whole story, and requires no further description to render it any clearer to the reader.

For Southern and Western localities, where cheapness of construction, simplicity of management, and effectiveness of operation is wanted, this power will come into extensive use. It is one of the latest novelties in its class.

More information may be obtained by letter addressed to Mr. Fultz, at his residence above named.

HOLMES'S PATENT CAPSTAN.

Fig. 2



The accompanying engravings are views of an improvement in Capstans, for which a patent was granted to John B. Holmes, of this city, on the 7th of last month.

Figure 1 is a side elevation of the capstan, and fig. 2 is a longitudinal vertical section, showing the interior. Similar letters refer to like parts.

The nature of the invention consists in the arrangement of a stationary drum head in combination with a stationary base and spindle and revolving rope barrel or body, said barrel being moved by gearing and cranks.

A A is the bottom part or bed plate of the capstan, and of ordinary construction, secured to the flooring or deck of the vessel: the eye in its center receives the vertical spindle or axis C, made of wrought iron and keyed fast to the bottom plate, A. B B is the cast-iron and hollow barrel of the capstan, revolving freely upon the center shaft, C. D D represents the hollow top or drum head; it is also made firm and stationary with the spindle, C, and kept in the proper proximity to B, by means of the top nut, E, thereby allowing the barrel to move closely betweed the bed plate, A, and the top, D. F is a round plate, firmly secured to the spindle, C, and placed in a proper position to form the support, and the fixed centers for the two spur wheels, G G', these wheels are alternately in gear, with the toothed rim, H H, fig. 2, of the barrel. B B, and in the same time with a third wheel or pinion, I I. This pinion also forms one piece with the large bevel, K K, and both of them are made to revolve loosely upon the fixed spindle, C, maintaining their respective positions to G G'. The hollow top or drum head, D D, contains the bearings for the two shafts, M M', which carry in the interior of the head the two pinions, L L', gearing both into the bevel wheel, K, whilst the other extremities of the shafts project through the top of the capstan, for the purpose of receiving the cranks, N N, then by turning the cranks, proper motions are imparted to the wheel, K, with its pinion, I, and by means of the intermediate wheels, G G', to the barrel, B. The shafts, M M', are provided with cast-iron sockets, O O, arranged so as to allow the crank, N N, to slide through them for the purpose of varying the throw of the latter, as set forth; eye bolts, P P, being provided in the sockets, to keep them in the proper position, when once set and adjusted.

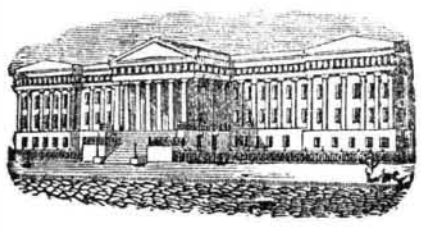
In the use of the common capstan, the men are obliged to jump over the cable or chain, as they walk around with the levers. This very serious objection is wholly done away with in the present improvement, while a compact, convenient and effective capstan is furnished, the expense of which, considering its increased utility, is small.

For more information address the assignee of the patent, J. R. Pratt, No. 62 Attorney st., this city.

Rapacious Claims of Patentees.

Some patentees having discovered one process, set up claims to all others which produce the like results. Their object is to shut off opposition to their interests, and they have not the candor to admit the just claims of *after* inventors in the same line, when these interfere with their profits, although the inventions may be very different This spirit has caused more patent litigation in our country than any other. The greatest law-suits have been between contending patentees in the same line of business. The recent decisions of the Supreme Court, U. S., on the Morse Telegraph and the Woodworth Planing Machines, have greatly rebuked this exacting and encroaching spirit. It is to be regretted that so much patent litigation has resulted from the rapacity of some men in obtaining re-issued patents embracing new claims, not embraced in nor discovered when their original patents were taken out, and if encouraged by the courts, it will tend to deter improvement and invention, and defeat the very purpose of the law established to "encourage discovery and improvement" in the arts, by granting patents to each for *his own* improvement. *

The pressure of the wind increases according to the square of the velocity. It amounts to 12 1-2 lbs. on the square foot in a storm moving at the rate of 50 miles per hour, and 50 lbs. on the square foot in gale of 100 miles per hour velocity.



[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office,

FOR THE WEEK ENDING AUG. 7, 1855.

MODE OF SECURING TIRES UPON WHEELS—John L. Irwin, of Franklin, Ala.: I claim attaching or adjusting tires to wheels, by having the ends of the tires bent so as to form lips or projections, a a, through which a screw bolt, C, is passed, for the purpose of drawing the ends of the tires together, and fitting the same tightly to the fellies or rim, the rim having a recess, d, made in it to receive the lips or projections and screw bolt, the recess being covered by a cap, D, substantially as shown and described.

[This invention is designed to save time, labor, and fuel, in the setting of tires; also to prevent accident in case of the loosening of the tire. All our readers are familiar with the common mode of tire setting, viz.: by making the hoop a trifle smaller than the wheel, and then expanding the iron by heat until it will slip on; the subsequent cooling of the tire causes it to contract to its original dimensions, and consequently to bind tightly upon the wheel. Mr. Irwin dispenses with this *round about* process, Instead of welding the ends of the tire together, he hooks them over, and connects them with a screw bolt. A recess is cut in the felloe for the bolt and hooked ends of the tire, which enables the operator to screw up the tire tightly after it has been applied to the wheel. If the tire becomes at any time a little loose, all he has to do is to apply a wrench to the bolt and tighten up. Under the old plan, the diameter of the tire would have to be reduced and reset.]

SHIP WINCHES—Peter H. Jackson, of New York City: I do not claim a pawl or pawls acting on their ratchet wheels on either side of the center carrying the same, neither do I claim applying a pawl, hand spike, socket, and retaining pawl to a ratchet wheel, as this has been done, but only for rotating the said ratchet wheel in one direction, and I am aware that pawls with counterpoise weights to make them act upwards instead of downwards, are well known.

I am also well aware that winches and windlasses have been fitted by means of external ratchets and hooks, and internal ratchets and pawls applied at the outer end of the head, so that the same can be rotated in either direction. Therefore I make no claim to rotating winches or windlasses in either direction, as this is well known and in common use.

It will be evident that my arrangement of ratchets and pawls has important advantages over such arrangements, because there is nothing to prevent a rope being easily wound around the winch or cast-off, whereas, in cases where the handspike is applied at the outer end of the winch or windlass head, the same has often to be pulled out to allow the rope to be taken off, but in mine that is not the case, and besides this, there is more strain on the shaft carrying the parts when the hand spike is applied at the end thereof, than when it acts close up to the bit or timber carrying said shaft. I am not aware that a double acting pawl has ever before been applied beneath a ratchet wheel, and fitted with the counterpoise weight to make the same act upwards, and also allow for turning said pawl under to change sides, when said pawl is combined with a double acting pawl, set on, and moving with a hand spike and socket (or lever,) and applied to the upper part of said ratchet wheel in such a manner as to rotate the same in either direction, thereby producing a double acting purchase with only one ratchet wheel, and obtaining the advantages specified.

I claim the reversible or double acting pawl, 4, below the ratchet wheel, in combination with the double acting pawl, a, to which power is applied to rotate said ratchet wheel in either direction, in the manner, and as specified.

PROPELLING VESSELS BY THE DIRECT ACTION OF STEAM ON THE WATER—Wm. J. McIntire, of New York City: I claim protecting the steam from condensation by discharging at the same time with it, some non-condensible gas or gases, or fluids, or both in combination, in such manner as form an envelope for the steam, for the purposes as described.

[This is a curious way of using steam power. Why not tie up the steam in a woolen blanket!]

MANUFACTURING CARPETS—John G. McNair, of West Farms, N. Y.: I claim the fabric substantially as described produced by the double wefts, one or both of which is party colored, in combination with the two sets of warps, one to divide and ingrain the wefts, and the other to bind in the wefts, substantially as and for the purpose specified.

DENTAL CHAIRS—D. W. Perkins, of Rome, N. Y.: I claim, first, tightening the ball and socket joint, so as to secure the body of the chair in the desired position by means of the band, F, which encompasses the socket, b, the band being operated upon by a clamp, G, as shown, whereby the parts, e, f, g, of the socket may be pressed or bound snugly around the ball, d, substantially as shown and described.

Second, I claim attaching the head rest, N, to the inner edge of the plate, O, by hinges, and having the head rest secured at the desired angle of inclination by a segment rack, P, the plate, O, being allowed to slide laterally upon a plate, Q, at the upper part of the bar, R, which bar works in an opening, S, in the back of the chair, and is secured at the desired point by the rack, v, and spring catch, w, for the purpose of rendering the head rest capable of perfect adjustment, as set forth.

[The seat of this chair rests upon a ball and socket joint, combined with which are suitable catch locks, so that when the chair is turned into any desirable position it will there remain fixed until again altered. There is also a peculiar arrangement of the head rest and back, which are very advantageous. Such an improvement as this has long been wanted by dentists, surgeons and others, and can hardly fail to find an extensive introduction.—Notwithstanding the great variety of movements of which Mr. Perkins' chair is capable, it is still very simple in construction, strong and substantial in its parts.]

MACHINE FOR MEASURING AND WEIGHING GRAIN—Charles A. Postley, of Philadelphia, Pa.: I claim the combination substantially as, and for the purpose set forth and described, of the weighing mechanism, or its equivalent, with the series of measures upon an endless chain which carries them in succession under the hopper, under the strike, and over the scales.

I am aware that in the grain weighing machines the cut off has been so arranged that it is operated by the weight of the grain received in the hopper, and when the desired weight is attained, this therefore, broadly, I do not claim.

But I claim the combination with the lever, M2, and valve, O, respectively, of the lever, M, operated by the cam, N, or its equivalent, and of the platform, Z2, and levers, g, and g2, by which the said valve may be operated by the motive power of the machine, or failing this at any time, by the weight of the grain itself, substantially as set forth and described.

GAS REGULATORS—S. W. Brown, of Lowell, Mass.: I claim constructing and attaching a quick silver cup, F, or its mechanical equivalent, within the inside of the float through which the gas passes on its way to the burners, in combination with the induction tube, D, or its mechanical equivalent, for the purposes of constituting a self-acting valve or valve seat, to evenly regulate the flow of the gas, essentially in the manner and for the purposes set forth.

ADJUSTING BLINDS TO WINDOWS, &c.—C. E. Parker, of Boston, Mass., and Joseph Sanger, of Watertown, Mass.: We do not claim fitting blinds in grooves in the casing, and having a recess or box formed over the casing to receive the blind, for this is not new, iron doors and shutters having been previously so arranged.

But we claim attaching the ropes or chains, e e g g, to the two parts, C C, of the blind, so that a portion of the ropes or chains, e e, will pass on the outer side of the casing, A, and within the apartment or house, and thereby allow the parts, C C, of the blind to be adjusted as desired, without raising or opening the sashes, as herein shown and described.

[In this improvement the blinds, instead of being hung on hinges and made to open and close in the ordinary manner, are divided into two parts and caused to slide up and down in the window frames, like the common window sashes. By means of a simple application of cords and pullies the blinds thus arranged are moved from within the apartment, thereby obviating the inconvenience of opening the window for that purpose. The blinds can be made to disappear in the casement when not wanted for use. The simplicity, cheapness, and utility of this patent will commend it every where to notice.]

SAWING LUMBER—R. E. Parkhurst, of Brunswick, Me.: I claim, first, the method described of connecting the rack bar to the carriage, so that the bar may have a slight motion, independent of the carriage, for the purpose set forth.

Second, I claim the dogs, P R, constructed and operated as described, in combination with the notched bar, F', whereby they may be instantly moved, and set to accommodate them to different lengths of log, as set forth.

Third, I claim the described method of connecting the dogs with their sliding guides, P, whereby they may be operated longitudinally and transversely in the manner set forth.

Fourth, I claim the pointed screw dogs, V' V', operating in the manner substantially as set forth.

Fifth, I claim the saw guide, H2, so constructed as to be thrown out of the way by the log, in the manner set forth.

Sixth, I claim the double dog, S', which when out of use may be sunk flush with the surface of the head block, and may be run in and out, in the manner described, for the purpose of sawing the butt and point of shingles.

MOLASSES PITCHERS—Edward Page, of Worcester, Mass.: I claim the application to molasses cups of a vessel to catch the molasses which drips from the cup, and the vessel to swing, as described.

SEED PLANTERS—Silas G. Randall, and James H. Jones, of Rockton, Ill.: In that class which open the soil and deposit the seed by dropping rather than by forcing, a device has been used with a round bival vular point entering the ground, and dividing in such a manner as to displace the earth and drop the seed, also another device by which a solid naked wedge pierces the soil, and the seed, on its withdrawal, is dropped into the opening. Also another device by which the piston protruding below the drill, is driven upwards by the pressure of the earth, and receiving the seed in a cavity in its side, on lifting the machine, is pressed down by a spring, and discharges the seed against the earth, while the piston fills the hole in the ground, we therefore do not claim any of these.

But we claim the use of a sheath and a tongue filling it, so combined with a lever and forcing handle, that by means thereof, or their equivalents, the sheath and tongue may be struck into the ground as one solid piece, after which the tongue may be raised, leaving the sheath in the earth as a lining until the seed is deposited through the lining substantially as described.

FORMING SCREW-THREADS, &c., IN THE NECKS OF GLASS BOTTLES—Amasa Stone, of Philadelphia, Pa.: I claim, in the construction of tools for forming screw-thread, angular or other scores in the necks and orifices of glass, earthen, or other bottles, and other articles, making the plug which forms the interior of the orifice to turn with the bottle, jug, or other article, while the material of the orifice is worked around it, substantially as described.

TANNING APPARATUS—George W. Smith, of Nanticoke, N. Y.: I claim surrounding the ordinary tan leaches with a water chamber constructed in the manner and for the purposes herein set forth, not intending to limit myself to a particular form or mode of structure, but comprising any form by which the leaches are surrounded by water spaces, substantially as described.

CONSTRUCTION OF ARTIFICIAL LEGS—Addison Spaulding, of Lowell, Mass.: I disclaim the knee joints, as patented in France by Ferdinand Leopold John, Nov. 11, 1835, wherein the central pins withstand all the wear and shock of the leg when in use.

I also disclaim any part, device, or thing embraced in the patent granted to Johnathan Russell, August 17th, 1852.

I also disclaim the application and use of india rubber as applied to move the leg, as in the patent granted to John L. Drake, August 31st, 1852.

I also, and finally disclaim the surface of deer skin stuffed with hair, and attached to the bottom of the foot, described with the invention patented by B. Frank Palmer, August 17th, 1852, as such will not retain any elasticity when used, but will cake together as hard as the wood of which the leg is composed.

I claim, first, the knee spring, F, or its mechanical equivalent, for throwing forwards the portion of the leg marked A, at each step of the artificial leg, essentially in the manner and for the purposes set forth.

Second, I claim the ankle spring, K, or its mechanical equivalent, for swinging up the forward portion of the foot on the axis or pin, M, or other turning point, at each step of the operator, essentially in the manner and for the purposes set forth.

Third, I claim the chain or rod, G, connected and combined with the india rubber, J, or their mechanical equivalent, which is secured in the heel of the foot, to allow the leg, A, a slight elasticity when placed upon the ground and tipped forward by the operator, to prevent the shock upon the cords and nerves in the stump of the natural leg, essentially in the manner and for the purposes set forth.

SELF-ADJUSTING TONGUE IRON—W. J. Temple, of Princeton, Mass.: It may be found best, in some cases, to leave off the nut on B, and connect the lever, M, directly to it, by making a hole or holes in its end or near it, and the form and arrangements of the other parts be varied by the circumstances of the particular cases.

Therefore I do not claim the particular form or arrangement, but I claim making the part, B, movable and self-adjusting, in connection with the lever or any similar means to raise it, in the manner and for the purposes set forth.

PRINTING TEXTILE FABRICS—James Melville of Roebank Works, and Joseph Burch, of Crag Hall, Great Britain: We claim, first, the mode of printing in two or more colors, by means of a movable color apparatus, in connection with the pattern printing roller traversing laterally on a slide rest, by means of which the colors in a repeat are printed without shifting the printing roller, as described.

Second, the application of a slide rest guide apparatus, for guiding and regulating the action of the pattern printing roller, when the mode of connecting such slide rest apparatus with the impression cylinder, is by means of a grooved shaft traverse movement as described.

Third, the mode of adjusting the position of the printing roller at the repeat shifts, by means of notched or serrated plates set to correspond to the different repeats.

Fourth, the mode of printing carpeting and other fabrics, by means of printing rollers corresponding to the several colors in the repeat, set, one in advance of the other, in the direction of the main cylinder's revolution that revolution being continued until the colors are duly impressed upon or into the fabric.

PREPARING FLOCKS—L. W. Boynton, of Worcester, Mass.: I claim the combination of the screw, a, with the brush or brushes, as A and B, when the brush or brushes have both a rotary and reciprocating motion, and the whole is constructed, combined, and made to operate substantially as described.

PAPER PULP—Louis Koch (assignor to P. P. Sweeney & Michael Lacour,) of New York City: I claim the combination of a series of rollers increasing gradually in diameter and speed, in proportion as the wood or fibrous substance is extended or pressed out. The face or circumference of one of every pair of extending rollers having a greater speed than the face of its corresponding roller, producing thereby a slight dividing or separation motion in connection with the pressure upon the substance, which separates each fiber without destroying the same, for the purpose of making pulp from wood and fibrous vegetable substances, in manner substantially as described.

RAILROAD SIGNALS—Jacob Busser, of Philadelphia, Pa.: I do not confine myself to the bells for producing the alarm, as the same may be effected by means of a cong or any other suitable device. Nor do I confine myself to placing the parts above and below ground, as shown and described, as it may be better that the parts be all placed under ground excepting the bells and hammer, or their equivalents, the bells, spring, cams, &c., have all been used in various ways for producing alarms. I therefore do not claim them separately.

I am aware that signals of various kinds have been so arranged and connected to a railroad track as to be operated by the passing locomotive. These I do not claim independent of my special means of arranging and operating them.

I claim the combination of the cams, A B, spring, C, and the rod, E, operating upon the bell or its equivalent, H2, and spring, P, which are placed upon the draw of the bridge, so that a locomotive, in approaching the draw, will sound the alarm, whilst a locomotive coming from the draw, will pass over the same cams without sounding the alarm, substantially as described.

IRON HOUSES—D. D. Badger, of New York City: I claim the method described of securing the bases of the columns to the breast summers or lintels, by bolting each on the inner side to a broad flanch, c, and keying it on the outer side by a key, d, whereby they are properly secured against any movement back or forth on the breast summers or lintels, or against falling outwards, but are not prevented from falling inwards, when they become insecure.

[The patentee of the above improvements is a member of the firm of Badger & Co., who are very extensively engaged in the business of erecting iron buildings. To their skill as mechanics the city of New York is indebted for many of the beautiful specimens of architecture in iron which now adorn her streets. The nature and object of Mr. Badger's invention is set forth in his claim. It is an effective improvement.

We hail every improvement relating to the construction of edifices of metal with great pleasure, for they seem to us to be ushers in of the desirable time when stores, dwellings, and all kinds of buildings will be rendered safe from the ravages of fire—that great destroyer of human life, property, and prosperity.]

MACHINE DRILLS—James Conner and Thomas Newby, of Richmond, Ind.: We claim the use of the lever, N, vertical shaft, K, spring and trigger, R and S, spring, Z, and cam, A', by which the action of the drill in drilling is regulated or governed in its depth, arranged and operating substantially in the manner and for the purpose set forth.

HANGING MILL STONES—Robert Cochran, of Cincinnati, Ohio: I claim the movable cock-eye, 2, placed in the recess, 3, 3, on the top of the spindle, to co-operate with the cock-head, 4, fit in the balance-rings, 5 5, or their mechanical equivalents, the whole being substantially as described, and for the purpose set forth.

STRAW CUTTERS—D. C. Cumings, of Fulton, N. Y.: I do not claim the upward cut in itself, as that has been done before.

But I claim, first, the upward cut, when the material is fed in by a distinct device for that purpose, by which the dirt is separated from the straw or other material to be cut, passing out beneath the feed rollers instead of collecting on the stationary guard or cutting plate, substantially as and for the purposes specified.

Second, operating the movable feed roller by means of a spur wheel hung in a vibrating frame or yoke with a universal coupling for connecting its axis with that of the roller, when said roller is supported on spring bearings independent of each other, substantially as and for the purposes specified.

CUTTER-HEAD FOR IRREGULAR FORMS—Daniel Dunlap, of Concord, N. H.: I do not claim merely applying to a plane iron a contrivance to gauge its depth of cut; nor do I claim the combination of knives in any manner with a rotary cutter head, so that said head shall serve as a guide or directrix to the form or pattern carrying the material to be dressed.

But I claim combining with or arranging in connection with the rotary guide, B, and each of its knives, in manner as described, the cylinder crescent gauge, D, whereby, while the pattern or former is borne against the guide head, the material will not only be reduced by successive cuts, until brought down to its proper depth, but the danger of accident diminished, as specified.

I also claim the described improved mode of applying and securing each of the cutters to its stock or supports, whereby, by a force acting longitudinally on them, they are not only held in such direction, but at the same time are pressed laterally against the curved inner faces of the gauges, D D, in manner and for the purpose, as specified.

CORN PLANTERS—R. W. Fenwick, of Brooklyn, N.Y., and Reinhold Boeklen, of Jersey City, N. J.: We claim nothing new in the loose covering interior ring or tube, k, separately considered, at the bottom of the planting tube, and are aware that a conical valve at the bottom of the planting tube, connected with a seed delivery slide for operation together by a lever or handle, distinct from any thrust or pull imparted to the tube itself, and employing a much more complicated and different arrangement of operating gear has before been used.

We claim the combination and arrangement, as shown, of the swinging seed slide, D, valve, H, and tube, K, for the purpose set forth.

[This hand corn planter is exceedingly simple, and from its construction can hardly ever fail to drop and cover the seed in the most perfect manner. The nature of the improvement consists in having the seed slide turn on a center, and in connecting it with a conical valve at the bottom of the planting tube, and with a sliding tube, which takes up dirt for covering the corn. When the end of the planting tube is struck into the ground the valve is operated, and with it the slide, whereby a proper quantity of seed is taken from the seed box in the upper part of the implement, and dropped; at the same time the covering tube is made to take up dirt and cover the corn. This is a very excellent corn planter.]

WRENCH—Alden Graham, of Roxbury, Mass.: I do not claim the arrangement of a plate provided with ratchet teeth, in which a pawl catches, so as to allow the implement to be operated without removing it from the nut or other article to be turned as ratchet wrenches have been previously used.

But I claim fitting the jaws, E, when turning on pivots in the slot, and operating the same by a ring, c, having a screw thread, a, on its inner surface, to work between threads, f, cut on the outer surface of the jaws, in the manner and for the purpose set forth.

[This is a very novel device for a wrench. Two nearly straight pieces of steel are attached by pivots through their centers, to the end of a suitable handle and form the jaws by which the nut to be turned is seized. The jaws are placed at right angles to the handle, and are hung in a slot in the latter. The backs of the jaws are furnished with screw threads, and are encircled by a corresponding screw ring, by turning which the ends of the jaws may be opened or closed at pleasure, and thus adjusted to suit any size of nut. There is a ratchet arrangement which permits the turning of the nut without removal of the wrench after the jaws have been adjusted. The combination of the two devices is ingenious, and results in the production of a very compact and highly useful instrument.]

BRAIDING MACHINES—Liveras Hull, of Charlestown, Mass.: I claim the arrangement of the bobbin, the pawl, and the weight within the racer, or with respect to one another therein, substantially as specified, the same presenting advantages, as specified.

OIL DRIPPERS—J. M. Thompson of Holyoke, Mass.: I claim the arrangement of the chamber, E, in combination with the tubes, C and F, as constructed for the purpose specified.

ATTACHING HOOKS AND EYES TO CARDS—Addison Capron, of Attleborough, Mass., and J. S. Dennis, of Somerville, Mass. (assignors to themselves and H. M. Richards, of Attleborough, Mass.): We claim the described combination, or other substantially the same, of a feeding receiver, made to receive the articles, and maintain them at proper distances asunder, a card or sheet-feeding mechanism, and sewing machinery on one or both sides of said receiver.

APPARATUS FOR DISCHARGING ATMOSPHERIC ELECTRICITY FROM TELEGRAPH WIRES—John N. Gamewell, of Camden, S. C. Patented in England September 15, 1853: I do not claim the use of discharging points connected with the ground to carry off atmospheric electricity.

I claim the method of obstructing the passage of atmospheric electricity along the line, from one discharging point to another, or their equivalents, provided for a similar purpose, by reducing the capacity of the conductor forming said line, at and immediately after its junction with said discharging points, h h, whether that reduction consists in the employment of an inferior conducting material, or in reducing the dimensions of the conductor, as set forth, or any other equivalent method of reducing the conducting capacity of those parts of the line, thereby forcing the discharge of the atmospheric electricity from the points, h h, as described.

[This invention relates to an apparatus for discharging into the earth all atmospheric electricity with which the telegraph wires become surcharged when the atmosphere is in a highly electrical state, thereby obviating all danger of injury to the magnet or telegraph instrument, and enabling the telegraph to be operated during the severest thunder storm. The theory on which this instrument is constructed is based upon the established principle that atmospheric electricity will leap from one conductor to another, but that a galvanic current will not pass through the smallest space without a continuous conductor.

Mr. Gamewell provides an angular coil of wire, placed near the telegraph instrument or receiving magnet. The wire composing the coil is either made tapering, and diminishes from the size of the telegraph wire to a very small diameter, or in lieu thereof, the elbows of the coil are made of a poorer conducting metal than the other portions. This is for the purpose of causing the atmospheric electricity, when it arrives at the elbows, to leap from them on to some conducting points of better metal, which are placed almost in contact with the elbows. The conducting points are all arranged on a metallic bar, and this is connected with the earth by a rod. The apparatus is placed between the end of the telegraph wire and the telegraph instrument, so that all electrical currents, in approaching the instrument, must pass through the elbowed coil. The conducting points attract off the atmospheric electricity, and convey it safely to the earth, while the galvanic current passes freely to the instrument. Telegraph companies are so practically acquainted with the damage to property and the pecuniary loss occasioned by the total suspension of operation on their lines, in consequence of the pranks of atmospheric electricity, that we need not point out to them the advantages of this improvement. When it comes into use, the editors of our daily papers will have no occasion to announce, as they do now quite frequently, that in consequence of a severe thunder storm prevailing at such-and-such a place, all telegraphic communication was suspended, and important intelligence delayed. This invention is one of importance in the art of electro-telegraphing. It has been patented through the Scientific American Agency, in Europe Cuba, &c.]

MANUFACTURE OF DAGUERREOTYPE CASES—Halvor Halvorson, of Cambridge, Mass., (assignor to Horace Barnes, of Boston, Mass.): I am aware that boxes have had sheets of paper or pasteboard glued or cemented to their surfaces: I therefore do not claim the mere application of paper by such means.

I claim the improvement in the manufacture of picture cases or other articles of like character, from a composition of shellac and fibrous material, as described, the same consisting in making said case or article of the said composition, and one or more sheets of paper, and pressing and combining the whole together in a press or between dies, as described, so that the paper shall combine or connect itself directly with the composition, without the aid of cement interposed between them, and serve to add great strength to the article so made.

And I claim the improvement of ornamenting the surfaces of the impression of the die with burnished gold, substantially as set forth, the same consisting in applying the gold to the surface of the sheet of paper, or its equivalent, burnishing it while on said surface, and laying the said burnished surface in contact with the surface of the die, and pressing said paper and the plastic composition together, and into the die, so as to force the burnished gilding paper and composition upon it and produce the result as specified.

I also claim the extension of the paper up the inner surfaces of the sides of the case, and by means of pressure in the mold, the same being for the purpose of enabling me to affix to the side the velvet covered frame for the support of the picture, the mat, and the glass thereof.

PLANE SCRAPER—Leonard Bailey, of Winchester, Mass.: I claim combining the scraper or plane cutter, with the stock, by means of the movable holder and its adjusting mechanism, substantially as specified.

LOOMS—John Broadbent, of Oak Grove, Ky.: I claim, first, the insertion of the filling thread by means of two hooks or sets of hooks, arranged to operate one on each side of the cloth, one to carry the filling thread to the middle of the shed, where it is met by the other, which takes the threads from the first and returns with it, thus drawing the thread entirely through the warp, substantially as described.

Second, the employment of the said two hooks or sets of hooks, each as a deliverer to give the thread to the other, and receiver to receive the thread from the other, alternately, as described, by which means a good and fast selvedge is made on both lists of the cloth.

Third, the employment of two tending forks, j j, made of any form, and arranged and operated in any manner, substantially as described, to conduct the filling thread into proper positions to be caught by the delivering filling hooks.

Fourth, giving the two filling hooks or sets of filling hooks, each in turn, a sufficient movement laterally to the path in which they move, to insert the filling, for the purpose of enabling one to pass the other in the shed, to take from it the filling thread, substantially as described.

Fifth, I claim giving the receiving hook a sufficient movement toward the middle of the cloth after it has drawn the filling through, and before the falling lack of the lay, substantially as set forth, to disengage it from the thread of filling which it has just drawn through.

[The principal feature of this invention consists in the employment of two hooks instead of a shuttle for putting the filling into the warp, which enter the sheds from opposite sides, the one to take the filling thread from a bobbin or one of a series of bobbins conveniently placed on the side of the loom, and carry it half way through the shed, where it is met by by the other hook, which takes the thread and retreats, thus drawing the filling entirely through. The filling thus drawn through, is double, but the threads are laid evenly side by side, without the possibility of twisting, so that the texture and appearance of the goods remains precisely the same as if the shuttle were employed. All the other points of the invention are more or less subservient to this principal feature. The invention is applicable to nearly all kinds of hand or power looms, either for plain, fancy or figured goods, as well as wide or narrow carpets. Among the advantages which the hooks possess over the shuttle, are first, in running lighter, and consequently requiring less power. Second, in being less subject to wear and tear—the shuttle motion and its appendages being the most expensive part of a loom to keep in order. Third, in obviating the damage likely to occur by the shuttle flying from the loom. Fourth, in seldom requiring the stoppage of the loom, an accident which is not very liable to occur.—As there are no shuttles to be filled, the loom would not be required to stop for a whole day, since the bobbin can be renewed at any moment without stoppage.

We regard this improvement as one of a very important and valuable nature. We understand that it is now being adopted at Paterson, N. J.]