the voyage being 13,405 miles; the average speed was 275 miles per day. The demand for crinoline wire in Sheffield has greatly fallen off, but the best quality of steel wire for ropes is in good request. The metal market is quiet, and almost without change in prices.

WEEKLY SUMMARY OF INVENTIONS.

The following inventions are among the most useful improvements patented this week. For the claims to these inventions the reader is referred to the official list on another page:—

HYDRAULIC MOTOR.

This motor consists of a cylindrical chamber with two gates, a central hollow shaft and a snail-shaped piston. The shaft is divided by a horizontal partition; so is the snail-shaped piston. The shaft has a supply opening above the partition, and a discharge or exhaust opening below the partition. The piston has an opening at front above its partition and one at back below the partition. The water under pressure passes down the hollow shaft through the piston, and, by its direct pressure, moves the piston round. As soon as the force of the water is spent, one of the gates opens and the dead water exhausts through the back of the piston and passes off through the lower part of the hollow shaft. We have seen this motor in operation, and we think it a most excellent contrivance; it being portable and capable of being attached to the hydrant pipes of buildings, and operated by the water flowing through the same. As a small power for single lathes and like machines it will be found very convenient, and as a power for pressing tobacco its advantage will be very great. Wm. Kennish, of London, England, is the patentee.

KNITTING MACHINE.

This invention consists in so applying and operating the frame needles, rib needles and sinkers of a ribbed knitting machine, that after the sinkers have given the loops to the frame needles, the rib-needles take the loops directly from the sinkers at the back of the frame needles. It also consists in the construction of the sinkers of a ribbed knitting machine with recesses in which the needles are arranged to operate, and across which the loops are extended in such a manner that the needles have their operation greatly facilitated. It also consists in the novel construction of, and mode of applying, pressers in combination with bearded needles, whereby they are caused to operate upon the needles in a proper manner by the movements of the needles themselves. It also consists in a novel mode of applying and operating two fingers in combination with the selvedge needles of straight knitting machine to aid them in forming the selvedge. And it further consists in an improved mode of driving the yarn guide of a straight knitting machine. The credit of this contrivance is due to John Chantrell, of Bristol, Conn.

KNITTING MACHINE.

The knitting of hosiery with properly-shaped heels and toes by the continuous operation of a machine without stopping to adjust the work, is something which has often been attempted by many ingenious mechanics, but we believe no machine has ever been made to do it successfully, up to the time of the invention of the improvements of W. H. McNary, which form the subject of the claims which appear in this week's list. These improvements, which are of comparatively simple character, effect this desirable result in a very perfect manner. The claims explain the nature of the invention as well as can be done without an illustrated description. The patent is assigned to the McNary Knitting Machine Company, whose office is No. 5, University Building, this city.

This invention has been also patented in several European countries, through the Scientific American Patent Agency.

FLOCK-CUTTING MACHINE.

The object of this invention is obtain a machine that will operate rapidly in cutting flock, perform the work perfectly, and at the same time be capable of being so adjusted as to admit of the ready discharge of foreign substances without injuring the cutting device. The tock from which flock is prepared, being most generally, the refuse from cloth and woolen manufactures, is liable to contain foreign substances such as nails, bits of metal and the like, which are a great detriment to the cutters of a flock-cutting machine, and hitherto the keeping of the cutters of such machines in perfect order, has been attended with considerable expense which is obviated by this invention. The inventors of this improvement are J. Tilton and E. Ritson, of Sanbornton, N. H.

MOLDING MACHINE.

The object of this invention is to obtain a machine by which green-sand molds for casting pipes may be expeditiously formed, and the pipes cast in a vertical position, the difficulty hitherto attending the shrinking and bending of the cross-bar avoided, and the mold enabled to be formed at its ends with male and female screws, so that the pipes may be cast with the same. The invention is applicable to the forming of molds for cylindrical, polygonal, elliptical or other shaped pipes. This improvement was designed by William Doyle, of Albany, N. Y.

GRAIN-WEIGHER.

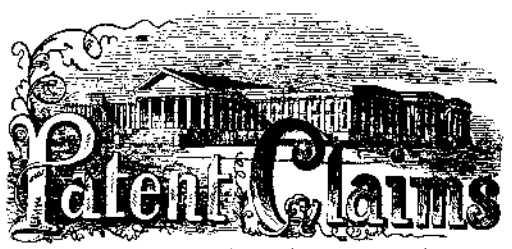
This invention consists first, in hanging the scale or receiver which is to contain the grain while it is being weighed, on one end of the scale beam in such a manner that it will tilt and discharge its contents at a given time, and then return to its former position for receiving another supply; and it consists in suspending said receiver or weighing box to the scale by a weighted lever having its fulcrum or center of motion in the end of this beam; and in adjusting the weight on the lever so as to give a slight preponderance to this end of the lever, and thereby insure the return of the receiver after discharging its contents, to a proper position for receiving and holding the grain flowing from the hopper, until the desired weight is attained, when it will be instantly discharged by the preponderance of the opposite end of the weighted arm. It consists, second, in combining with a weighing box suspended on the end of a weighted arm, having its fulcrum in the end of a scale beam, a novel device for operating and regulating the flow of grain from a hopper to the weighing box, whereby the discharge and cut-off may be automatically effected, and with an upward movement of the gates or valves which are operated, so as to close alternately in supplying the grain from the hopper to the receiver, and opened simultaneously by the return of the receiver after the discharge of the measured quantity. It consists, third, in combining in a novel manner with the two-throated hoppers and the manner of affecting the cut-off of the grain from the hopper to the receiver, a secondary weight which is brought into action after the first discharge is cut off, so as to allow the second discharge to charge and tilt the receiver, thus obtaining a nicety and accuracy in the filling and discharging of the receiver at the instant the required weight is attained. The device has been patented to Lovett Eames, of Kalamazoo, Mich.

PAINT-MIXER.

The nature of this invention consists in a novel arrangement of fixed knives or blades in the bottom of a tub with revolving knives, or knife-edged arms, fixed to a rotary arm, driven by suitable machinery, whereby the paint will be thrown towards the circumference of the tub and receive a thorough mixing action from the arms, and at the same time the movable and fixed arms will be arranged in such relation to each other that they will pass each other in pairs at equal distances from the center of the shaft, and diametrically opposite each other, and not pass between any two pairs in the tub at the same time, and under the same circumstances. The object of this invention is to give to the semi-liquid contents of the tub a thorough mixing by the action of the fixed and revolving arms, at the same time to equalize the operation of the revolving arms by preventing more than two of these from passing each other at the same moment. The patentees of this invention are C. W. Brown and G. W. Banker, of Boston, Mass.

MOLDING SHOT AND SHELL.

This invention consists in the employment for adjusting the pattern of a mold-board with a central aperture to receive a circular projection on the under side of the pattern, and with a circular flange on one, and a rim on the other side, to fit on one side over a rim turned to the end of one of the semi-flasks, and on the other into a flange projecting from the end of the other semi-flask, said rim and flange in the semi-flasks being at the same time so arranged that they serve as guides for the flasks when the same are connected; and this invention consists also in combining with the flanged end of the lower semi-flasks a cross-shaped gage with a half circular recess for the purpose of adjusting the core. The credit of this invention is due to David Huestis, of Cold Spring N. Y.



ISSUED FROM THE UNITED STATES PATENT OFFICE

FOR THE WEEK ENDING MAY 15, 1860.

[Reported Officially for the SCIENTIFIC AMERICAN.]

*** Pamphlets giving full particulars of the mode of applying for patents, size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

28,245.—Wm. Clare Anderson, of St. Louis, Mo., for an Improvement in Lifting Jacks:

I claim the rack-bar, B, and the lever, C, the latter being provided with an oblong slot, e, through which and the upper part of the bar, B, the fulcrum pin, D, passes, the rack-bar being fitted in a stand, A, or equivalent device, to operate as and for the purpose set forth.

I further claim, in connection with the lever, C, and rack-bar, B, arranged as shown, the lugs or projections, g, attached to the lever, and at such a distance from the bar, B, to operate as specified.

[This invention consists in the use of a hollow stand or upright, provided with a base and a pawl at its upper end, and having a rack bar fitted within it, to the upper part of which a slotted lever is attached in such a manner as to raise the article to which it is applied, and to remain permanent after raising the article by the weight of the article alone; no other adjustment of the lever being required.]

28,246.—Luther Atwood, of New York City, for an Improvement in Construction of Apparatus for the Re-distillation of Coal Oils:

I claim a separating chamber, constructed substantially as described, when arranged and combined with a volatile oil still and condenser, in such manner as to gradually separate and condense the heavier parts of the oleaginous vapors formed, and continuously return them to the still, for a further action of the heat, and at the same time preserve the lighter vapors, and pass them over to the condenser, substantially as described, and substantially for the purposes set forth.

28,247.—I. A. Benedict, of West Springfield, Pa., and G. W. Cummings, of Conneaut, Ohio, for an Improvement in Ditching Machines:

We claim, first, The arrangement of the sleeve, G, sliding shaft, F, in combination with adjusting arms and segment gear and pinions, in the manner and for the purpose described.

Second, We claim the adjusting guides, O O', and guides, P P', in combination with the movable buckets, M, when arranged and operating conjointly, in the manner and for the purpose set forth.

Third, We claim the springs and levers, in combination with the revolving hinged buckets, M, in the manner and for the purpose specified.

28,248.—Dana Bickford, of Westerly, R. I., for an Improved Compressed Air Engine:

I claim one or more reservoirs for compressed air, with movable air-tight head, to be operated with either weight, screw, lever, spring or any similar power, for the purpose of keeping up a uniform pressure upon the contained air, combined with an engine, of any form, for the purpose of propelling vehicles or machinery, the whole constructed, arranged and operating substantially as set forth.

28,249.—J. S. Black, of Bloomfield, Ky., for an Improvement in Bee-hives:

I claim the combination and arrangement of the bee palace, constructed as described with the moth trap constructed as described for the purpose set forth.

[This invention consists in constructing the bee palace with two central or main chambers, two side gums or chambers, two top chambers and a moth trap. The top and side chambers serve for the bees to commence their work in, and the main chambers serve for them to extend their operations. The moth trap serves to catch all the moth or enemies of the bees, which are caused to fall down from the main work chambers by the attack of the bees. This appears to be a good palace for the queen and her co-workers.]

28,250.—Wm. N. Brown, of Camden, N. J., for an Improvement in Vapor Burners:

I claim the combination of a heat conductor, with a non-conductor, in hydro-carbon vapor burners, for the purpose of securing to the heat conductor the greatest possible heat-conducting power, by employing a metallic heat conductor, encased in a non-conducting or partially non-conducting material, as described, and for the purpose set forth in the above given description of my invention, and in the drawings hereunto annexed, or any other mode substantially the same, and which will produce the intended effect.

28,251.—Andrew Buchanan, of Jersey City, N. J., for an Improved Arrangement for Balancing Slide Valves of Steam Engines:

I claim, first, The combination with a slide valve, to which the steam is admitted from the under side of a valve, A, arranged with a stem, D, and enclosed into steam-tight chamber, C, substantially as and for the purpose specified.

Second, The arrangement of the cap, F, with legs, e, and fitting on a seat, c, around the hollow stem, D, in combination with the valve, A, constructed and operating substantially as and for the purpose described.

Third, The arrangement and combination of the valve, A, movable seat, B, cap, F, and regulating pins, f, constructed and operating substantially as and for the purpose set forth.

Fourth, The arrangement of the pipe, G, communicating with the steam chest through the chamber, C, substantially in the manner and for the purpose described.

[The object of this invention is to regulate the pressure of the steam on the upper and on the underside of a slide valve, according to the difference between that portion of the under surface of said slide valve which is exposed to the pressure of the steam and the entire upper surface of the valve; and this device is more particularly applicable to that class of slide valves in which the steam from the boiler acts on the underside, thereby producing a tendency to lift up the valve and cause a leakage of the steam.]

28,252.—A. L. Currier, of Washington, D. C., for an Improved Saw-set:

I claim, first, The construction and arrangement of a series of rotating punches and their corresponding matrices working together, to set the teeth of saws alternately to the right and left at the same time, thereby completing the operation, by passing it once through the operation.

Second, I claim the upright guides, the adjustable slide, B, to regulate the degree of set in saws, in combination with the rotating punches, as described, for the purposes specified.