

**FINGER OR GUARD FOR HARVESTERS**—Lewis Miller, (assignor to C. Aultman & Company), of Canton, Ohio: I claim forming the shoulder on a wrought iron guard, by welding on a piece instead of drawing down a large bar, as set forth and for the purpose described.

And I also claim the shaping, leveling and truing of the guard or finger, so as to make them of uniform shape and size by means of a block, as described and represented.

**WASHING MACHINE**—D. E. Rohr (assignor to himself and Thomas W. Davis), of Charlestown, Va.: I claim the construction of the fluted rotating device, a b c d, the sliding reciprocating scoop, h h, with fluted or grooved squeezer or washing board, I J J, with yoke, beam and pendant, devices, K K L L m, arranged, combined and operating substantially as in the manner fully described.

**GUIDES FOR SEWING MACHINES**—Lemuel W. Serrell, of Brooklyn, N. Y., assignor to John Harold, of Hempstead, N. Y.: I claim, first, The detached tongue, g, around which the edge of the cloth to be hemmed is folded or wrapped to a greater or lesser extent, substantially as and for the purposes specified.

Second, I claim the adjustable hem spreader, K, in combination with the tongue, g, substantially as specified.

Third, I claim the combination of the separate or detached tongue, g, with the inclined tucker, h, to pass the edge of the cloth beneath the said tongue, g, between that and the material on the bed to form the hem, substantially as specified.

Fourth, I claim the finger, g, in combination with the tongue, g, substantially as and for the purposes specified.

Fifth, I claim the gage, r, in combination with the hem spreader, k, and gage, l, substantially as and for the purposes specified.

RE-ISSUES.

**ARITHMETIC FOR ADDING**—O. L. Castle, of Upper Alton, Ill. Patented Nov. 24, 1857: I claim, first, The combination of the repeater, X, the stationary repeater stop, Y, the sliding stop bars, T 1, T 2, &c., and the stationary stop, W, with the driving wheel, D, or its equivalent, provided with a series of holes, e, e, the whole operating substantially as described to control the motion of the register.

Second, Combining the shaft of the driving wheel, D, or its equivalent, with the keys, S 1 S 2, &c., by means of a stronger spring, v, and a weaker spring, R, and a lever, 13, deriving motion from the keys, the whole operating substantially as described for the purpose set forth.

Third, Combining the keys with the sliding stop bars, T 1 T 2, &c., by means of the wedges, 8, 8, attached to the keys; the arms, v v, sliding on guide bars, V, and the collars, 6, 6, and springs, 7, 7, applied to the guide bars, substantially as and for the purpose specified.

Fourth, The loose teeth, r, applied to the wheels, o, o, and operating substantially as described for the purpose specified.

Fifth, Making the "register" movable longitudinally relatively to the driving wheel, D, or its equivalent, substantially as described, for the purpose of changing the driving operation to the register wheels of different denominations at pleasure.

[This invention was noticed on page 99 of the present volume, and has now been re-issued in an amended form.]

**SAWING MILL**—Wm. Hawkins and Wm. C. Clary, of Milwaukee, Wis. Patented March 30, 1858: We claim changing the saw after each cut, alternately, from an oblique position in one direction, to an oblique position in a contrary direction, to the line of the log carriage while cutting in either direction by the movements of the machine, and for the purposes set forth.

We also claim the swing guides, w w', in combination with the stationary guides, w w', for the purpose of guiding the saw as described.

We also claim the two wedge rollers, or wedges, P' and P'', to keep the board clear of the saw, while cutting in either direction, as described.

We also claim the combination of pinions, i, and pins, o, entering into recesses of plates, b, the ratchet wheels, g, the ratchets, a, the adjustable segments, j, the wheels, G, the screws, G, and the rods, K, with their clutches, z and v, for the purpose of setting the log to the saw, and stopping the setting when the log frame advances too close to the saw.

And we also claim the notched plate, t, in combination with the latch, g, lever, w, and link, l, for the purpose of operating the belt shifter, l, without turning the lever, D, substantially as set forth.

**SEED PLANTERS**—B. Kuhns, of Dayton, Ohio, and M. J. Haines, of Delaware City, Del. Patented Sept. 30, 1859: We make no claim to the pocketed wheel of itself, nor do we claim the adjustable seed discharge apertures.

We also disclaim the grooved roller in Fig. 27, and described on page 104 of Low's Elements of Practical Agriculture.

But we claim the pocketed roller, as described, running close to the bottom of the cell, in combination with the adjustable aperture in said cell bottom, when the relation between the width of the pocket and maximum size of the aperture is such that the pocket will always embrace the apertures, and for the purposes described.

**SEEDING MACHINES**—C. W. Cahoon (assignor to J. B. Cahoon and D. H. Furbish), of Portland, Me. Patented Sept. 1, 1857: I do not claim the slide, b, nor the rock shaft, c, with teeth, d, attached, for stirring or agitating the seed within the hopper, separately; neither do I claim distributing or sowing seed broadcast, by means of centrifugal force effected by the rotation of wheels or cylinders, irrespective of the construction and arrangement shown.

But I claim, first, The employment of a tubular chamber or discharger, rotating rapidly in a horizontal position, so that its outer edge or periphery will be in a plane vertical or nearly vertical to the horizon, and thereby communicating a centrifugal motion to the grain seed, &c., away from the center of a circle whose plane is thus vertical or nearly vertical to the horizon.

Second, The employment of a funnel-shaped discharging chamber for the purpose, and rotating in the position above described, having spiral flanches or their equivalents inserted therein, and operating to arrest the too direct flow of the grain or seed, &c., through the discharger, and retaining it therein until the necessary centrifugal force is communicated to it before it leaves the discharger, as above described.

Third, The combination and use of the above described and above claimed tubular or funnel-shaped discharging chamber, rotating in the position above described with the disk, H, placed and operating in the manner above described.

Fourth, The combination and use of the above described and above claimed tubular or funnel-shaped discharging chamber, rotating in the position above described whether with or without the use of the disk, H, with a hopper constructed of any proper material, and fitted with the slide b, and rock shaft c, with teeth d, attached, or their equivalents, and operating substantially in the manner above described to feed the grain, seed, &c., into the discharging chamber.

**MACHINERY FOR SEPARATING FLOUR FROM BRAN**—Issachar Frost and James Monroe, of Albion, Mich., assignors to Henry A. Burr, I. D. Condit, Alex. Swift, D. Barnum, and John M. Carr, of New York City. Patented Feb. 27, 1849—Re-issued March 13, 1855—Again re-issued May 11, 1858: We do not claim as our invention the placing of the bolt in a vertical position as this was known before our said invention, but under a combination of parts resulting in a mode of operation essentially different from our said invention. Nor do we claim any of the separate parts, or sub-combinations other than as after specified.

What we do claim is, the combination of the following essential features or their equivalents, viz.:

First, The vertical or nearly vertical position of the bolt.

Second, A surrounding case forming a chamber or chambers around the bolt, substantially as and for the

purpose specified, and provided with suitable means for the delivery of the flour as specified.

Third, A rotating distributor head at or near the upper end of the bolt, substantially as described.

Fourth, Rotating beaters or fans within the bolt, substantially as and for the purpose specified.

We also claim, in combination with the first, second, and fourth features of the combination first claimed, the closed up top of the bolt, except an aperture or apertures for the admission of the material and air, substantially as and for the purpose specified.

We also claim, in combination with the first, second, and fourth features of the combination first claimed, the closed up bottom of the bolt proper, except an aperture or apertures for the discharge of the bran, substantially as and for the purpose specified; whether the said bottom be, or be not, specially provided with an aperture or apertures, for the admission of air as specified.

We also claim, in combination with the third combination claimed, or the equivalent of the features thereof, the employment of rotating arms, or swings moving in close proximity with the inner surface of the closed up bottom, substantially as and for the purpose specified.

We claim the combination of all the features specified as essential features, substantially as described, or any equivalents for any or all of the said features.

DESIGNS.

**TOOL BOXES**—Herrick Aiken, of Franklin, N. H.

**COOKING STOVES**—Thos. H. Wood and J. E. Roberts, of Utica, N. Y., and H. S. Hubbell, of Buffalo, N. Y.

**COOKING STOVES**—S. W. Gibbs (assignor to Rathbone & Co.), of Albany, N. Y.

**PARLOR STOVES**—S. W. Gibbs (assignor to Rathbone & Co.), of Albany, N. Y.

**STOVE DOORS**—Jacob Hestey (assignor to J. S. Clark and Washington Harris), of Philadelphia, Pa.

Petrifying Wells.

Let us away to the hills, to the green meadows decked with daisies, to the field path, to the banks of Derwent's stream. This is the village of Matlock, nestling in the bosom of mother earth, a charming spot in the plains of Derbyshire, famous all the world over for its petrifying wells.

These are the Hights of Abraham; that towering rock is High Tor, "frowning at night and smiling in the morning;" between them flows the river Derwent. From the sides of these rocks little streams issue, and (marvelous as it may seem) everything this water runs over turns to stone! This is no fiction, but a positive fact. For instance, if you take a favorite rose bush, and so place it as to allow the stream to drip down its thorny side, it will, in the course of twelve moons, become petrified—a rock of beauty, in fact, defying the sculptor's art. No matter what you put there, the effect is the same. Some of the wicked wags of Matlock went over to Ambergate one evening, and stole from John Wiggins his wig, which they placed in the petrifying well, and it was turned to stone. The favorite things to petrify are birds' nests and eggs, which are very beautiful. The three petrifying wells here are literally filled with all sorts of things undergoing the rockification process. Many of these things have been brought from a great distance, (even from Canada and Ceylon,) as tokens of affection and love. Toys, once the favorite playthings of a now departed child, are here petrified; and thus they become a real treasure, the only one mamma has left.

With very few exceptions, springwater contains lime, magnesia, and other stony stuff dissolved in it, which accumulates during its subterranean travels. You know that if water runs over a bed of sugar, a sweet well is the result. In Cheshire there are salt beds; these produce salt or brine wells, from the springs of water that come into contact with them. Thus we have also water containing lime, magnesia, strontia, and baryta. The petrifying springs that trickle out of the perpendicular sides of Mount Abraham and High Tor, at Matlock, are highly charged with lime; on exposure to the air, a large portion of the water evaporates, and the lime remains; whatever this reduced quantity of water trickles over, therefore, soon becomes coated with a thin film of lime, which increasing in substance partakes of the property of limestone. Woody fiber that will absorb the water will have lime deposited within its cells, and which, hardening to the consistence of stone, imparts at length that solidity which we call petrification.

The petrifying wells, however, are not the only natural curiosities that are to be seen at Matlock. You can, if so disposed, penetrate into the earth's crust. What is called the Speedwell lead mine is in truth a crystal cavern of resplendent beauty, full of stalactites and staglamites, spar, dogtooth crystals of carbonate of lime and doubly refracting spar.

As you walk through the Straud, in London, the shop of Mr. Tennant, the mineralogist, will be likely to arrest your attention, for in the window may be seen a fine specimen of this double refracting spar from Derbyshire.

If you draw a black ink line on a piece of paper, and look at it through this glassy spar, there will appear two lines. Everything, in fact, appears double that is seen through it. Now the production of all these beautiful crystals, these stalactites, these staglamites, these spars, has been the work of many hundreds of years. Chemistry assures us that they are all composed of the very same ingredients as are now found in the waters of the petrifying well.

SEPTIMUS PIESSE.

The American Horse.

It appears to be a matter of history that the horse, which is now so extensively distributed, both in a wild and domestic condition, throughout our continent, was not an inhabitant of it when America was discovered by Columbus. It is stated that the first European horsemen were taken to be strange beings—the horse and his rider as one person—by the aborigines of our country. Although this is probably true of the horse, yet recent scientific explorations go to prove that he was an old resident of the New World as well as the Old.

Professor F. Holmes, of Charleston, S. C., has discovered several fossil teeth of the horse in a post-pleiocene deposit on the Ashley river, and several teeth have also been exhumed by Col. McChesney, of Troy, N. Y., in his garden. The fossil American horse appears to have been cotemporary with the mastodon; and some of our naturalists have been speculating on his age, and the unity of the species. Agassiz, who is at the head of our naturalists, does not believe in the unity of the species of men or brutes, and the tendency of the belief of his school of naturalists is, that the horse and man were inhabitants of this continent many thousands of years before this world was created—according to the popular belief—about six thousand years ago. It is all vanity to speculate on these questions of time in regard to natural events, they never can be settled. It would be more wise and profitable for these philosophers to devote attention to the discovery of the cause or causes which led to the extinction of those horses which once inhabited America; because the same causes which operated then to destroy large numbers of animals—completely annihilated them—may operate again to produce like effects. In our opinion, there was at one period perfect land communication between the Old World and the New. The old tradition that there was once a great, rich and populous country, known to the ancients, and called "Atlantis," which was swallowed up by a storm in the Atlantic ocean, may be founded on fact.

Yield of Maple Sugar.

The Montpelier (Vt.) correspondent of the Boston Traveler writes that the maple sugar season is about over, the crop being a full average one, or a trifle less than three pounds to the tree. Last year was an extraordinary season, the yield being over five pounds to the tree, or nearly enough, if equally distributed, and all kept for home consumption, to have supplied every family in the State.

Ethnography.

This science, one of modern creation, describes the customs, religion, and, in fact, everything which is characteristic of a nation. The importance of pursuing it as a study cannot be too highly estimated in this traveling age, and it takes an equal place with geography and history, for without them it cannot be understood, and at the same time its facts throw much light on them.

Correction.

In our last number, in the description of W. Vandenberg, Jr.'s ironing table, we stated that it was patented April 6, 1856; it should be 1858.

Atmospheric Railways.

In the article on this subject in the "New American Cyclopædia," just publishing, there is considerable information in relation to what has been done in this branch of the engineering art in Europe, but there is nothing said about what has been done in America. This is to be regretted, as considerable information might have been obtained to have redeemed the work from the charge of "an incompetent compilation," and which might have made its character more in accordance with its name, as an American work. If the pages of the SCIENTIFIC AMERICAN had been consulted, the editors would have found Ira Avery's atmospheric railroad illustrated on page 273, Vol. III, for which an American patent was granted in September, 1847; and on page 265, Vol. VIII, they would also have been enlightened with an illustrated description of Richardson's atmospheric tubular railway, which made considerable noise in Congress a few years since on account of appropriations being asked, for to construct a government line.

Recent Patented Improvements.

The following inventions have been patented this week, as will be found by referring to our List of Claims:—

**HEMP HARVESTER**.—C. B. Brown, of Alton, Ill., has invented an improved machine for harvesting hemp, the invention in which consists in the employment of an endless apron and guide rods arranged relatively with each other and the sickle or cutting device, whereby the hemp as it is cut, and one swath formed, is conveyed back from the sickle and deposited on the ground at a sufficient distance from the standing hemp, to allow an unobstructed walk or track for the team when the succeeding swath is being formed.

**PRINTING PRESS**.—This is an improvement on that class of printing presses, in which a continuous rotating cylinder that receives the sheet to be printed is used in connection with a reciprocating bed on which the form is placed. The object of the invention is to simplify in a great degree the construction of such presses, and also to obtain a positive or vibratory movement of the cylinder and bed relatively with each other at the time the impression is given to the sheet, thereby ensuring a perfect register and a clear impression. G. P. Gordon and F. O. Degener, of New York, are the inventors.

**BURNER FOR VAPOR LAMPS**.—Thos. Varney, of San Francisco, Cal., has invented an improved construction of burners for burning the vapor of Benzole, or of other hydro-carbon that can be burned in vapor lamps. They are made in such a manner that the admixture with the vapor of the necessary quantity of air supplied by a blowing apparatus to make it burn with a brilliant light shall be effected within the burner instead of within the reservoir, as is now usual.

**BRUSHES**.—J. H. Tatem, of New York, has invented an improvement in the manufacture of brushes, which consists in having the back of the brush in which the bristles are secured formed of a thin metal plate, the bristles being secured in this plate detached from each other and at equal distances apart. The object of this invention is to obtain a brush that can be readily cleaned, which will not absorb grease, and will not in any way be affected by moisture, and hence be exceedingly durable, and at the same time not more expensive than those at present in use.

**HAY FORK**.—This invention relates to an improvement in that class of hay forks in which a tackle is used for elevating the loaded fork. The invention consists in attaching to its handle by means of a joint and securing the rake when loaded in a proper relative position with the handle by means of a catch or fastening connected with a rope, which is also attached to the handle. The parts are arranged so that the fork may be readily elevated and loaded and unloaded, the manipulation throughout being extremely simple. Chas. E. and Joseph N. Gladding, of Troy, Pa., are the inventors.