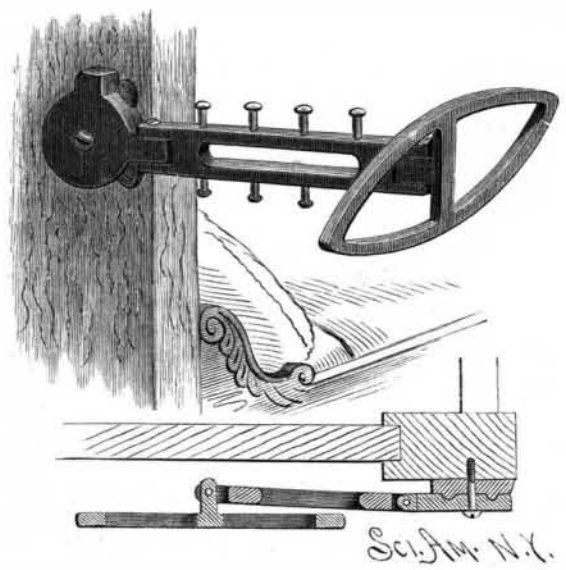
AN IMPROVED CLOTHES RACK.

A convenient attachment to bedsteads, walls, and other supports, which can be easily swung out for use and as readily folded back out of the way, and which will be firmly held as a means for hanging up clothes, is shown in the accompanying illustration, and has been patented by Mr. Francis W. Weis, of Louisa, Lawrence County, Ky. A metal disk is fastened by screws to the head frame of a bed or other support, and on a concentric annular ridge of this fixed disk is mounted to turn an outer disk, being held in place by a screw pivot passed centrally through both disks into the frame. Lugs limit the rotation of the movable disk, and in an eye projecting from its periphery is pivoted the forked end of a rack, adapting the rack to turn over with the movable disk and fold against the outer face of the same, as shown in the sectional view. The outer end of the rack is also forked to embrace loosely an eye pivoted thereto and projecting centrally from the inner face of a double-bowed spreader, from

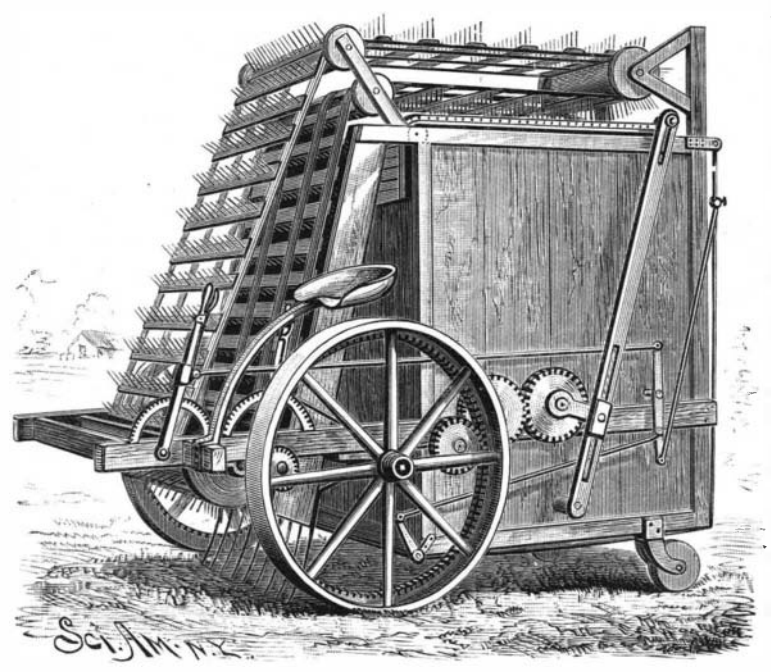


WEIS' CLOTHES RACK ATTACHMENT.

which coats, jackets, etc., may be hung without wrinkling, the spreader being also adapted to fold against the rack when the latter is folded back out of the way.

AN IMPROVED HAY COCKING MACHINE.

A machine adapted for gathering hay or other fodder crop from a field, and discharging it on the ground in compact piles, for protection against storm, is illustrated herewith, and has been patented by Messrs. Thomas and Henry Hale and Sylvenous D. Harvey, of Wales, Erie County, N. Y. To the main frame there is held a box which receives the hay from the elevator and distributer, the distributer working back and forth over the open top of the box, while the elevator takes up the hay from a rake which lifts it from the ground as the machine is drawn along. The rake is composed of a series of tines fixed to a transverse shaft, and controlled by a lever within easy reach of the driver, the movement of the lever backward bringing the outturned lower points of the tines close to the ground to lift the scattered hay or other crop against the back of an inclined slide. As the hay rises upon the tines it is



HAY COCKING MACHINE OF T. & H. HALE AND S. D. HARVEY.

caught by an elevator composed of a series of slats having pins fixed therein, and attached to suitable flexible webbing or bands, making an elevator belt which runs easily over pulleys journaled in bearings on the main frame, to carry the hay up from the tines, against the inclined slide, and deposit it on a distributer working over the top of the box. The distributer is composed of a series of slats fixed to a flexible web-bing, which moves freely over and hangs from a roller journaled across the upper forward corner of the box, the slats resting upon cleats fixed to the sides of the box, guide rods preventing buckling and insuring the travel of the distributer belt in true horizontal plane backward and forward over the open top of the receiving box.

The distributer is operated by slotted bars pivoted at each side of the box, a block with a wrist pin sliding in the slot being connected with a crank arm on the shaft of a gear wheel operated by the main driving wheels, to swing the bars forward and backward with the advance of the machine, thus laying the hay evenly in the receiving box. The bottom or floor of the box is composed of a series of rods or tines fixed to a cross bar, to one end of which is attached a crank arm connected with a rod, the back end of which is pivoted to a lever fulcrumed to the side bar of the frame. The back of the box is also composed of a series of tines fixed to a cross bar journaled to lugs at the rear upper corners of the box, and to an outer tine there is fastened a rod, the other end of which is pivoted to the lever fulcrumed at the side of the frame. This lever is connected to the back end of a pull rod, attached at its forward end to a hand lever in reach of the driver. By pulling back this hand lever to the position shown in the illustration, the floor and back of the box are closed to receive the hay, but when the box is filled the driver pushes the lever forward, and thus lowers the box bottom and raises its back to quickly discharge the hay or fodder as the box is drawn along, leaving the crop thus gathered in a perfect cock well calculated to protect it from storm.

AN IMPROVED TRUNK HANDLE.

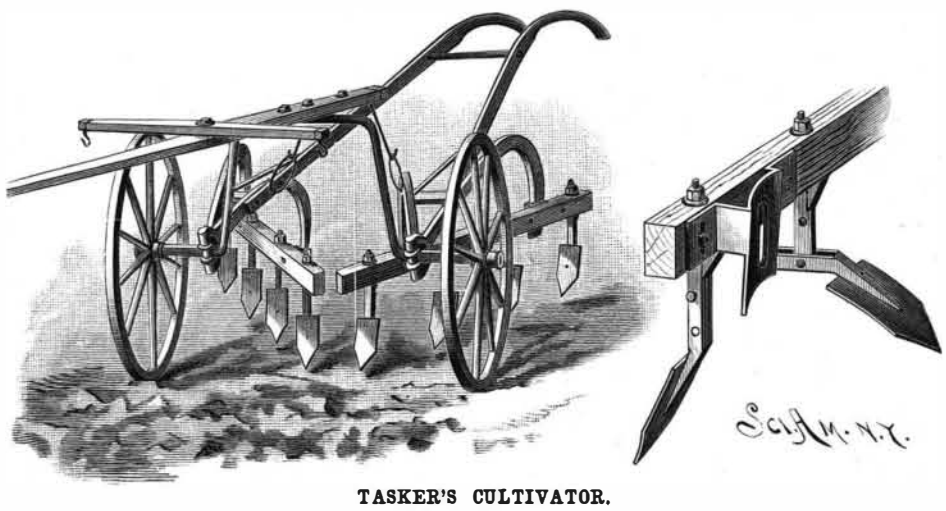
A handle for trunks, chests, etc., which has a spring to keep the loop or hand piece pressed down against the side, that it may not be accidentally broken when the trunk is tipped on end, has been patented by Mr. James W. Doty, of Pittsfield, Mass., and is shown in the accompanying illustration, the figures representing a front and a rear view of the improved handle. The plate which carries the swinging hand piece of the handle is made with a cross concave in its back, and is cast with partitions across this section, on one of which is a stud; the partitions being perforated to form bearings for a spindle, and the stud forming a catch for an intermediate portion of a spiral spring to engage with. The spring is connected at its center with the plate, and at its ends with the spindle, giving a steady and uniform action on the spindle, and providing for the easy and quick fitting of the parts together. With this construction the loop piece is readily raised, but, as soon as released, springs back to its normal position against the side of the chest or article.

Salt a Factor in Building.

The *American Architect* asserts that one of the new building materials which is likely to be found useful in many ways is common salt. Among the carpenters salt is now found to be useful as an aid to the heating of glue. Where, as is usual in joiners' and cabinet makers' shops, the glue is melted in a jacket kettle, surrounded by water, it is said to be advisable to put salt in the water in the outer kettle. The addition of salt raises the boiling point, and, therefore, allows the glue in the kettle to be kept at a higher temperature than could be maintained with water alone, and this is advantageous to the work. The masons find their use for salt in adding it to cement mortar in cold weather, to preserve it from the bad effects of freezing. It is not quite clear why the salt should act in this way, as the beneficial results of using it are visible with mortar which has certainly been frozen, and frozen salt water expands nearly as much as fresh water. But engineers and contractors who have tried it are unanimous in their opinion of its value. In many cases masonry has been laid in cement in cold weather, using a considerable proportion of salt in the mixture, which, after repeated freezings and thawings, has remained in perfect condition, while work near by laid in mortar of the same kind, but without salt, has been disintegrated by the frost.

AN IMPROVED CULTIVATOR.

A cultivator which is designed to cut up and pulverize a good deal of ground is shown in the accompanying illustration, and has been patented by Mr. Thomas G. Tasker, of Onslow, Iowa. The cultivator head bar,

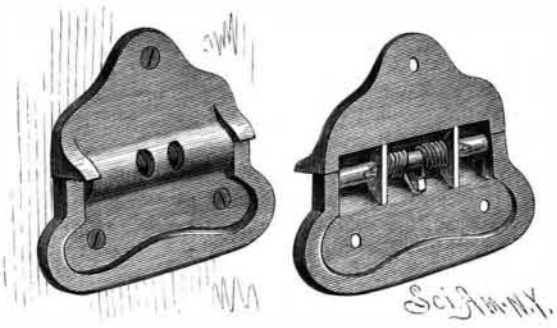


TASKER'S CULTIVATOR.

to which the plow points are attached, may be of wood or metal, and the bar is attached to the ends of the beams by bolts, which, instead of being passed through the bar in the usual manner, pass through the beams and through angle plates secured to the rear surface of the bar. These angle plates are formed with a slotted diagonal breast piece, and slotted side plates, to permit the bar to be adjusted vertically at the points of connection to the beams, and to permit the plate to be adjusted vertically on the bar, as shown in detail in the small figure. The shanks of the plow points are pivoted upon strong pins, but are held at their upper ends by wooden pins, so that in case the plow point strikes a solid obstruction the strain will break the wooden pin and permit the point and point shank to turn on its strong pivotal pin, and thus obviate all danger of serious injury to the cultivator.

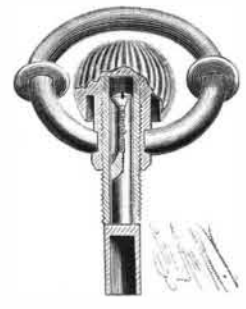
A SAFETY ATTACHMENT FOR STEM WINDING WATCHES.

A device whereby a watch may be safely wound up without danger of breaking the spring, the device being one which can be simply and quickly adjusted to accommodate any strength of spring, and which can be used in connection with any ordinary case, is



DOTY'S HANDLE FOR CHESTS, TRUNKS, ETC.

shown herewith, and has been patented by Mr. Willis S. Richardson. An exteriorly threaded sleeve is detachably secured in the under side of the usual crown, a lock nut being screwed upon the sleeve, and the stem, which projects upward into the sleeve, has a rectangular longitudinal recess adapted to take the movement. The upper end of the stem has a circular interiorly threaded aperture, and opposing longitudinal slots, a screw with tapering head fitting in this aperture, the screw being carried down into the shank a sufficient distance to expand the shank against the walls of the sleeve, so that a tension will be had equal or slightly more than equal to the strength of the spring adapted to be wound by the stem. When the crown is turned in the proper direction, the stem will be held sufficiently rigid in connection with the sleeve to wind the spring, but when the spring has been wound to the full limit, and more resistance is met with, the sleeve will turn upon the stem, thereby taking off any serious or damaging strain, which otherwise would be exerted directly upon the spring.



RICHARDSON'S WATCH PENDANT.

For further information relative to this invention, address Mr. Alex. Milne, No. 19 Ward Street, Newark, N. J.