

**IMPROVED BELT-GEARED COTTON PRESS.**

The improved cotton press herewith illustrated is driven by a belt in the same manner as a gin stand or mill. It is not necessary either to stop or slacken the speed of the driving shaft to reverse the motion of the screw, while the belt always runs in the same direction. The general construction of the apparatus is strong and durable, and it has withstood the strain of making bales ranging as high as 610 lbs. without breakage. The machine has now been in use for three seasons, giving, as we are informed, uniform satisfaction. The simple arrangement of the working parts will be understood from the details shown in Fig. 2, in connection with the perspective view of the same in Fig. 1.

The driving pulley, A, Fig. 1, always runs to the right, and at the opposite end of its shaft is secured a wooden friction pulley, B. The latter works in the space between the two rims, C and D, of a larger pulley, Fig. 2, which is attached to the end of a shaft or pinion, on which rotates the bevel gear, E, and so turns the screw, thus raising or lowering the follower, F, Fig. 1. G, Fig. 2, is a lever which moves the sliding journal box, in which the end of the shaft-carrying pulley, B, is supported either to the right or left, so that the friction pulley is thus brought into contact with either rim, C or D, and, engaging with either, gives motion in one or the other direction to the double rim wheel. There is sufficient space between the rims to allow pulley, B, to run idle, by not engaging with either rim, when the operator so desires.

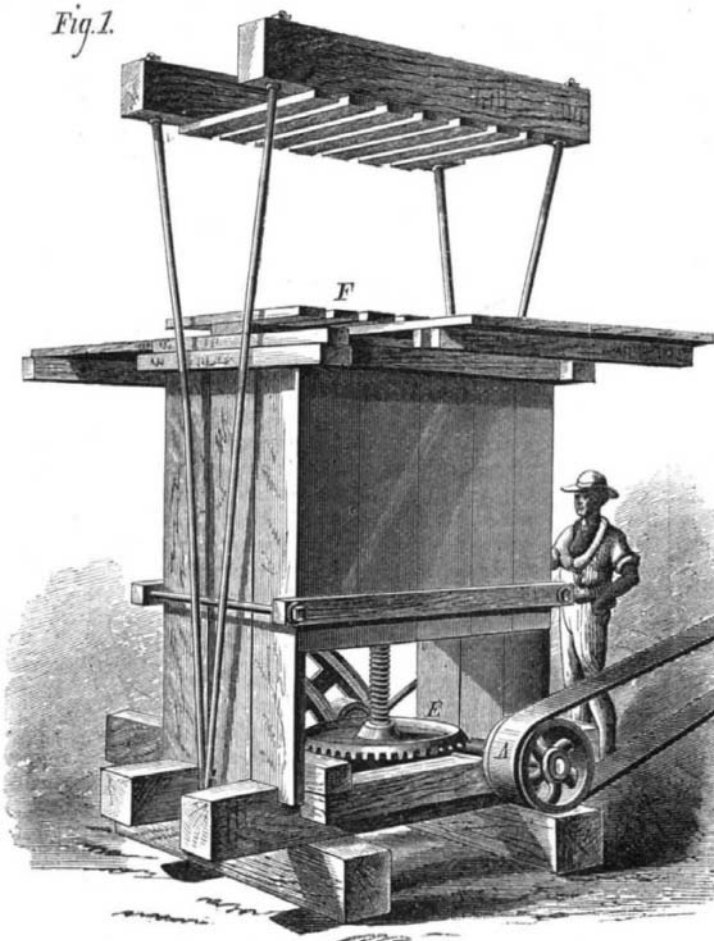
When pressing the bale, the friction pulley is caused to work against the rim, C, turning the latter in the same direction as its own motion, and thus running the screw up slowly and with the full power. To carry the screw down, the friction pulley is moved over to engage with the rim, D, through which it obviously imparts a quick lowering motion to the screw.

The press is guaranteed by the manufacturer to make a bale weighing 500 lbs. The screw is of solid wrought iron, having a pitch of 2 inches. The driving pulley, traveling at 250 revolutions, will run up the screw at the rate of 20 inches per minute. The total weight of the machine is from 3,500 to 4,000 lbs.

Patented April 29, 1873. For further particulars address

knife, until worked into a state of actual ferocity doubly intensified by the pangs of hunger and a large number to carve for, know that a good steel, which will stay in respectable condition and not wear smooth in a fortnight, is something very akin to a treasure. Therefore, when we introduce an ornamental implement which will sharpen knives at a mere

Fig. 1.



**SIMMONS' BELT GEARED COTTON PRESS.**

touch, which pulls out skewers, cuts cork wires, and which has a convenient corkscrew hidden away in its handle, always at hand at the right time and in the right place, we feel we are doing a large portion of the community a service.

The device shown herewith does all this. The implement consists of six blades of a very hard and tough steel, one of which is shown in No. 4, Fig. 2, which are grouped together radially, as represented in Fig. 1, around a central rod, No. 5, Fig. 2. The ends of these blades are secured in a socket, No. 3, Fig. 2, and by a suitable screw they are held tightly in place. The handle, No. 1, Fig. 2, is hollow, and is made of polished corrugated metal. It incloses a corkscrew, No. 2, Fig. 2, and holds the same by screwing upon a thread formed on the bolster. At the end of the steel portion is a short knife for cutting cork wires; and just inside the blade a notch is made which affords a ready means for grasping and extracting skewers.

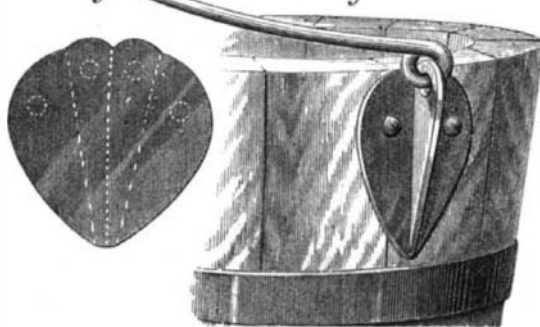
The arrangement of radial blades is entirely novel and is very effective in use. Though especially designed for family use, the device is suited for sharpening the largest knives.

It is the subject of several patents obtained in this country and in Europe through the Scientific American Patent Agency. For further particulars address the manufacturers, the Radial Steel Company, 221 Pearl street, New York city. [See advertisement on another page.]

**IMPROVED BUCKET EAR.**

Mr. James D. Field, of Blue Rapids, Marshall county, Kan

Fig. 1 Fig. 2



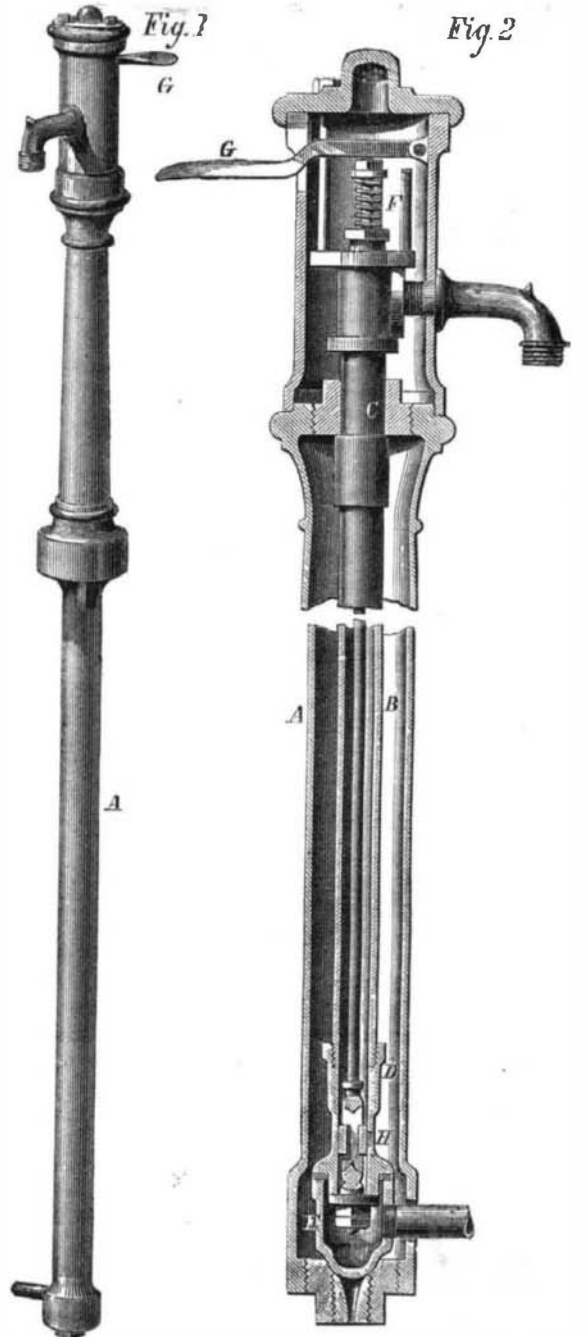
sas, is the inventor of an improved bucket ear, herewith illustrated, which was patented March 16, 1875, through the Scientific American Patent Agency. The advantages claimed for the device are that it is out of the way of cover and bail

and not liable to catch in clothes; that it is strong, and cannot be readily broken off, and that it is cheap and easily made. It consists of a continuous piece of sheet metal, as shown in Fig. 1, which is folded as indicated by the dotted lines, so that a central rib is formed upon it. The rib is then perforated to receive the bail, and the side plate is similarly pierced for the admission of the screws which attach the appliance to the bucket. The completed ear in position is represented in Fig. 2. Further particulars may be obtained by addressing the inventor as above.

**IMPROVED HYDRANT.**

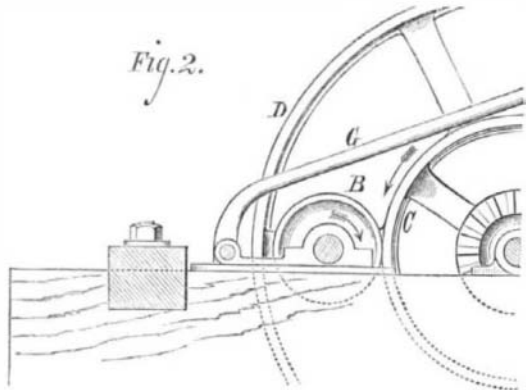
The advantage offered by the improved hydrant or street washer illustrated herewith is that the valve may be reached for repairs or clearing without necessitating the digging-up of the ground. To this end the entire interior mechanism may be lifted bodily out of the hydrant, so that the outer casing, when once placed, remains a fixture. The invention is represented in perspective in Fig. 1, and in section in Fig. 2. In the latter engraving, A is the outer casing which is set in the ground; B is an inner tube secured in said casing by a screw-threaded enlarged portion at C. Through this tube runs a rod which terminates below in a valve carrier, D, which is arranged to slide in a cylinder, which projects into the valve chamber, forming the seat of the valve, E, attached to said carrier. The inlet pipe screws into a branch of the valve chamber. The upper extremity of the rod is surrounded by a spiral spring, F, which raises it upward, and so keeps the valve pressed firmly against its seat, a packing ring located on the valve rendering the joint tight. Just above the end of the rod, the handle, G, is pivoted, so that, by pressing down thereon, the rod is depressed against the action of the spring, the valve opened, and the water allowed egress up to the exit faucet. The valve cylinder has a vent, H, through which the waste water can pass into the exterior casing, the screwed bottom piece, I, having an opening which permits leakage into the ground. The screw ring, C, is the sole means of confining the valve cylinder to its place on the chest; so that when access is to be had to the valve, it is only necessary to detach the nozzle, remove the cap and operating shaft, and then, by unscrewing the ring,

lift out the interior apparatus. Patented November 3, 1874, by Mr. B. E. Lehman, of Bethlehem, Pa., to whom inquiries for further information



may be addressed; also to the McNab and Harlin Manufacturing Company, 56 John street New York, sole agents for New York and the Eastern States.

Fig. 2.



the manufacturer, Mr. H. Dudley Coleman, 12 Union street, New Orleans, La.

**NEW SHARPENING INSTRUMENT.**

The utility of this invention, shown in our illustration, is so self-evident that any description is hardly necessary. Those who have struggled over a piece of tough beef with a dull



self-evident that any description is hardly necessary. Those who have struggled over a piece of tough beef with a dull