

B. S. MILES.
BARREL HEADING PRESS.

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UNITED STATES PATENT OFFICE.

BRADFORD S. MILES, OF GRAY'S SUMMIT, MISSOURI.

BARREL-HEADING PRESS.

SPECIFICATION forming part of Letters Patent No. 491,847, dated February 14, 1893.

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To all whom it may concern:

Be it known that I, BRADFORD S. MILES, of Gray's Summit, in the county of Franklin and State of Missouri, have invented a new and Improved Barrel-Heading Press, of which the following is a full, clear, and exact description.

My invention relates to an improvement in barrel heading presses, and has for its object to simplify the construction of such machines and to economize in their manufacture and to produce a machine the follower of which will exert an even tension upon the head of a barrel and insure the head being simultaneously entered into the croze without injury to the articles packed in the barrel.

Another object of the invention is to construct the machine in such manner that it may be expeditiously and conveniently applied to a barrel and as readily manipulated. The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a central vertical section through the barrel and the machine applied thereto, taken essentially on the line 1—1 of Fig. 2; Fig. 2 is a horizontal section taken through the device, on the line 2—2 of Fig. 1; Fig. 3 is a horizontal section taken through one of the arms of the upper or body plate, practically on the line 3—3 of Fig. 2; and Fig. 4 is an end view of one of the adjustable arms of the body.

The body of the device comprises a center or hub portion 10, and a series of arms 11, which radiate from the center. The arms are employed instead of a disk of proper size to cover the head of the barrel, as the arms admit of the operator keeping the head constantly in view, while the disk form of body would conceal the head. The body is usually made with three arms, as illustrated, and the entire body may be made either of wood or of metal, and may consist of one or more pieces. When constructed of wood, as shown in the drawings, each arm at its extremity is

provided with a metal cap or top 12, which is closely fitted over it, as shown in Figs. 1, 2 and 3. The arms of the body are of such length that they extend over the head of the barrel when the device is in use. The follower B, also consists of a hub or central section 13, and a series of wings 14 radiating therefrom. The wings are usually four in number, two of them only being in diametrical alignment. The follower is made somewhat smaller in size than the head of the barrel to be fitted, and in order that the follower may be properly adjusted to the head of a barrel if said barrel is slightly small or slightly large, plates or caps 15, are fitted over the extremities of the two diametrically aligning arms, and these caps or plates are laterally adjustable upon the said arms and may be fixed at any point in the length of the arms by passing set screws 16 through the caps or plates and through the arms, as shown in Figs. 2 and 4, the plates being provided with slots so that they may readily move laterally upon the arms, that is, to or from the chimes of the barrel, the adjusting screws remaining stationary. The follower is made of substantially stellated shape as shown in the drawings for the same reason that the body portion is provided with the arms 11.

The attachment of the machine to a barrel is effected through the medium of rods C, which rods at their lower ends are provided with inwardly-extending feet 17; and their upper extremities are threaded as shown at 18 and are passed through suitable openings 19 in the wings, the rods extending through each wing of the body. When the body is constructed of wood the metal caps or ferrules are provided in their upper faces with apertures and through these apertures the threaded upper extremities of the rods C pass, as the apertures register with the openings 19 in the arms. The lower apertures are situated in like manner as the upper ones, and are also produced in the plate 12, and these lower apertures are square. Therefore the rods do not turn but will remain in the position in which they are placed at their lower ends. The body A being stationary the rods are raised and lowered through the medium

of thumb nuts 20, located upon the upper portion of their threaded ends, as shown in Fig. 3. The upward movement of the rods is limited by stops 21 placed upon their body portions below the body of the machine. One of the rods is made in two sections *c* and *c'*, the two sections being connected by a hinge 22. Thus when three arms are formed upon the body and a rod is carried by each arm, by moving the lower section of the jointed arm outward from the barrel the entire machine may be slipped readily out of place and away from the barrel.

The downward adjustment of the follower is accomplished through the medium of a smooth shaft 23, which passes loosely through the body, and the lower end of the shaft has a swivel connection with the central portion of the follower. The shaft 23, which is really the drive shaft, is provided at its upper end with a handle 24, and at its lower end a gear 25 is securely attached. This gear turns above the follower and meshes with three pinions 26 located upon three of the arms of the follower, as shown best in Fig. 2. Each of these pinions is provided with a screw shaft 27, securely fastened to it, and these shafts extend upward through the body, turning in apertures therein the walls of which are threaded when the body is of metal, but when the body is made of wood, nuts 28 are inserted in the body, through which the screw shafts are passed, as shown in dotted lines in Fig. 1.

In the operation of this device the machine is attached over the barrel to be headed and the head is laid in place above the croze of the barrel; the drive shaft 23 is turned, and it communicates motion to the several screw shafts 28, which in their turn either force the follower evenly and regularly downward or in the same manner upward which movement depends upon the direction in which the handle 24 is turned; but when the follower is carried downward by the action of the screw shafts it will force the head down until it is properly entered in the croze, at which time the downward travel of the follower is stopped; then the follower is carried upward and the machine is released from the barrel.

It is obvious that throughout the entire operation the major portion of the head of the barrel at its periphery is visible, and no matter whether the barrel is packed with delicate fruit or not, none of it will be injured by the head as the downward pressure brought to bear upon the head is evenly distributed over its entire surface; and with little or no hammering.

A paramount advantage of this press in comparison with the old style press, is the speed with which it operates in consequence of the gearing employed.

In the old style of press the operating handle is attached to but one screw and without gearing, while in the present instance three screws are employed, each carrying a pinion, the pinions meshing with a central gear wheel to the shaft of which latter the operating handle is attached. The gear wheel being three times as large as the pinions and having three times as many teeth, the head is carried down three times as fast by one revolution of the operating handle, as is done in the old style of press.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent,—

1. In a barrel heading press, the combination with a body adapted to be secured to a barrel, of a follower below the body, screws carried by the follower and working in apertures in the body, a drive shaft, and means for operating the said screws from the drive shaft, substantially as described.

2. In a barrel heading press, the combination, with a follower, a body located above the follower, and clamping arms adjustably located upon the body, of a driving shaft loosely mounted in the body and having a swivel connection with the follower near its center, screw shafts having their lower ends swiveled in the follower and arranged around the drive shaft, the upper portions of the screw shafts engaging the threads in the body, interlocking gears carried by the screw shafts and the drive shaft, and a driving mechanism connected with the drive shaft, as and for the purpose set forth.

3. In a barrel heading press, the combination, with a substantially stellated follower and a substantially similarly shaped body, the follower having sundry of its arms adjustable, and clamping rods adjustably carried by the body and adapted for engagement with the barrel to be acted upon, of a drive shaft having free movement in the body and a swivel connection with the central portion of the follower, screw shafts engaging threads in the body and having their lower ends swiveled in the follower, the screw shafts being located over sundry of the arms of the follower, and gearing connecting the screw and the drive shafts, substantially as and for the purpose specified.

4. In a barrel heading press, the combination with the body of the press, of rods for securing the body to a barrel having their upper ends adjustably connected to the body and provided with inwardly extending feet on their lower ends, one of the said rods being made in sections hinged together, substantially as set forth.

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Witnesses:

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