A. V. PLATT & W. B. HARLAN.

FRUIT BOX LID PRESS.

APPLICATION FILED NOV. 15, 1909.

**970,547.** **Patented Sept. 20, 1910.**

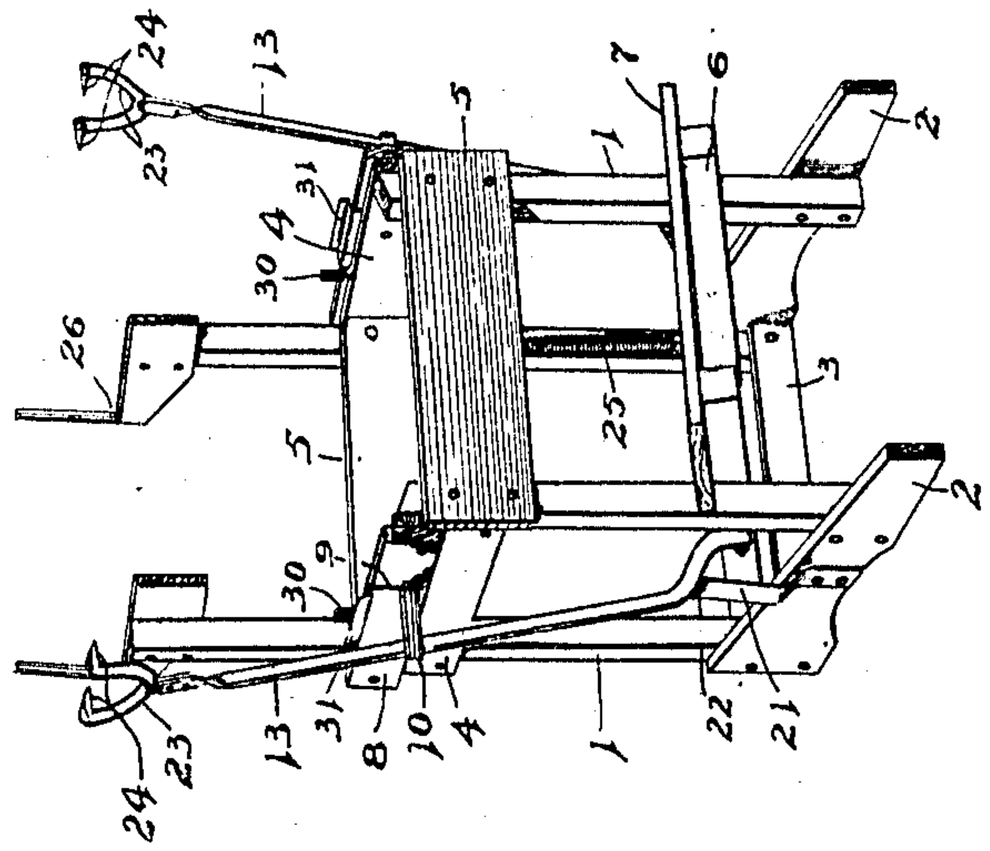


Fig. 1.

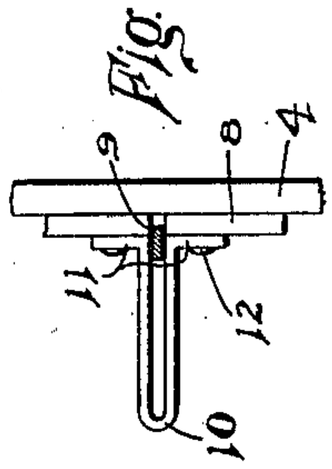


Fig. 4.

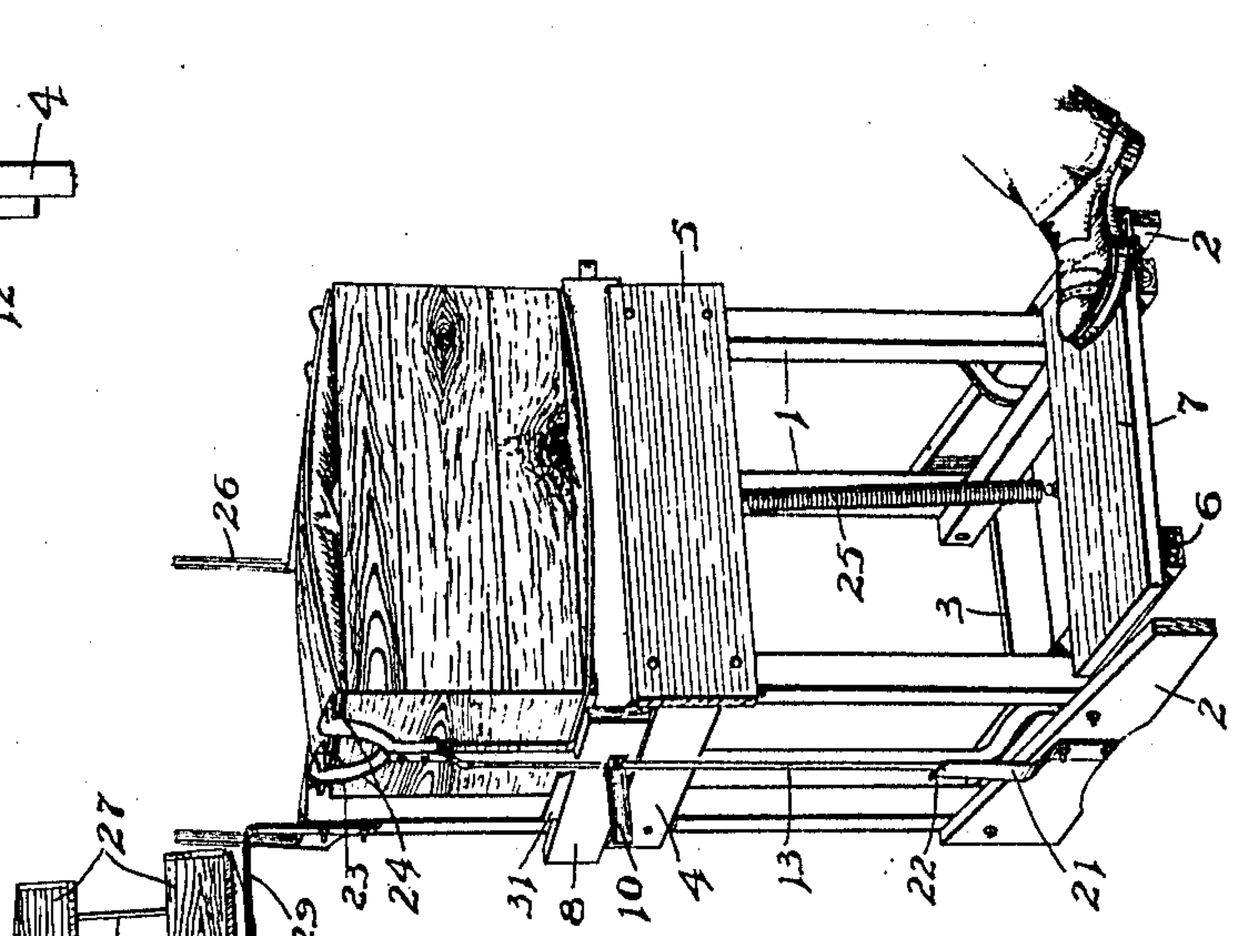


Fig. 2

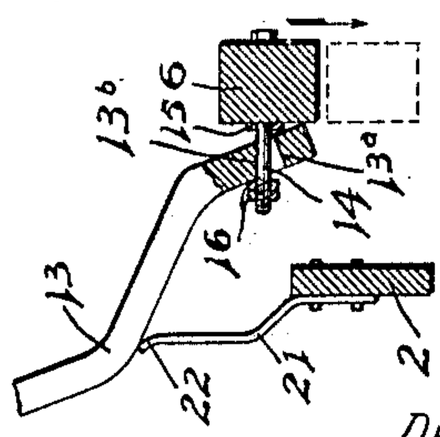


Fig. 3.

Witnesses

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# UNITED STATES PATENT OFFICE.

ARTHUR V. PLATT AND WILSON B. HARLAN, OF COMO, MONTANA.

## FRUIT-BOX-LID PRESS.

970,547. Specification of Letters Patent. **Patented Sept. 20, 1910.**

Application filed November 15, 1909. Serial No. 528,264.

*To all whom it may concern:*

Be it known that we, ARTHUR V. PLATT and WILSON B. HARLAN, citizens of the United States, residing at Como, in the county of Ravalli and State of Montana, have invented certain new and useful Improvements in Fruit-Box-Lid Presses, of which the following is a specification.

Our invention relates to fruit-box presses designed to hold in place the lids of the box and then to force the said lids downwardly into position for nailing and hold them until the nailing operation has been completed.

An object of our invention is to provide a press of the above character, embodying clamping levers which are automatically swung inwardly to clamp the lids, when the same are forced downwardly, and which will automatically swing out away from said lids when the said clamping levers are allowed to return to their normal elevated position.

It is necessary in the shipping of many fruits and specially in the shipping of apples, to pile the apples about two inches above the level of the box, and then to force the ends of the lids downwardly in engagement with the box whereby the same may be nailed to said box. We are aware that machines have before been devised which are adapted to so force the ends of the lids downwardly as above described. It often happens however, that the apples are piled higher at one end of the box than at the other, and that more pressure must be exerted upon one end of the lids than upon the other. Our machine is specially adapted to apply greater pressure to one end of the lids than to the other if it is so desired.

The final object of our invention is to provide a machine of the above character, which will be simple in construction, easy to operate and will not get out of order.

Our invention consists generally in a supporting frame adapted to support the box to be headed, clamping levers to force the lids downwardly to engage the box, means for moving said clamping levers downwardly and automatically inwardly to engage said lids and means for moving said clamping levers upwardly and outwardly, to release said box after the nailing of the lids thereto.

In the drawings forming a part of this specification, and in which like numeral references are used to designate like parts, Figure 1 is a perspective view of our press, a portion thereof being removed. Fig. 2 is a perspective view of our press, showing the same in operative engagement with a box. Fig. 3 is an enlarged detailed fragmentary view of the lower end of one of the clamping levers, showing members associated therewith, certain of said members being shown in section. Fig. 4 is an enlarged plan view of the guide way that the clamping levers operate in.

In the preferred embodiment of our device, we provide a rectangular frame comprising the parallel standards 1, connected at their lower ends by the transverse strips 2, and connected upon one side by the longitudinally arranged strip 3. The standards 1 are connected near their upper ends by the transverse strips 4 and are further connected near their upper ends by means of the longitudinally arranged horizontal strips 5. The operating levers 6 are pivotally connected at their rear ends to the rear standards 1 near strip 3 and extend forwardly beyond the forward standards 1, and are connected to each other by means of the tread-plate 7. The upper transverse strips 4 are each provided with strips 8 secured upon the outer side thereof. The strips 8 are each provided with a slot 9 extending transversely thereof, for a purpose hereinafter to be described. A U-shaped guide-way 10 is arranged upon each of said strips 8 and in alinement with the transverse slot 9 upon said strips 8. The U-shaped guide-way 10 has outwardly and oppositely extending ears 11, through which extend suitable screws or bolts 12 whereby said U-shaped guide-way 10 is secured upon said strips 8.

In each of the U-shaped guide-ways 10 arranged upon the opposite ends of the supporting frame, as above described, is arranged a clamping lever 13, said clamping lever having the lower end thereof bent inwardly and downwardly, the lower end of said clamping lever 13 being provided with an aperture, having a straight lower side $13^a$ and an upwardly and outwardly sloping side $13^b$. A bolt 14 passes through operating lever 6, and is provided with a washer 15. Said bolt 14 extends through said aperture upon the lower end of clamping lever 13, and is provided upon the outside of clamp-

ing lever 13 with the nuts 16. By reference to Fig. 3, it will be obvious that clamping lever 13 may be oscillated upon said bolt 14, and that said clamping lever 13 may be swung outwardly and inwardly away from and toward the frame of the press. Arranged on each of the lower transverse strips 2 near the middle thereof is an angular spring 21, provided at its upper end with the outwardly bent portion 22, said spring 21, being arranged to engage the lower portion of said clamping lever 13. The upper end of the clamping lever 13 is provided with the clamping yoke comprising spaced sides 23, the ends of which are bent inwardly as shown at 24 for engagement with the lids of the box. A retractile coil spring 25 has one end thereof secured to the tread-plate 7 and has the other end thereof secured to the forward upper longitudinally arranged strip 5, whereby the clamping levers 13 are returned to their normal inoperative position, as shown in Fig. 1.

The rear standards 1 project upwardly above strips 5 and are provided upon the upper ends thereof with the L-shaped brackets 26. The brackets 26 serve as a support for the lids which are to be nailed upon the boxes, whereby said lids are at a convenient distance from the operator of the machine. The lower transverse strips 2 extend forwardly beyond the forward uprights 1, for a reason to be explained hereinafter. As shown in Fig. 2 we may provide our press with the nail boxes 27 which are secured to each other by means of the rods 28, and the lower box 27 being secured to one of the rear standards 1 by means of the bracket 29. The object of the boxes 27 is to furnish receptacles for containing the nails to be used in securing the lids upon the boxes.

It is obvious that we may construct our press of any suitable size, to correspond with the size of the boxes in use. It is well known that the boxes used for shipping apples are of standard and special sizes, and in view of this fact we construct our press so that the transverse strips 8 secured thereto will form tracks upon which the various sized boxes may be placed. We further provide brackets 30 upon the upper edge of the transverse strips 4, which prevent the transverse movement of the box upon the supporting frame. It is evident that the brackets 30 may be arranged at different points upon the strips 4, if it is so desired. Upon the upper edge of the strips 8 are arranged the brackets 31, which are to be used when the box is too large to fit between the strips 8.

In the operation of our press a box filled with the fruit is placed between the strips 8 and upon the transverse strips 4. The lids are then arranged upon the open side of the box, and the operator then presses the tread plate 7 downwardly, which movement of said tread plate causes the clamping levers 13 to be moved downwardly, upon the downward movement of the clamping levers 13 the lower bent portions thereof are engaged by the spring 21, which will cause said clamping levers 13 to be swung inwardly upon their pivotal points, whereby the yokes 23 will engage the lids as shown in Fig. 2 and press the same against the box. It is obvious that owing to the form of the joints, by which each of the clamping levers 13 is connected to a corresponding one of the operating levers 6, that the swinging movement of the operating levers 6 will not remove the lower ends of the clamping levers 13 out of alinement with the springs 21, as springs 21 are provided wide enough that the swinging motion of operating levers 6 will not move clamping levers 13 off of springs 21. The lower ends of the clamping levers 13 are pivoted in a plane inwardly of the plane within which said clamping levers are arranged when the same are in engagement with the lids as shown in Fig. 2. It is obvious therefore that when the operator removes his foot from off of the tread plate, which is moved upwardly by the retractile spring 7, which in turn will move the clamping levers 13 upwardly, that as soon as the straight portion of said clamping levers has been moved upwardly out of engagement with the spring 21, that said clamping levers 13 will be swung outwardly away from the box by gravitation. By this form of construction we do away with the employment of a spring to force the clamping levers 13 outwardly from engagement with the box.

As stated above it often happens that the fruit is piled unevenly in the box, that is to say the fruit is piled higher in the box at one end than at the other. In such cases it is necessary to supply a greater amount of pressure upon one end of the lids than upon the other. In the application of our machine this may be very easily accomplished by the operator standing or exerting his weight nearer one end of the tread plate 7 than the other. We have found that it is very convenient for the operator of our machine to stand upon the tread plate 7 while securing the lids upon the box. For this reason we have extended the lower transverse strips 2 forwardly, whereby the press is prevented from being tilted forwardly by the weight of the operator.

Having fully described our invention, what we claim is:—

1. An apparatus of the character described, comprising a support, operating levers connected to said support and provided with a tread plate, movable clamping levers provided with bent ends connected to said operating levers, stationary members arranged upon said support and adapted to engage the bent ends of said clamping levers

for swinging the same inwardly when the same are being forced downwardly, means for guiding said clamping levers during their course of travel, and means for returning said tread plate to its raised positions, substantially as described.

2. An apparatus of the character described, comprising a support comprising parallel uprights, operating levers pivotally mounted upon the rear of said parallel uprights, clamping levers connected to said operating levers in such a manner as to have two relative movements with said levers, stationary spring members connected to said support, said clamping levers having portions thereof bent inwardly and arranged to engage said stationary spring members, guides arranged upon said support and within which said clamping levers are arranged to operate, clamping yokes secured to said levers, a tread plate arranged upon said operating levers, and a spring member connected to said tread plate and the upper portion of said support, substantially, as described.

3. The combination with a supporting frame, of clamping levers, movably arranged upon the same, operating levers swingingly mounted upon said supporting frame and to which said clamping levers are movably connected, means adapted to swing said clamping levers inwardly toward each other comprising stationary members, brackets arranged upon said supporting frame for supporting the lids to be used, a receptacle arranged upon said supporting frame for containing the securing means used to fasten lids to a box, a tread plate arranged upon said operating levers, and means for normally retaining said clamping levers in their raised inoperative positions, substantially as described.

4. An apparatus of the character described, comprising a support, operating levers pivotally connected to said support near the lower end thereof, clamping levers provided with inwardly bent lower ends movably connected to said operating levers, guides within which said clamping levers are adapted to operate, transversely arranged strips secured to said support at the lower end thereof and extending laterally therebeyond, angular members secured to said transversely arranged strips and arranged to engage the inwardly bent lower ends of said clamping levers, a tread plate arranged upon said operating levers and adapted to serve as a platform upon which the operator may stand, and upon which he may shift his weight to obtain greater pressure on one end of a box or the other as may be necessary, and means for returning said tread plate to its normal raised position, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

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Witnesses:
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