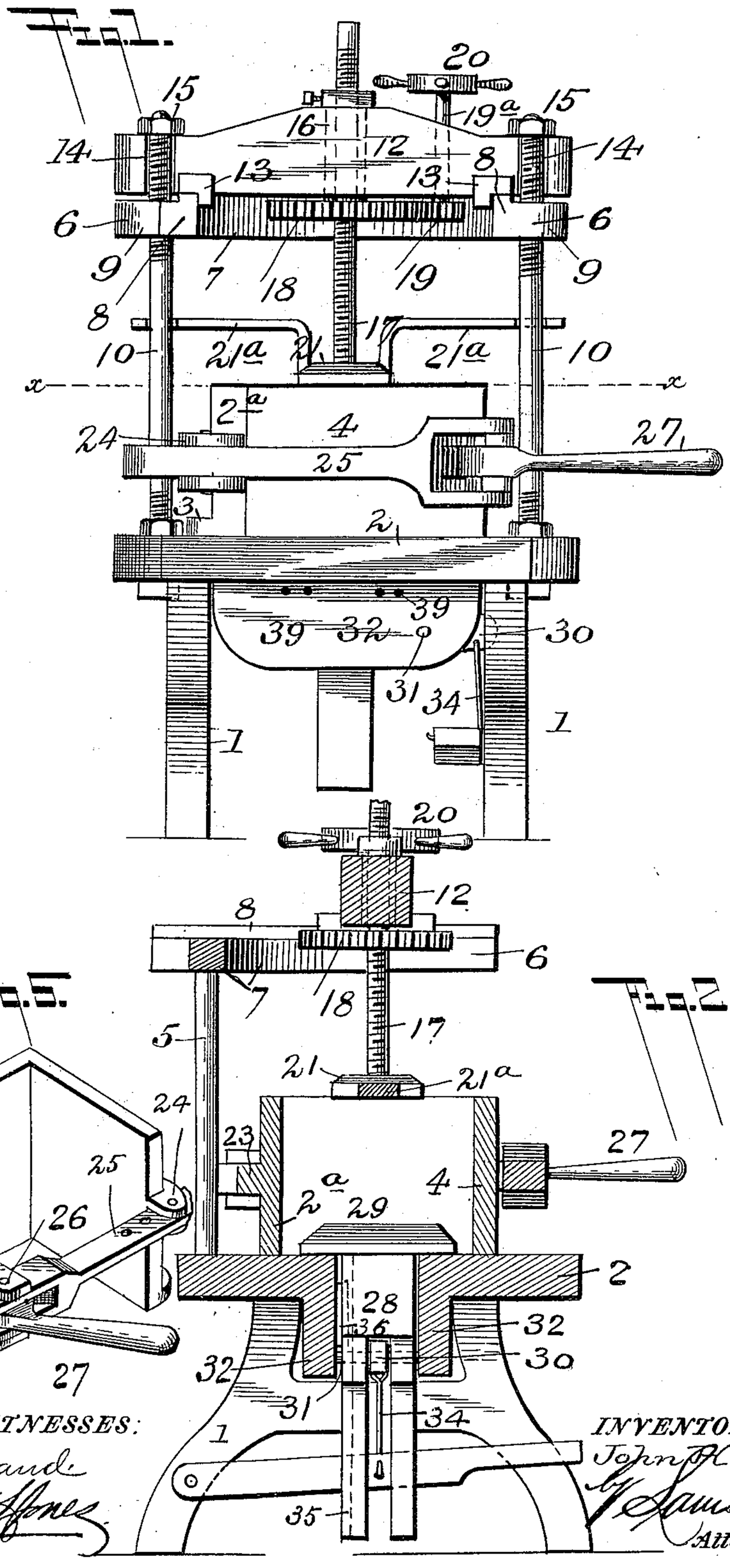
(No Model.) 2 Sheets—Sheet 1.

J. H. KESTER.

TOBACCO BOX CLAMPING MACHINE.

No. 512,975. Patented Jan. 16, 1894.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

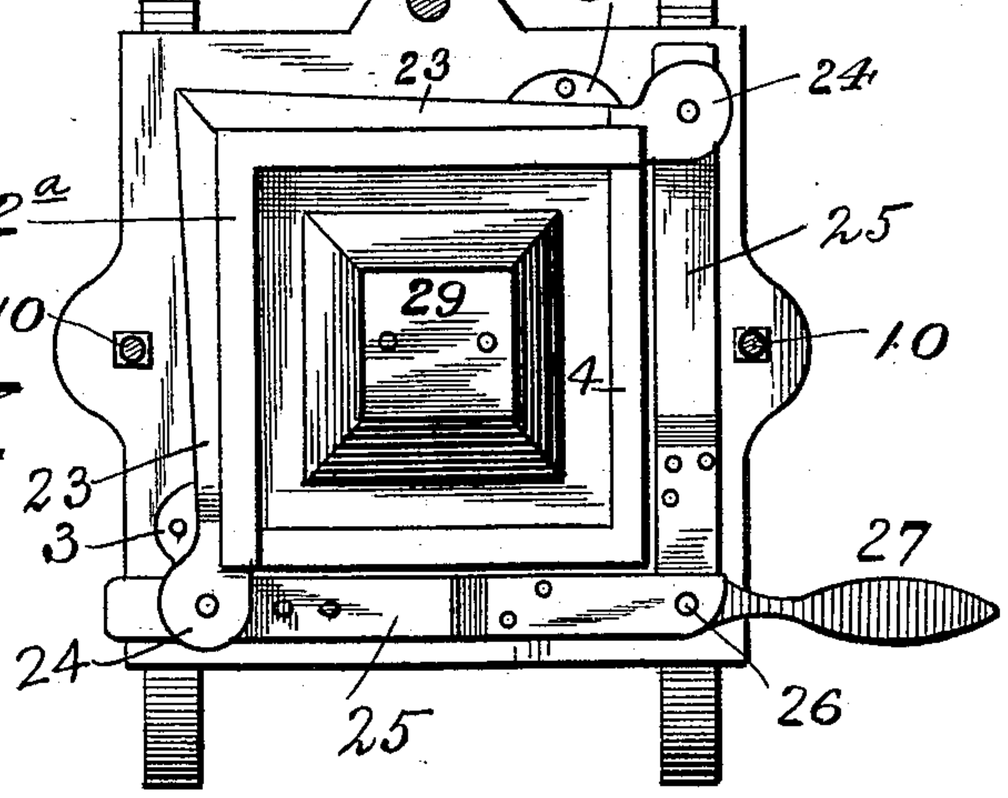


Fig. 6.

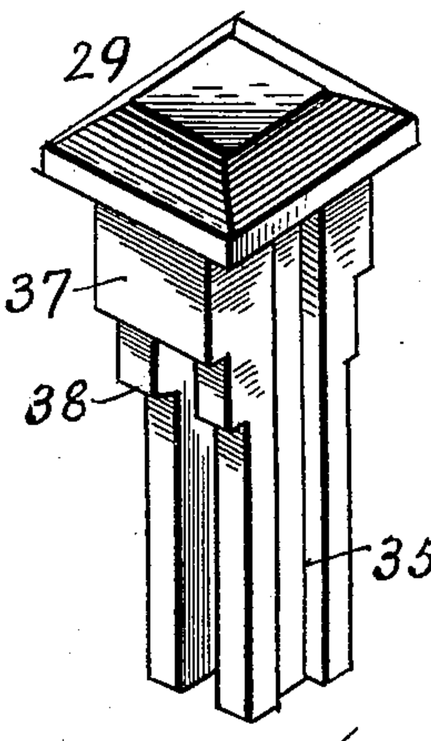
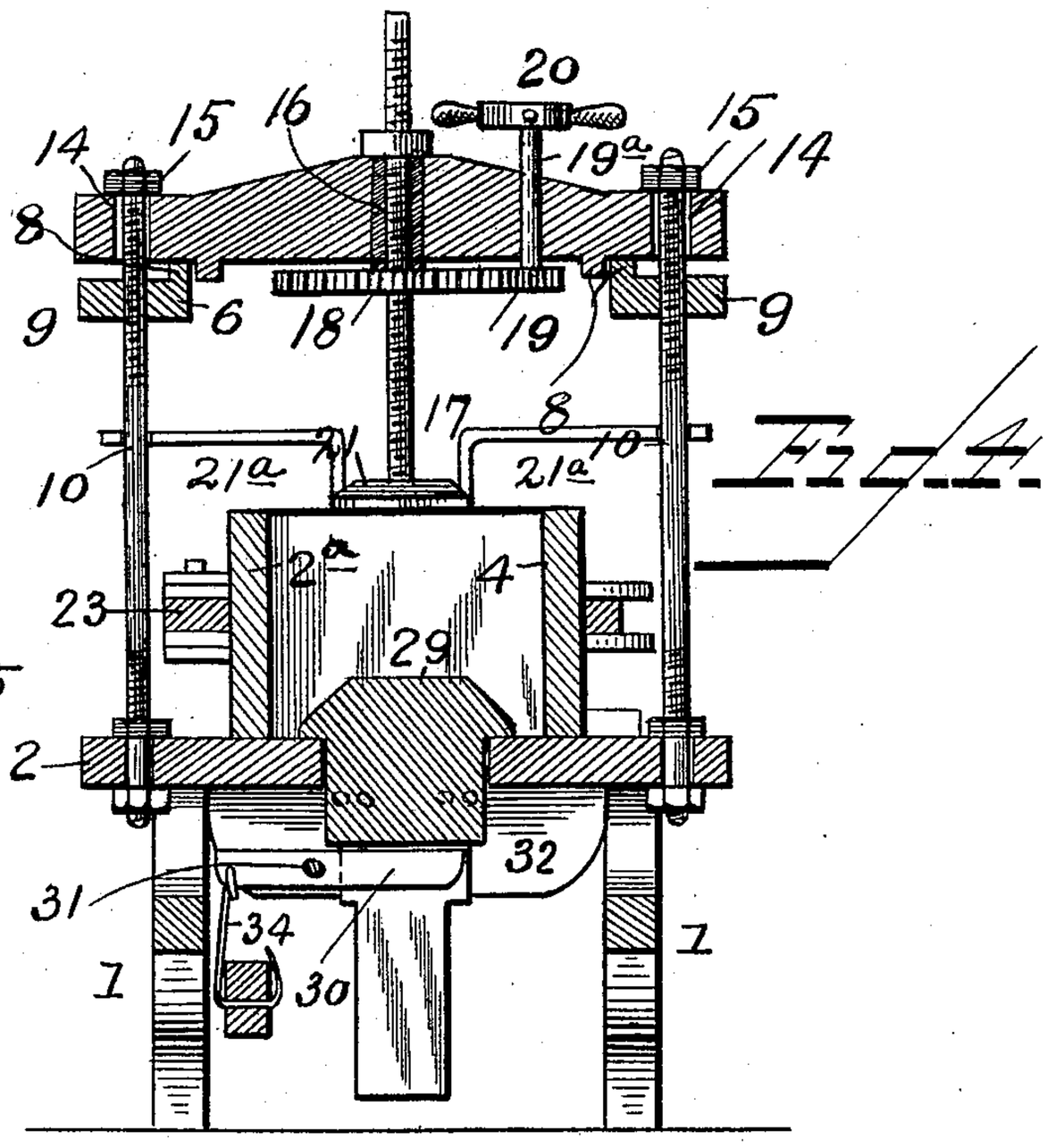


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN H. KESTER, OF WINSTON, NORTH CAROLINA.

TOBACCO-BOX-CLAMPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 512,975, dated January 16, 1894.

Application filed May 17, 1893. Serial No. 474,560. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. KESTER, a citizen of the United States, and a resident of Winston, in the county of Forsyth and State of North Carolina, have invented certain new and useful Improvements in Tobacco Box-Clamping Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in machines for clamping and holding tobacco boxes while the tobacco is being compressed therein.

The object of the invention is to provide a novel machine of the above character which shall possess superior advantages with respect to simplicity and efficiency.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings: Figure 1 is a front elevation of a tobacco box constructed in accordance with my invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a horizontal section, on the line *x*—*x* Fig. 1. Fig. 4 is a central vertical section, taken in a plane at right angles to Fig. 2. Fig. 5 is a detail perspective view of the stationary clamp and the cam lever for operating the movable clamp. Fig. 6 is a detail perspective view of the standard carrying the lower platen.

In the said drawings the reference numeral 1 designates supporting legs upon which is mounted a bed or base 2, having a central aperture therein for the passage of the shaft which carries the vertically movable bottom of the clamp.

The numeral 2ª designates the stationary jaw or clamp, consisting preferably of two plates secured together at a right angle to each other, or they may be formed of a single metal casting as found most convenient or desirable. The lower end of this clamp is provided with lugs 3, by which it is secured to the bed or base 2.

The numeral 4 designates the movable clamp, formed similar to clamp 2ª, but slightly smaller, so that the sides of this latter clamp overlap the same, as seen in Fig. 3.

Secured to the rear of the base 2 is an upright 5, which supports the rear ends of a frame consisting of the side bars 6, and curved end bar 7. The side bars are formed with rails 8, and lugs 9 with which lugs the screw-rods 10, secured to the base engage. Supported by and movable upon the said rails is a carriage 12, provided with guides 13. Near each end this carriage is provided with slots 14, with which the upper ends of the screw-rods engage, binding nuts 15 being employed to hold the carriage firmly in place during the operation of pressing.

Passing through an aperture in the carriage 12 is an interiorly screw-threaded hub 16 through which passes a screw-shaft 17. To the lower end of this hub is fixed a cog-wheel 18 which meshes with a pinion 19 secured to a shaft 19ª passing through the carriage and provided with a hand-wheel 20.

The lower end of the screw-shaft 17 carries a platen 21 provided with arms 21ª having slots at their ends which engage with the screw-rods 10, and prevent the platen from rotating.

The stationary clamp 2ª upon its outer sides is provided with two bars 23, having lugs 24 at their outer ends in which are pivoted arms 25 pivoted together at their bifurcated meeting ends. The pivot 26 of these arms, also serves as a fulcrum for the cam-lever 27. The ends of the arms pivoted to bars 23 are formed with a number of holes with which the pivots 26 are adapted to engage. By removing the pins and replacing them in different holes in the arms, the latter can be adjusted to suit different sizes of boxes to be clamped.

Passing through the central aperture in the base, is a vertically movable standard 28 carrying at its upper end a platen 29, which forms the bottom of the clamp. The lower part of this standard is formed with a central vertical slot in which works the inner end of a lever 30 pivoted to a rod 31 secured to bars 32, formed with or secured to the base 2. The outer end of this lever is connected by means of a rod 34 with a foot lever or treadle piv-

oted to one of the supporting legs. The standard is provided on two of its outer sides with vertical grooves 35, with which engage guides 36 on the inner sides of the bars 32. It will be seen that the upper end of the standard is enlarged forming a head 37, to which the bottom platen is secured or formed integral therewith, and is cut away at its sides forming shoulders 38 with which engage removable rods 39 passing through aligned apertures in the bars 32. These shoulders are at different heights and the upper ones project out beyond the lower ones. By this means, and changing the rods from one set of holes to another, the height of the bottom platen may be adjusted or regulated.

The operation is as follows: The upper platen is elevated by means of the hand-wheel, its shaft, the pinions, cog-wheel, and screw-rod, and the binding nuts are loosened and the carriage is slid to the rear. The cam-lever is thrown out of engagement with the movable clamp, so that the latter can be moved outward away from the stationary clamp, and the movable platen is elevated by means of the foot-lever or treadle and held in its adjusted position by means of the pins passing underneath the shoulders therein. The box to be clamped is now placed between the clamps resting upon the movable lower platen, and the cam-lever operated so that its cam will engage with the corner of the movable clamp forcing the latter radially inward and clamping and holding the same between it and the stationary clamp. The carriage is now drawn forward until its platen is over the box, the binding-nuts are tightened and the platen depressed by means of the hand-wheel and connections, and the tobacco in the box compressed and compacted therein. When sufficiently compressed, the platen is again elevated and the carriage run back and the cam-lever operated to release the clamp. By now depressing the foot-lever or treadle the box is elevated so that it can be grasped and withdrawn from the clamps.

Having thus described my invention, what I claim is—

1. In a box clamping machine, the combination with the stationary clamp, consisting of the plates arranged at a right angle to each other and secured to the bed of the machine, of the angular movable clamp resting on said bed, the arms pivoted to the stationary clamp and their ends pivotally connected together and the cam lever pivotally connected with said ends, substantially as described.

2. In a box clamping machine, the combination with the angular movable clamp secured to the bed of the machine, of the angular movable clamp resting on said bed, the arms pivotally connected with said stationary clamp and their ends pivotally connected together, the cam lever pivotally connected with said ends, and the vertically movable lower platen and the foot lever connected therewith for actuating the same, substantially as described.

3. In a box clamping machine, the combination with the base having a central aperture and the stationary and movable clamps, of the vertically movable lower platen, its standards having the shoulders formed in the sides, the bars secured to the under side of the base and the removable rods passing through holes in said bars, substantially as described.

4. In a box clamping machine, the combination with the base having a central aperture and the stationary and movable clamps, of the vertically movable shaft passing through the aperture in the base, having its lower end slotted and vertical grooves formed in its sides, the bars secured to said base and provided with guides working in said slots, the platen carried by said standard, the pivoted lever working in said slot, the foot-lever or treadle and the connecting rod, substantially as described.

5. In a box clamping machine, the combination with the base having a central aperture and the stationary and movable clamps, of the vertically movable standard having a central slot and vertical grooves in its sides, and an enlarged head cut-away at the sides forming shoulders or steps, the bars having guides working in said grooves, and formed with aligned holes to receive the movable rods, the pivoted lever, one end of which works in the said slot, the pivoted foot-lever or treadle and the connecting rod, substantially as described.

6. In a box clamping machine, the combination with the base, the stationary and movable clamps, the uprights and screw rods, of the frame supported thereby provided with rails, the carriage formed with slots through which the ends of the screw-rod pass, the binding nuts and the vertically movable shaft carrying the upper platen, substantially as described.

7. In a box clamping machine, the combination with the base, the stationary and movable clamps, the uprights, screw-rods, and the frame carried thereby provided with rails, of the horizontally movable carriage, the screw-shaft carrying the upper platen passing through an aperture in said carriage, the screw-threaded rotatable hub, the cog-wheel secured thereto, the pinion, its shaft and hand-wheel, the screw-shaft and the platen secured thereto, provided with arms having slots at their ends with which the screw rods engage to prevent the platen and shaft from rotating, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN H. KESTER.

Witnesses:

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