

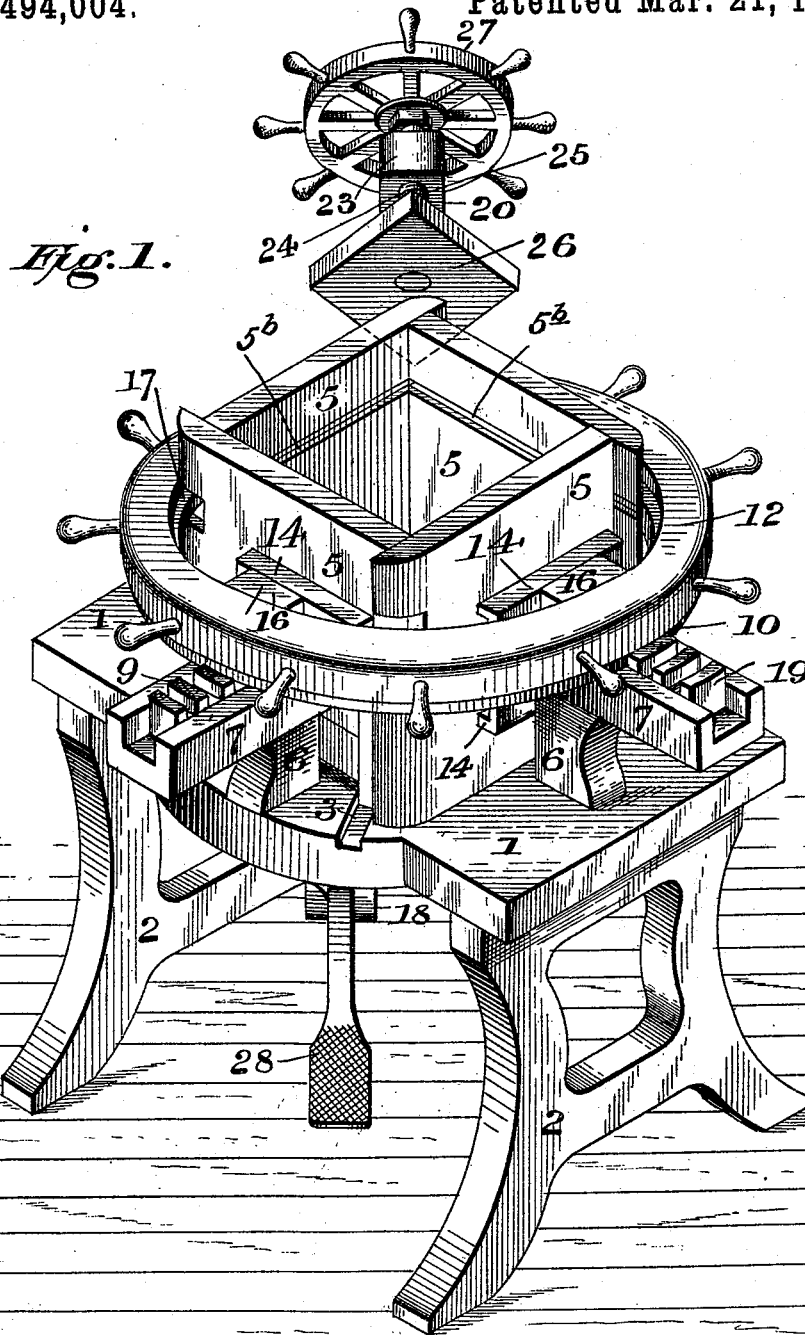
(No Model.)

5 Sheets—Sheet 1.

J. H. KESTER.
TOBACCO BOX CLAMPING MACHINE.

No. 494,004.

Patented Mar. 21, 1893.



WITNESSES:
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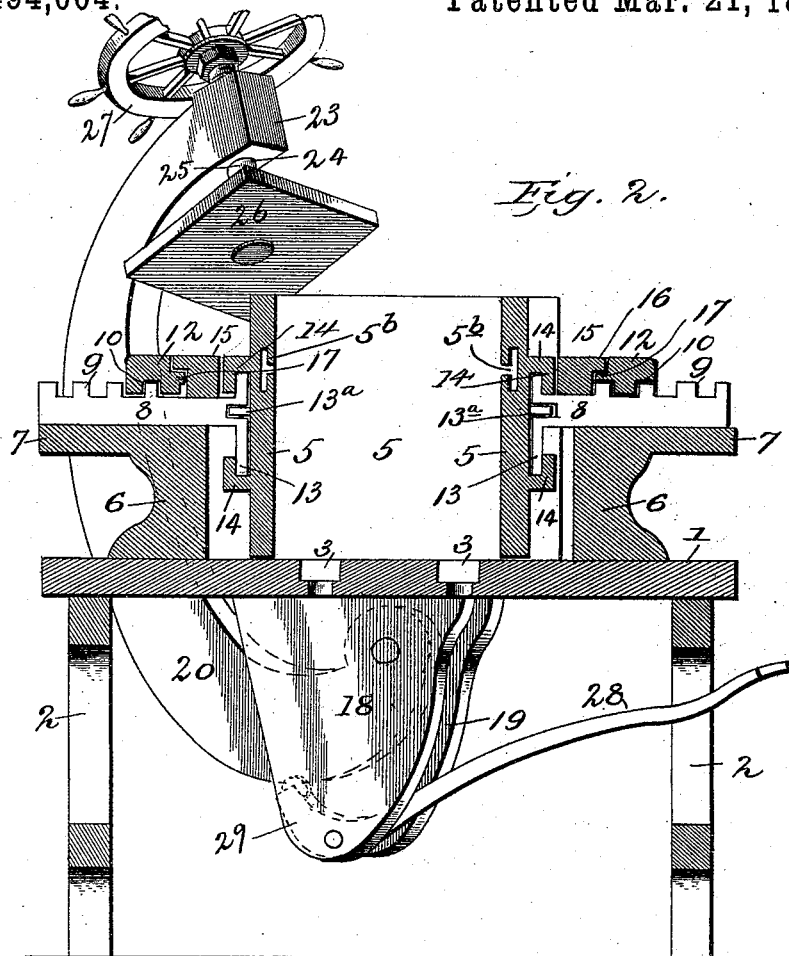


Fig. 2.

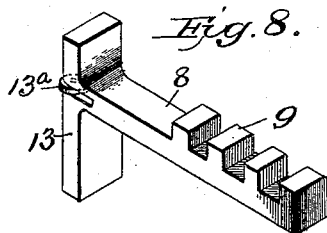


Fig. 8.

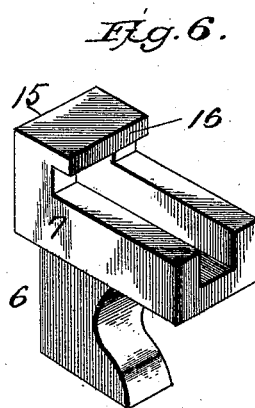


Fig. 6.

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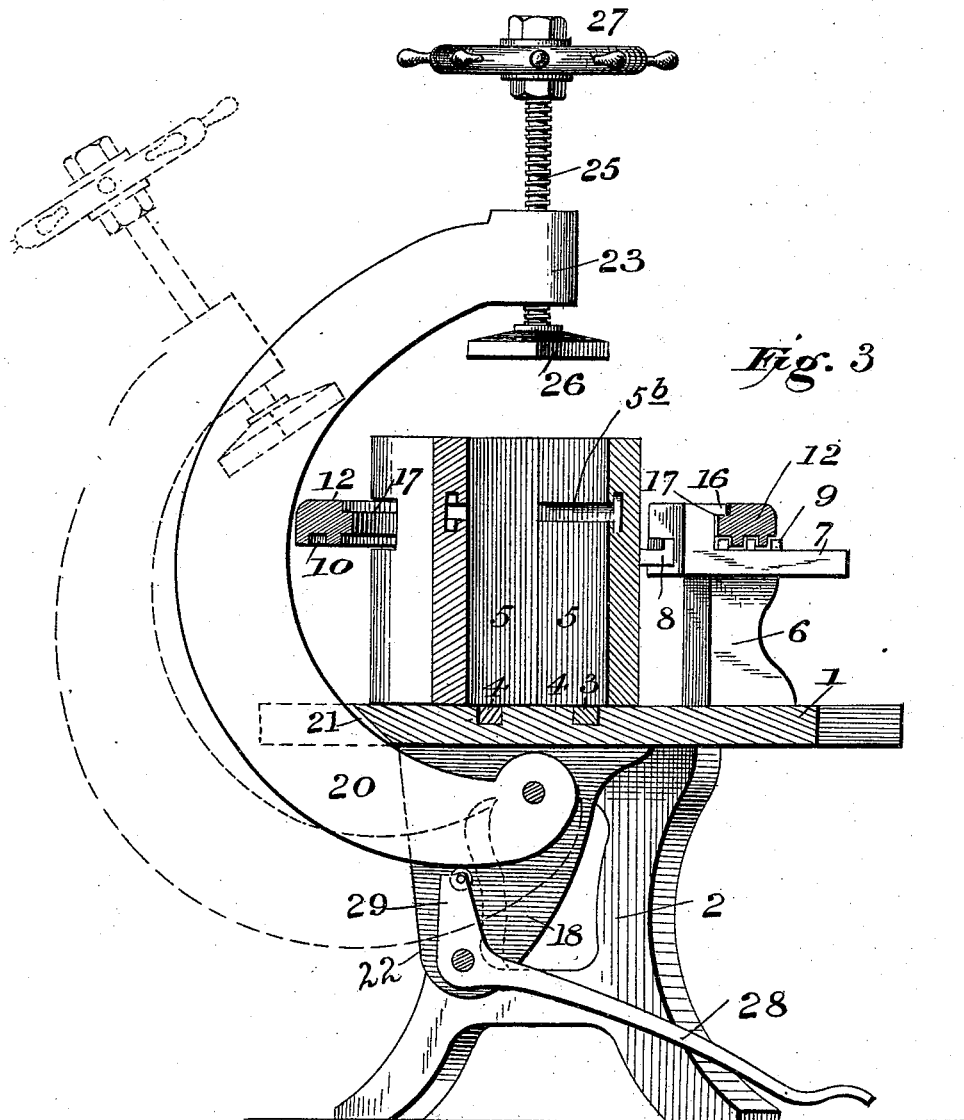
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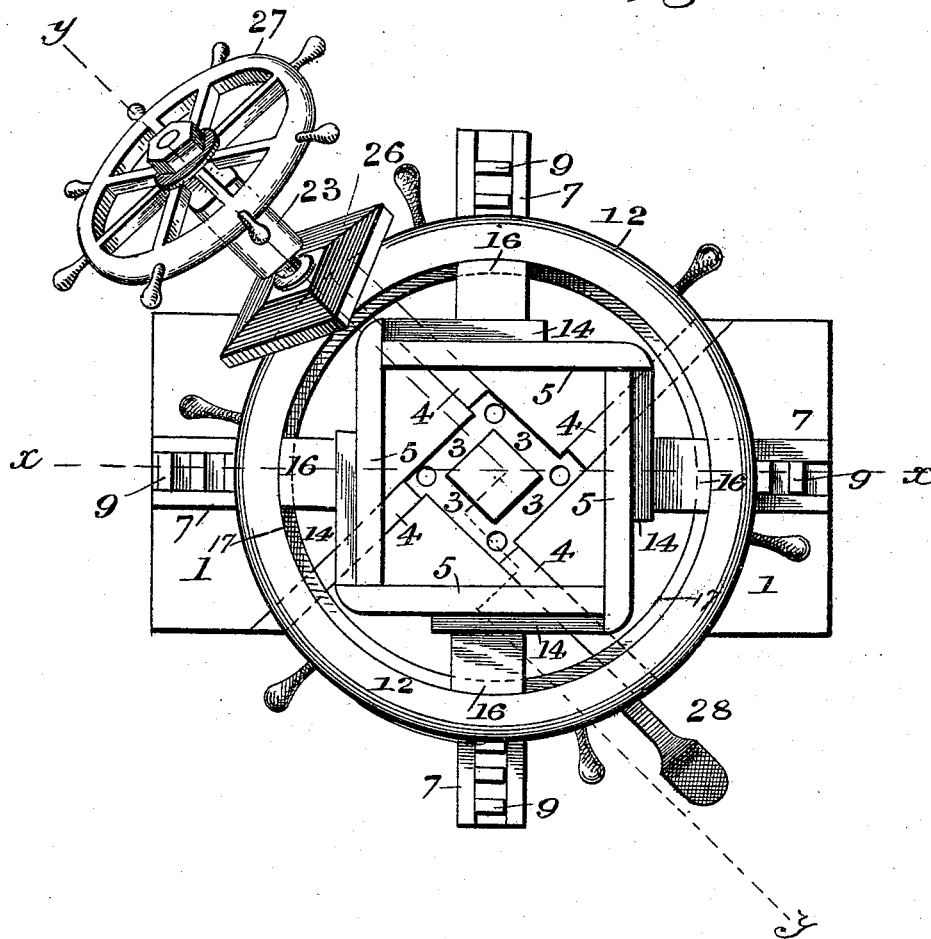
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Fig. 4.



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Fig. 5.

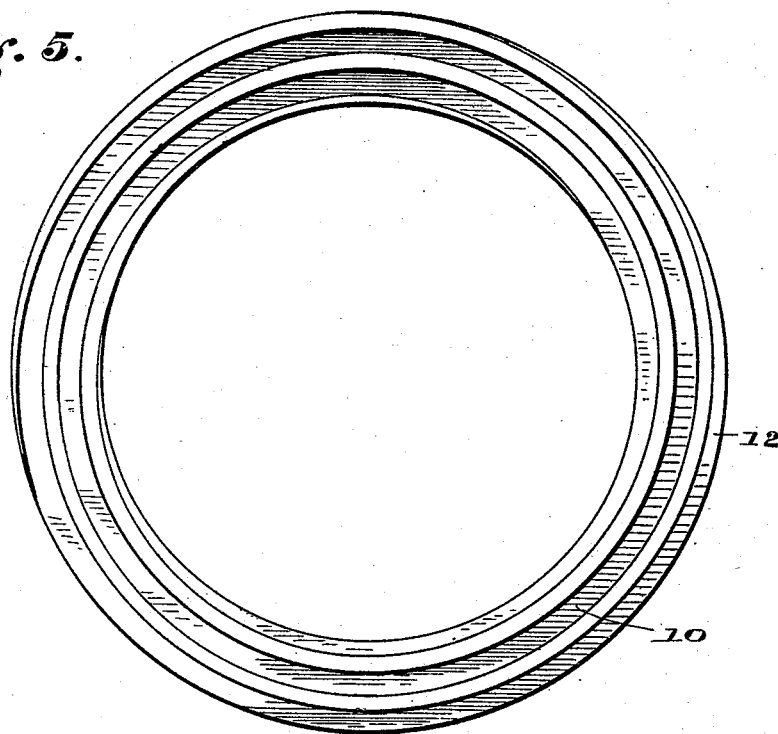
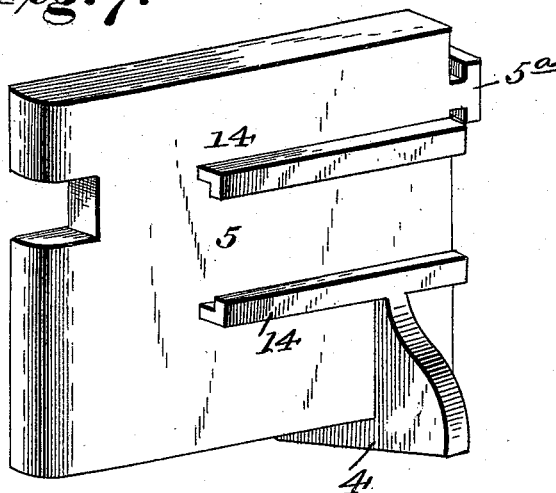


Fig. 7.



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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. 494,004, dated March 21, 1893.

Application filed June 25, 1892. Serial No. 438,011. (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 boxes containing plug tobacco while the contents of said boxes are being compressed or compacted by suitable pressing mechanism.

The object of the invention is to provide a machine of the above character, in which the clamps which clamp and hold the box, are simultaneously moved toward and away from the box by the movement of a single annular ring or wheel, provided with cam grooves which engage with teeth or arms connected with said slides, whereby the clamping and unclamping of the box can be effected in a rapid and efficient manner. There are also other improvements in the details of construction and arrangement of parts whereby superior results are attained 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 perspective view of a machine constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view on the line *x, x*, Fig. 4, the foot lever and its bracket being shown in elevation. Fig. 3 is a longitudinal sectional view on the line *y, y*, Fig. 4. Fig. 4 is a plan view. Fig. 5 is a view of the operating wheel looking from the underside. Fig. 6 is a detail perspective view of one of the uprights and its bearing. Fig. 7 is a detail perspective view of one of the clamping plates. Fig. 8 is a similar view of one of the toothed arms connected with the clamping plates.

In the said drawings the reference numeral 1 designates a base of any suitable material and may be mounted upon the legs 2. In

the upper face of this base are formed a series of radial grooves 3, in which reciprocate the slides 4, connected with the vertical clamping plates 5 arranged at right angles to each other with their ends overlapping, and capable of both a lateral and horizontal movement.

The numeral 6 denotes uprights secured to the base 1, which carry grooved bearings 7, in which slide arms 8 connected with said clamping plates, there being one upright and arm for each of such plates. The upper sides of these arms are formed with teeth 9 which project above the said bearings and are adapted to engage in a volute groove 10, on the under side of a wheel or annular ring 12 loosely resting upon said bearings. The inner ends of the arms 8 are provided with vertical bars or plates 13 having anti-friction rollers 13^a, which engage with the grooved guides 14, secured to the clamping plates, so that as said clamping plates move laterally in and out, said bars will slide in the guides to allow of a horizontal movement of the plates as herein-after set forth. The inner ends of the bearings 7, are provided with lugs 15, having outwardly extending flanges 16, which engage with an annular groove 17 on the inner edge of the wheel 12, and serve to hold the same in place upon the bearings. The clamping plates are preferably connected together by a tenon and mortise connection, the inner edge of each plate being provided with a T-shaped tenon or stud, 5^a which works in a dovetailed or corresponding groove 5^b in the next adjoining plate, as seen more clearly in Fig. 7.

Secured to the underside of the base is a bracket 18, having a recess 19, in which is located the lower end of a curved arm 20, the lower end of which is located in and pivoted to said bracket. The upper end of this curved arm is formed with a head 23, having a screw-threaded aperture 24, through which passes a screw rod 25, provided with a platen 26, and a hand wheel 27. Pivoted to the rear of the bracket 18, is a foot lever 28, having a short arm 29, which is adapted to strike the curved arm 20, when said lever is depressed.

The operation is as follows: A tobacco box or packing case is placed between the clamping plates and the required amount of to-

bacco placed therein. By now rotating the wheel 12, the clamping plates will be moved laterally inward, by means of the arms 8, teeth 9, and groove 10 in the wheel with which said teeth engage, thus tightly clamping and holding the box. It will be noted that all the clamping plates move together in unison and with the same power, so that the pressure will be uniform on all sides of the box. When the box has been thus clamped, the foot lever 28, is depressed causing the arm 29 thereof to strike the curved arm 20 turning the same upon its pivot and bringing the platen over the box and packing case, so that the contents may be compressed or compacted. After sufficiently pressed a reversal of the operation will restore the parts to normal position.

By reference to Fig. 5, it will be seen that the groove 10, is in the form of a volute, that is to say, it begins at the outer edge or periphery of the wheel and after winding around the lower face, terminates at the inner edge, so that as one of the teeth 9, of each arm 8 passes out of engagement therewith, a new tooth passes into engagement.

It will be noted that each of the radial slots in which the slides secured to the clamping plates work is arranged at an angle to its plate so that as the latter moves radially toward or away from the center, through the medium of the wheel and arms, it will also move horizontally to the left or right, according to the direction in which said wheel is turned. The horizontal movement of the clamping plates is permitted by the bars and anti-friction rollers carried thereby, on the ends of the arms 8, working in the guides secured to said plates. As the clamping plates move at right angles to each other, the T-shaped tenons will work in the grooves of the adjoining plates.

When it is desired to compress the tobacco by power or by separate pressing mechanism the legs 2, the curved arm, and the bracket can be dispensed with and the machine placed underneath the platen of a power or other press.

Having thus described my invention, what I claim is—

1. In a machine for clamping tobacco boxes or packing cases, the combination with the base, and the movable clamping plates, of the radially movable plates provided with teeth and connected with said plates, and the wheel having a volute groove on one face with which said teeth engage, substantially as described.

2. In a machine for clamping tobacco boxes or packing cases, the combination with the base, having radial grooves therein, of the laterally and horizontally movable clamping plates arranged at right angles to each other, the radially movable arms provided with teeth

and connected with said plates, and the rotatable annular ring or wheel having a volute groove with which said teeth engage, substantially as described.

3. In a machine for clamping tobacco boxes or packing cases, the combination with the base having radial grooves therein, of the laterally and horizontally movable clamping plates arranged at right angles with each other and provided with slides working in said grooves, the uprights, the grooved bearings secured thereto, the radially movable arms seated in said bearings, provided with teeth and having a plate at their inner ends with anti-friction rollers, the grooved guides secured to said plates, and the rotatable wheel having a series of tangential grooves with which said teeth engage, substantially as described.

4. In a machine for clamping tobacco boxes or packing cases, the combination with the base having radial grooves, of the laterally and horizontally movable clamping plates arranged at right angles to each other, the uprights, the grooved bearings, the radially movable arms, provided with teeth and connected with said plates, the annular ring or plate having a volute groove on one face, and an annular groove on the opposite face, and the studs secured to said grooved bearings having outwardly extending flanges engaging with said annular groove, substantially as specified.

5. In a machine for clamping tobacco boxes or packing cases the combination with the base, the laterally and horizontally movable clamping plates, and means substantially as described for actuating said plates, of the bracket secured to said base, having a recess therein, the curved arm seated in said recess and pivoted to said bracket, the screw and platen carried by said arm, the pivoted foot lever having a short arm adapted to strike and actuate said curved arm, substantially as described.

6. In a machine for clamping tobacco boxes or packing cases, the combination with the base, having radial grooves therein, of the laterally and horizontally movable clamping plates arranged at right angles and formed with dovetailed grooves on their inner faces and provided with a T-shaped tenon at one end, the radially movable arms provided with teeth, and the rotatable ring or wheel having a volute groove in one face with which said teeth engage, 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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WILLIAM E. BECK.