

J. R. HARRIS.
Tobacco-Presses.

No. 148,609.

Patented March 17, 1874

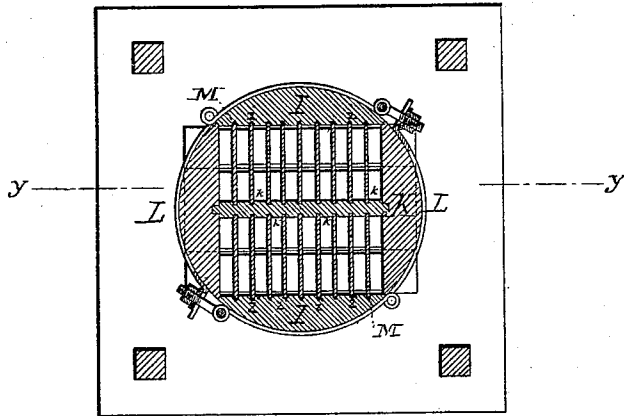


Fig. 2.

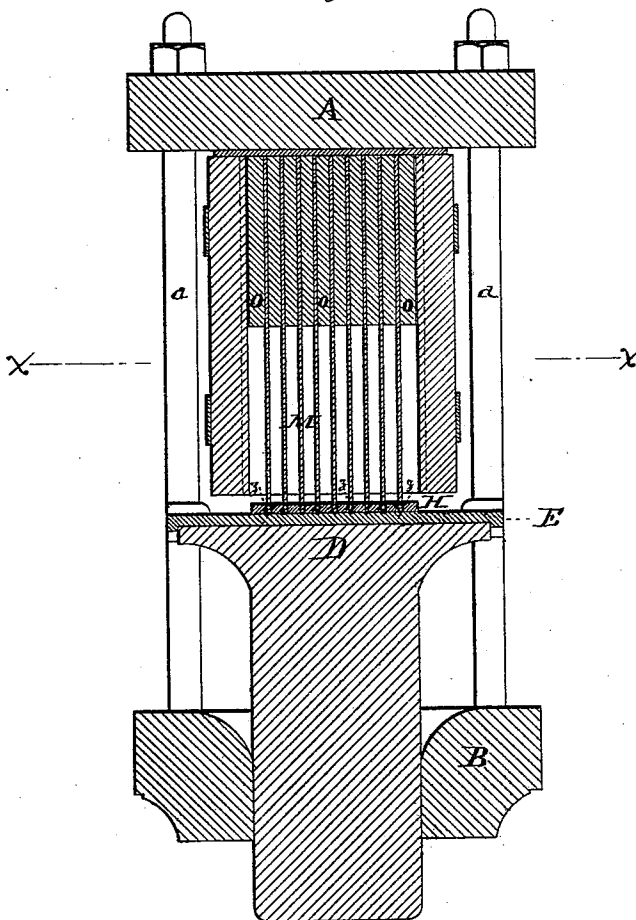


Fig. 1.

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Cox and Cox.

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Fig. 3.

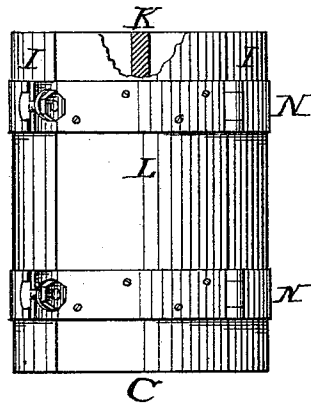
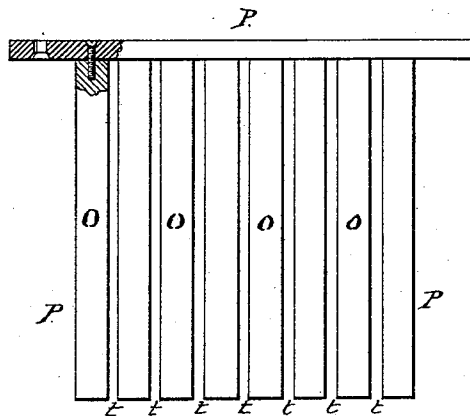


Fig. 4.



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Fig.5.

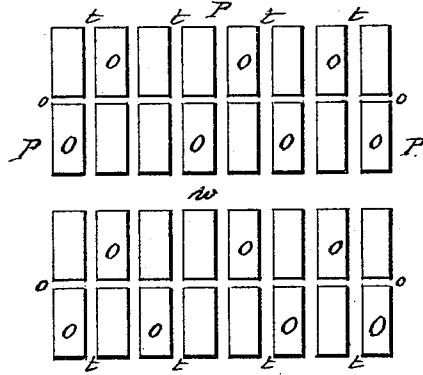


Fig.6.

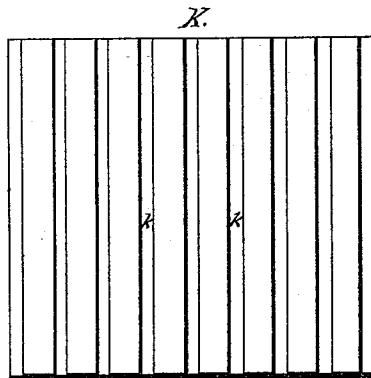
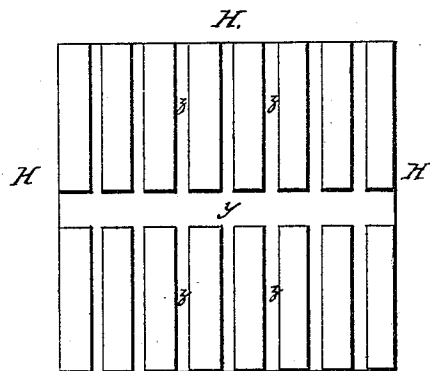


Fig.7.



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UNITED STATES PATENT OFFICE.

JACOB R. HARRIS, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN TOBACCO-PRESSES.

Specification forming part of Letters Patent No. **148,609**, dated March 17, 1874; application filed February 26, 1874.

To all whom it may concern:

Be it known that I, JACOB R. HARRIS, of St. Louis, Missouri, have made and invented a new and useful Improvement in Tobacco-Presses, of which the following is a specification:

The invention relates to an improvement in tobacco-presses. It consists in providing a finisher or pot having a central vertical partition, which is grooved at intervals to separate and support the inner edges of metallic plates, which are constructed of nearly the same height as the finisher or pot, and so as to fit within the chambers or wells formed by the central partition and the doors, as will more fully hereinafter appear. In the present instance the finisher or pot consists of a rectangular well, surrounded by four rounded pieces, encircling which are metallic straps which connect the four pieces, forming, by means of hinges and bolts and sockets, continuous straps that encircle the pot, rendering it secure while the operation of pressing is going on. The two pieces, the inner sides of which are parallel with the central partition, are constructed to open and have upon their sides toward the partition, numerous grooves, which correspond with the grooves in the partition heretofore described, and thus when the piece is opened the divisions or compartments formed by the metallic plates are exposed, so that their contents may be readily removed, while, when it is shut, a series of molds is formed, within which the tobacco may be pressed, the metallic band or straps being constructed so that the piece or door can be appropriately locked or opened at will. The metallic plates which, when fitted within the well of the pot or finisher, form the molds just alluded to, are ordinary sheets of metal, and are designed alone to form with the partition and surfaces of the well the shapes or molds in which the tobacco is pressed. Secured to the head-block of the frame are series of sinkers, which correspond in number and size with the molds formed by the movable partitions, and which depend so as to support the movable partitions when the pot is being filled. The tobacco having been placed in the molds, the pot is forced up, thus driving the sinkers

into the several molds below them, and effectually pressing their contents. A pot containing any desired number of chambers may be constructed, and the size of the molds may be varied at will.

The object of the invention is to provide a convenient, rapid, and effective means of pressing tobacco; and to do away with the use of a multiplicity of pots and their concomitants, thus greatly economizing labor and time, as well as capital.

Figure 1 is a vertical section of a device embodying my invention through the line *yy*, shown in Fig. 2, which is a horizontal section through the line *xx*, in Fig. 1. Fig. 3 is a view showing the construction of the pot or finisher. Fig. 4 is a view of the sinkers *O*. Fig. 5 is a plan view of the lower surface of the platen *P*. Fig. 6 is a front elevation of the partition *K*. Fig. 7 is a plan view of the upper surface of the platform *H*.

A in the accompanying drawings is the head-block of the frame of a hydraulic press, secured to which are the vertical rods *a*, which connect it with the block *B*. The pieces *a*, in the present instance, are four in number, and are attached near each corner of the blocks *A* and *B*, and are separated and conformed to accommodate the pot or finisher *C*, and other parts, hereinafter described. Passing through the block *B* is the ram of the platen *D*, which operates upward by means of hydraulic or other pressure applied at the base of the ram. Upon the platen *D* rests the slide *E*, which is notched at each corner to engage the interior corners of the vertical rods *a*, and to slide thereon. Upon the upper surface of the slide *E* is provided the platform *H*, of such size as to fit smoothly upon the interior of the pot *C*, and assists in holding it in position. In the present instance the platform *H* is grooved, as shown, with the groove *y* receiving the base of the partition *K*, and the grooves *z* to receive the lower edges of the movable plates *M*, though the employment of these grooves is optional. *C* is the pot, which, in the present instance, consists of two heavy pieces, *L*, and two heavy doors, *I*, the outer surfaces curved, the inner straight, thus forming a rectangular space or well. The doors *I*

are opposite each other, and secured by hinges or in any other suitable manner, so as to swing open at pleasure, the bands N, which encircle the pot C, being rigidly secured thereto, and of proper strength to resist strain from within, the doors being supplied with screw-bolts or other means of securing them to the pieces L. This form of pot is described, though any other form having a rectangular interior and one or more doors will serve, the platen P being properly constructed to conform with the interior of the pot. Across the center of the pot C, parallel to the doors I, is placed the partition K, firmly secured at each side to the vertical surface of the pieces L, its upper and lower edges flush with the corresponding edges of the pieces L, and placed equidistantly between the doors I, having on its surfaces opposite them the vertical grooves *k*, of proper size to receive the rear edges of the plates M, said grooves being in the same vertical plane as the grooves *z*, if used in the platform H. The doors I are provided with vertical grooves *i*, conical or pointed, or otherwise properly constructed to receive the front edges of the plates M. When the doors I are closed or being closed, these grooves are placed directly opposite the grooves *k* in the partition K. The plates M are formed of proper material—steel saw-plate preferred—and in width are equal to the distance between the centers of the grooves *i* and *k*, and in length somewhat longer than the height of the pot C. Preferably, the front edges of these plates are conical or rounded, so that when they are in position the doors I may be closed, these edges readily entering the grooves *i*. The plates are placed as follows, with their rear edges in the grooves *k*, their lower edges in the grooves *z*, if the grooved platform be used, or upon the surface of the platform if not used, their front edges entering the grooves *i* in the doors I when they are closed. Thus the plates stand vertically and parallel to the inner sides of the pot at right angles to the doors I, their upper edges projecting above the upper edge of the pot. Secured to the lower side of the head-block, directly above the well of the pot C, is the platen P, of proper dimensions, consisting of a group of sinkers, O, which may be constructed and subdivided as desired, regard being had to the description herein specified. In the present instance the platen is divided into two distinct sections by the channel *w* to permit the ascent of the partition K, which sections are subdivided by the channel *o*, midway between the channel *w* and the outer parallel surface of the group. This channel *o* is to receive vertical pieces of material placed in the pot C when it is desired to make plugs of the size of the lower surface of a sinker, O. The channels *o* and *w* are in vertical planes parallel to the vertical plane of the partition K. The platen is further divided by channels *t*, which subdivide the platen P at right angles to the channels *o* and *w* in such manner as to permit the ascent of the plates M, into the cham-

bers formed by which and the several interior surfaces of the pot, the sinkers fit smoothly. The upper edges of the plates M enter somewhat into the channels *t*.

The pot C having been adjusted upon the slide E, the doors are opened and one or more, or all, of the partition-plates M inserted, the rear edge of the plate entering a groove, *k*, in the partition K, and the grooves in the platform H. Then the pot is filled, preferably, as follows: If hand-work is to be pressed, a lump is deposited on the floor of each compartment between the plates M, over which is placed a plate of wood of proper size if "black work," or a plate of metal if "bright work," is to be operated upon; and upon this plate is placed a second lump, the chambers being thus filled in layers. If machine work is to be pressed, the compartments are filled, as desired, with alternate lumps of tobacco, partially shaped or flattened, and plates of wood or metal, though the compartments may be filled in either way with either kind of work, the above mode being, however, preferable.

When the pot is thus filled, the doors I are closed and secured, the pointed or conical edges of the plates M entering the grooves *i*, properly shaped to receive them, power is applied, the pot rising, and the sinkers O entering the spaces between the plates. This operation is continued until the tobacco is sufficiently pressed, when the pot is permitted to descend, and is unlocked and unloaded in whole or in part, or subjected to further pressure, as desired.

When the platen is subdivided, as shown, and it is desired to make plugs of the size of the lower surface of a sinker, a sheet of metal or wood may be inserted vertically, so as to occupy a plane coincident with one pressing through the space *o*, and parallel with the partition K.

The slide E may have its platform grooved, as shown, or it may be left smooth. In the latter event, when the plates M are placed, a block of material may be inserted between each two at their bases, so as to properly space them, if desired; though if the whole space is required, these spacing-blocks may be dispensed with.

When it is desired to press sheets or pieces of a size equal to the area of the platform of the slide E, between the partition K, door I, and walls of the pot, all of the plates are removed and the pot filled with alternate lumps and tins or plates of wood.

It is obvious that plug tobacco can be made of any desired rectangular shape by the above mechanism.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A tobacco pot or finisher, provided with a series of vertical parallel removable flat partition-plates.

2. A tobacco pot or finisher, in which the molds or formers are formed by means of one

or more removable vertical flat partition-plates, placed parallel to the vertical sides of the pot.

3. A tobacco-press, the platen of which is suspended and subdivided into the sinkers O, substantially as shown and described.

4. A tobacco-press, the platen of which is suspended and subdivided into the sinkers O, in combination with a tobacco pot or finisher provided with a series of vertical parallel removable flat partition-plates, substantially as shown and described.

5. The door I, provided with the grooves *i*, in combination with the partition K provided with the grooves *k*, and the platform H provided with the grooves *z*, substantially as shown and described.

6. The combination of the movable vertical partition-plates M, partition K, having the grooves *k*, and door I having the grooves *i*, for the purpose specified.

7. The combination of the movable vertical partition M, arranged to operate within pot C, slide E, and sinkers O, for the purposes described.

In testimony that I claim the foregoing improvement in tobacco-presses, as above described, I have hereunto set my hand and seal this 7th day of February, 1874.

JACOB R. HARRIS. [L. s.]

Witnesses:

J. BARCLAY NICHOLSON,
LEWIS HUTZLER.