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IMPROVEMENT IN PRESSES FOR COTTON, HAY, &c.

Specification forming part of Letters Patent No. **214,046**, dated April 8, 1879; application filed February 14, 1879.

To all whom it may concern:

Be it known that I, WALTER J. F. LIDDELL, of Charlotte, county of Mecklenburg, State of North Carolina, have invented certain new and useful Improvements in Presses for Cotton, Hay, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved press. Fig. 2 is a plan or top view of the gearing by which the plunger is operated; and Fig. 3 is a detached view of one side and end door, showing the manner of connecting or hinging the same to the frame.

Similar letters of reference denote corresponding parts in all the figures.

My invention consists, first, in a novel construction of frame, whereby all transverse bolts, tenons, or fastening devices are dispensed with; also, in a novel manner of connecting the block to which the doors are connected or hinged to the frame; also, in a novel construction of fastening devices for the doors, all as hereinafter explained.

In the accompanying drawings, A A represent the two lower frame-bars, which are connected together by means of a transverse bar, B, and upon which bar the gearing for operating the screws which drive the plunger of the press is mounted.

C C¹ C² are upright posts, forming, in connection with the stay rods or bolts D, the corner-posts of the machine. The stay rods or bolts D extend from top to bottom of the machine and through the hollow upright posts C C¹ C², and are connected at the bottom in the frame-bars A and at the top in corresponding bars A'.

E E' are rectangular frames, composed of the side and end bars, *e e'*, and through the ends of which frames E E' the stay-rods D pass. F are blocks, through which the stay rods or bolts D also pass, and in which blocks the end swinging doors, G', of the box are pivoted, the side doors, G, being pivoted in the end bars, *e'*, of the frame E'. H is the stationary box, connected to the frame-bars E E'.

I are bars (only one of which is shown in the drawings) connected rigidly to the side doors

of the box, and by means of which the side doors are held in position. These bars extend out beyond the ends of the doors, and are bent at right angles to the main bar to form hooks *i i*. K are similar bars, connected to the end doors, and which also have their ends bent at right angles to form hooks *k*. These bars are also provided with handles K', for turning them into position for locking the doors of the box, as will be explained.

The manner of setting up the frame is as follows: The frame-bars A having been connected by the bar or gear-plank B, the four stay rods or bolts D are placed in position, one at each corner. When these are in position, one of the sections, C, of the corner-posts is placed in position. The rectangular frame E is then placed in position, when the other sections, C', of the corner-posts are put in place, after which the frame E' is placed in position, and then the blocks F, then the posts C², and, lastly, the frame-pieces A' are placed on the rods, and the whole drawn tightly together by means of nuts or similar devices.

By this construction it will be seen that all transverse bolts or similar devices are dispensed with.

The manner of securing the doors in position or for locking or latching them when the cotton or hay is being pressed is as follows, supposing the parts to be in the position shown in Fig. 3: The door G is first closed or folded into position, when, by closing the door G', the hooks *i* will be caused to pass on the inside of the hooks *k*, which would serve to hold the end doors in position; but, by turning the handle K' down into the position shown in Fig. 1, it will turn the hooks *k* down or outside of the hooks *i*, and thus lock both doors firmly in place.

L is a bar, from which the head-block is suspended. This bar is secured to the top frame-bars, A', midway of their lengths, and projects about half its length beyond the frame upon one side. The head-block M is provided near both its ends with eyebolts *m m¹*, which clasp the bar L between them, and are provided at their upper ends with rollers *m²*, held in place by a pin or bolt passing through the eyes in the bolts *m m¹* and through the rollers. These

rollers run on the upper face of the bar L, supporting the head-block suspended from said bar, the latter serving as a track on which the head-block may be run in or out, as desired.

To prevent the head-block from being accidentally displaced or from being run off the bar L, one set of eyebolts is connected to the head-block between the bars A', the latter serving as a stop to limit the movement of the head-block.

The manner of operating the plunger is as follows: N is the main shaft, from which motion is communicated to the gearing, and upon which shaft are mounted two pinions, *nn'*, either of which is adapted to be engaged by means of a shipping-clutch, O, for operating the crown-wheel P'. The crown-wheel P' has connected to its under side a pinion, P, which engages with the gear-wheels R, which operate the screws S S for imparting motion to the plungers.

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

1. The posts C C' C², frames E E', in combination with the rods or bolts D, substantially as and for the purpose described.

2. The frame E' and blocks F and the doors pivoted to said blocks, in combination with the rods D, substantially as and for the purpose described.

3. The bars I, provided with the hooks *i*, in combination with the pivoted locking-bar K, for locking and holding the doors in position, substantially as described.

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Witnesses:

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