No. 769,154. PATENTED SEPT. 6, 1904.

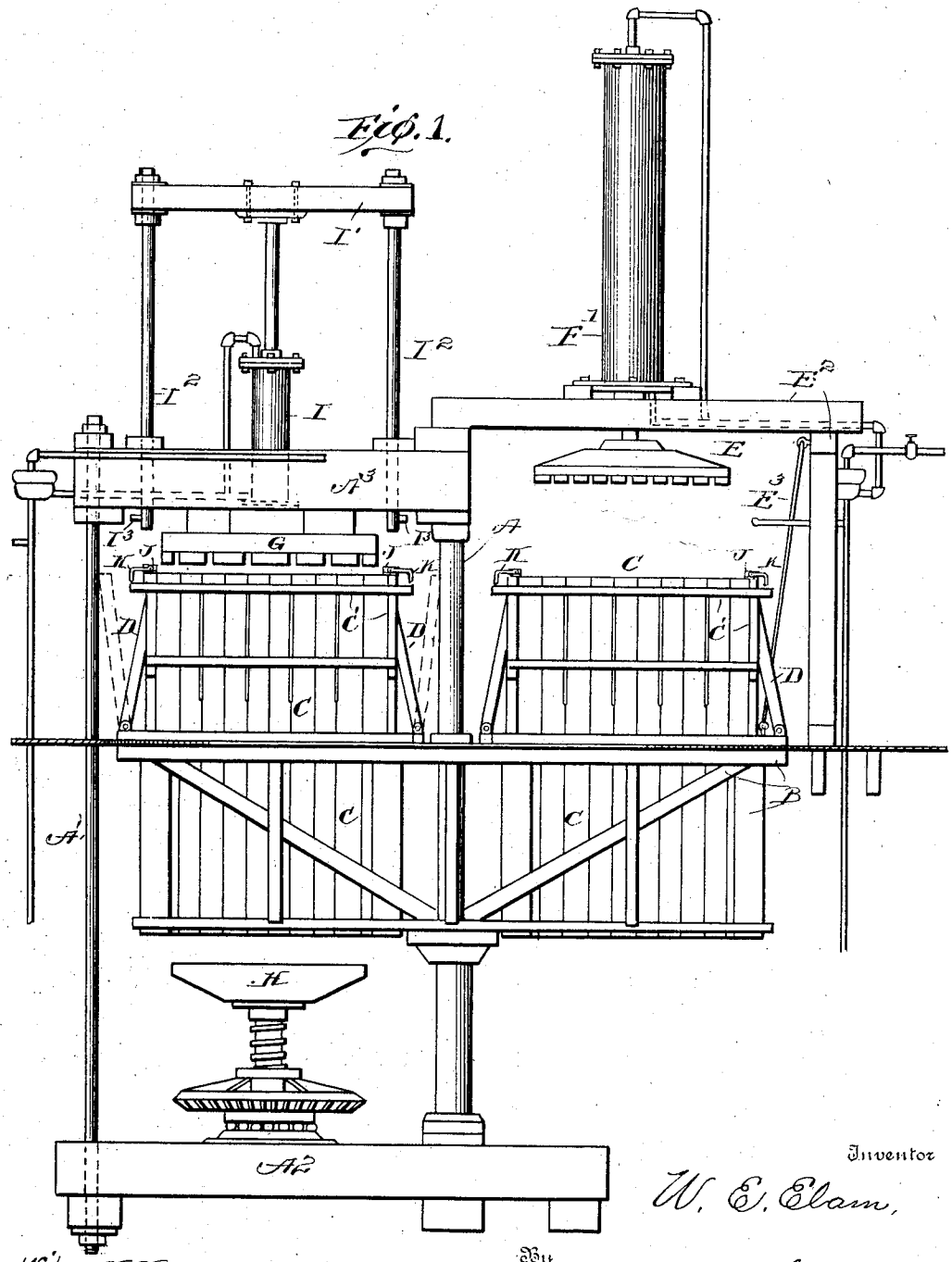
W. E. ELAM.

BALING PRESS.

APPLICATION FILED DEC. 11, 1903.

NO MODEL. 4 SHEETS—SHEET 1.

Fig. 1.



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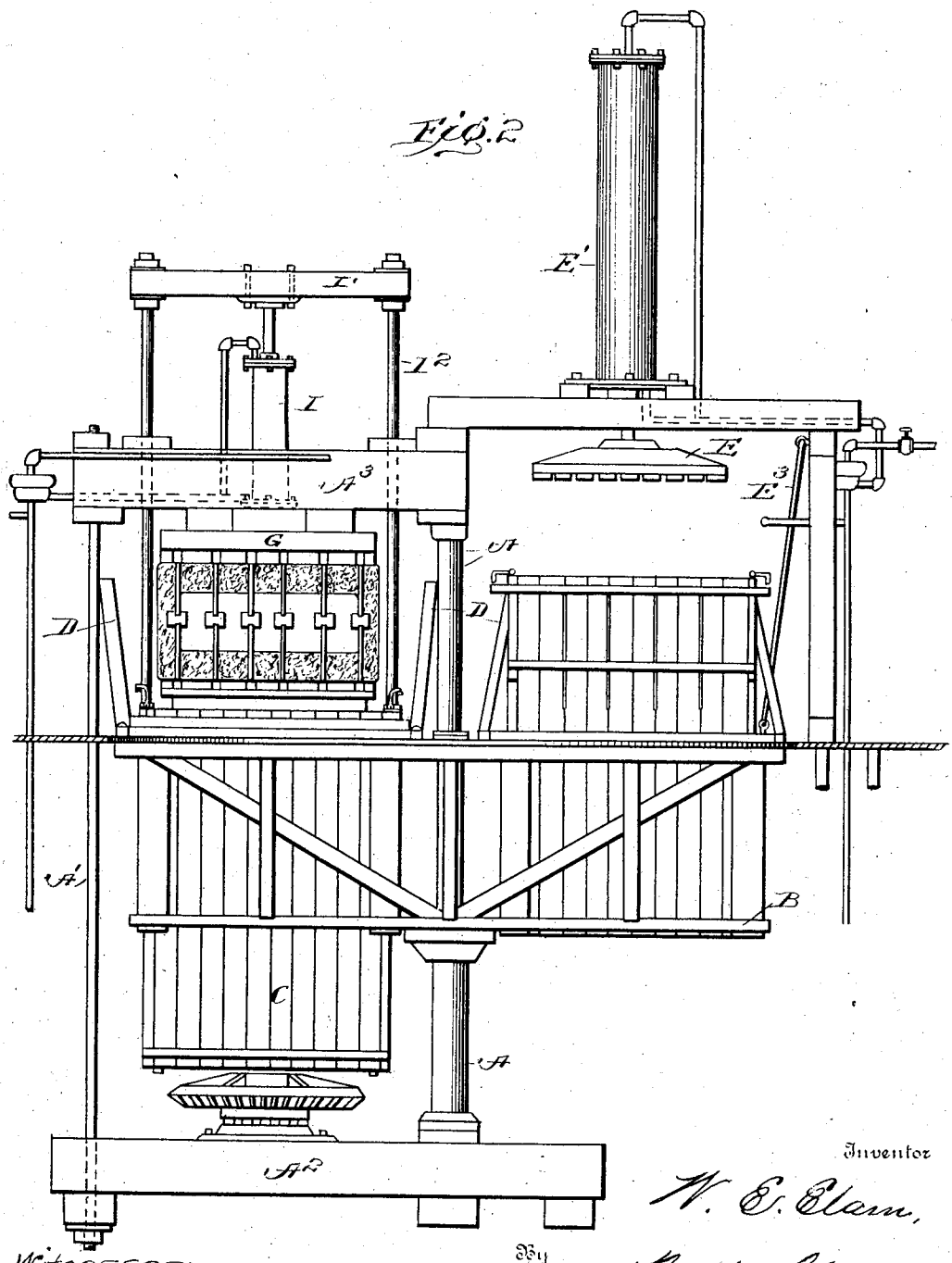
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NO MODEL. 4 SHEETS—SHEET 2.

FIG. 2



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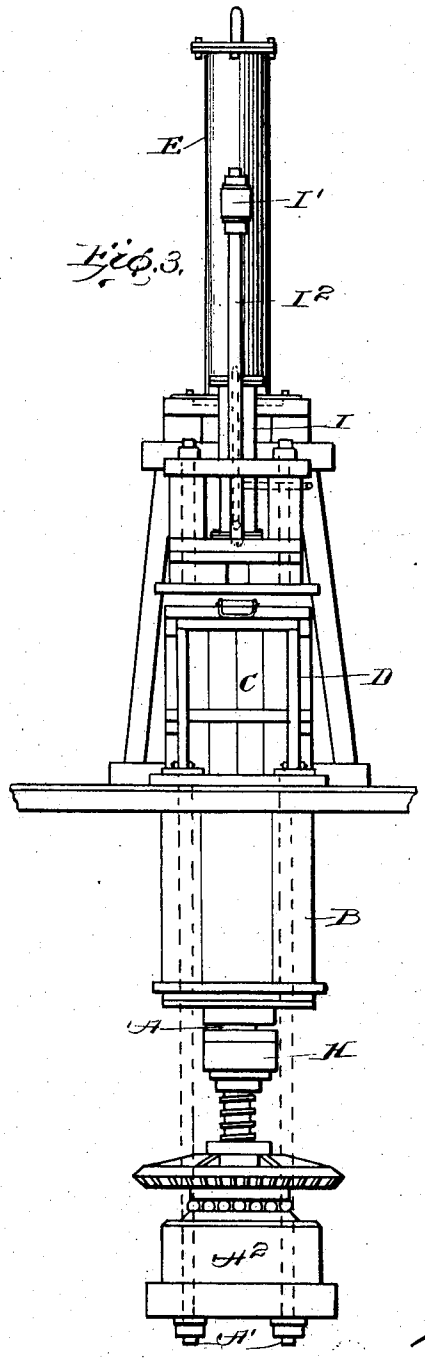
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NO MODEL. 4 SHEETS—SHEET 3.

Fig. 3.



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NO MODEL. 4 SHEETS—SHEET 4.

Fig. 4.

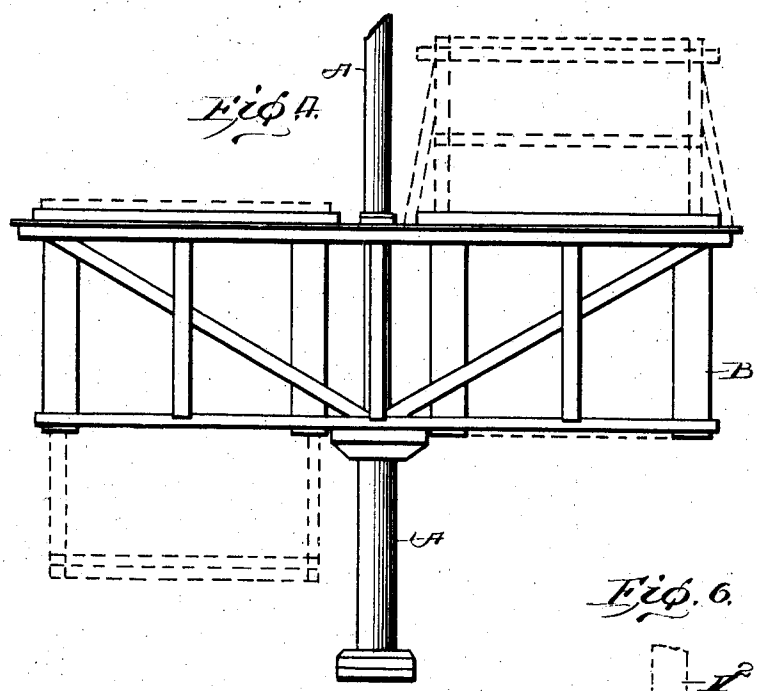


Fig. 6.



Fig. 5.

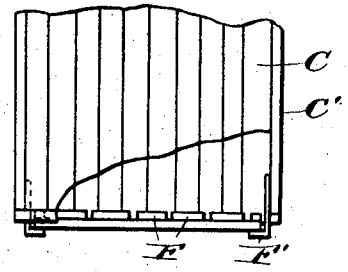


Fig. 7.



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No. 769,154. Patented September 6, 1904.

UNITED STATES PATENT OFFICE.

WILLIAM E. ELAM, OF COLUMBUS, GEORGIA.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 769,154, dated September 6, 1904.

Application filed December 11, 1903. Serial No. 184,716. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. ELAM, a citizen of the United States, residing at Columbus, in the county of Muscogee and State of Georgia, have invented new and useful Improvements in Baling-Presses, of which the following is a specification.

In cotton-presses and the like it is usually necessary to remove heavy doors after compression in order to put the wrappings and ties in place. This requires time, physical strength, and expensive construction. The evils are especially marked where it is desired to pack cotton in the press-boxes at one point and to form it into a bale, ready for shipment, at another point.

In accordance with my invention boxes are mounted to slide in ways in a frame arranged to carry them by rotation from packing devices to compressing devices, and means are provided for forcing the boxes to slide in their ways just far enough to expose the compressed material when it is ready for its ties and while it is yet held by the compressing devices.

In the accompanying drawings, Figure 1 is a side elevation of an apparatus made in accordance with my invention and involving twin boxes sliding vertically in ways in a frame mounted to rotate upon a vertical axis. Fig. 2 is a similar view, parts being in a different position. Fig. 3 is a view looking from the left in Fig. 1 toward the same devices. Fig. 4 is a side elevation of certain rotary box-holding devices. Fig. 5 shows a part of a press-box. Figs. 6 and 7 are minor detail views.

In the figures, A represents a fixed vertical column, and B a frame mounted to rotate about this column as an axis. In each end of the frame there is formed a rectangular way in which fits and slides freely a press-box C, consisting of a smooth box primarily open above and below and strengthened outer members C′. Upon the top of the frame are hinged members D, arranged to swing inward beneath the upper transverse bars of the frame C′, and thus support the boxes at the proper height, or, in the apparatus illustrated partly above, partly below the floor of a building in which the apparatus is located, a circular portion of this floor being arranged to rotate with the frame. Upon one side of the column A is a plunger E, carried by the piston of a cylinder E′, supported by a fixed frame E^2 and serving in the usual way to tramp or pack into the press-boxes material to be compressed. During such packing the outer end of the rotary frame B is supported in any suitable manner—for example, by a hooked rod E^3. Each press-box has a temporary bottom F, Fig. 5, which rests upon projections F′, offering no obstacle to the upward movement of the bottom.

Upon the opposite side of the column A is a press, the column and rods A′ parallel thereto serving as the connections between the upper and lower members A^2 A^3 of the press-frame. Below the upper members is fixed an ordinary platen G a little above the top of the press-box when the latter is in normal position ready to have its contents acted upon by the press. A plunger H, coacting with the platen, normally lies below the plane of the boxes and is at will forced upward in the box above it by any suitable power.

One of the press-boxes having been filled by the packing-plunger, as above suggested, the frame B is rotated until this box lies between the platen and plunger, and an empty box is in its turn brought into place for filling. Both platen and the false bottom having been covered with suitable sacking, the plunger is advanced, forcing the bottom of the box upward and compressing the cotton above it into the upper part of the box until the mass has the dimensions desired for the bale. When this point is reached, the box itself is forced downward to the position shown in Fig. 2, leaving the bale exposed, but still held between the platen and plunger. The wrappings are then adjusted, the ties are put in place, the plunger is slightly lowered, and the bale is removed. The box is thus forced downward by means of an ordinary steam or air cylinder I, whose piston-rod carries a cross-head I′, from which depend rigid rods I^2 in line with opposite sides of the box, respectively. The upper edges of the boxes are provided with sockets J to receive the lower ends of the rods and keep them in proper position, and also with hinged loops K, which

swing into engagement with projections I^3 upon the rods, and thereby compel the rods and the box to rise and fall together, or, in other words, the box may be forcibly moved in either direction at will.

The bale being removed, the compressing-plunger is lowered out of the path of the rotary box-frame, the box is raised, the supports D are swung inward beneath the box members C', the box is slightly lowered to rest upon these supports, the loops K are disconnected from the rods, and the box-frame is rotated one hundred and eighty degrees, causing the box just freed from the bale to change places with the other, which has preferably been filled meantime with the aid of the packing-plunger.

It may be noted that as the bale-compressing plunger rises friction of the material compressed causes the box to rise slightly, leaving the supports D free to be swung outward to the position indicated in dotted lines.

What I claim is—

1. The combination with a rotary frame provided with ways for sliding press-boxes, of press-boxes arranged to slide in said ways, respectively, compressing devices in position for acting upon material in said boxes when they are brought into proper position by rotation of the frame, and means for forcibly sliding each box in its way to expose the compressed material therein while it is still held in the compressing devices.

2. The combination with a press-plunger, a plunger-resisting member, and means for operating the plunger, of a rotary frame provided with ways for sliding press-boxes and arranged to bring said ways in succession between said plunger and member as it rotates, press-boxes arranged to slide in said ways, respectively, and means for compelling each box to slide in its ways to expose the material therein while it is held between said plunger and member.

3. The combination with compressing and adjacent packing devices, a frame provided with ways for sliding press-boxes and mounted to rotate upon an axis for bringing its way in succession into line with the packing devices and the compressing devices, press-boxes mounted to slide in said ways, respectively, and means for forcing each box to slide in its way while the material therein is held between the compressing devices.

4. The combination with a frame mounted to rotate upon a central axis and provided with ways for sliding press-boxes, of press-boxes arranged to slide in said ways, respectively, means for holding each box at a certain point in its way, means for packing material in each box at one point in its rotation, means for compressing the packed material at another point in the rotary path, and means for sliding each box to expose the material held by the compressing devices.

5. The combination with a rotary frame having upon opposite sides of its axis ways for sliding press-boxes, press-boxes arranged to slide in said ways, respectively, a press arranged to compress material in the boxes as they are brought to proper position, successively, by rotation of the frame, rods parallel to the line of compression and supported from the press-frame, means for detachably connecting the rods to any box in such position, and means for forcibly moving the rods longitudinally.

6. The combination with the frame rotating about a vertical axis, of boxes arranged to slide parallel to said axis in ways in said frame, means for holding each box in raised position in its way, a coacting press platen and plunger in position to register with the interior of each box as the latter is brought to proper position by rotation of the frame, rods parallel to the plunger's line of movement, means for detachably connecting the rods with any box in such position, means for forcibly sliding the rods longitudinally in either direction at will, a packing-plunger in position to enter the opposite box while the material is being thus compressed, and means for supporting the frame against the thrust of the packing-plunger.

7. The combination with suitable packing and adjacent compressing devices, of press-boxes arranged for moving bodily from the former to the latter, and means for forcibly moving each box parallel to the line of compression to expose the material while it is held by the compressing devices.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

W. E. ELAM.

Witnesses:
G. H. WHITAKER,
E. M. JOHNSON, Jr.