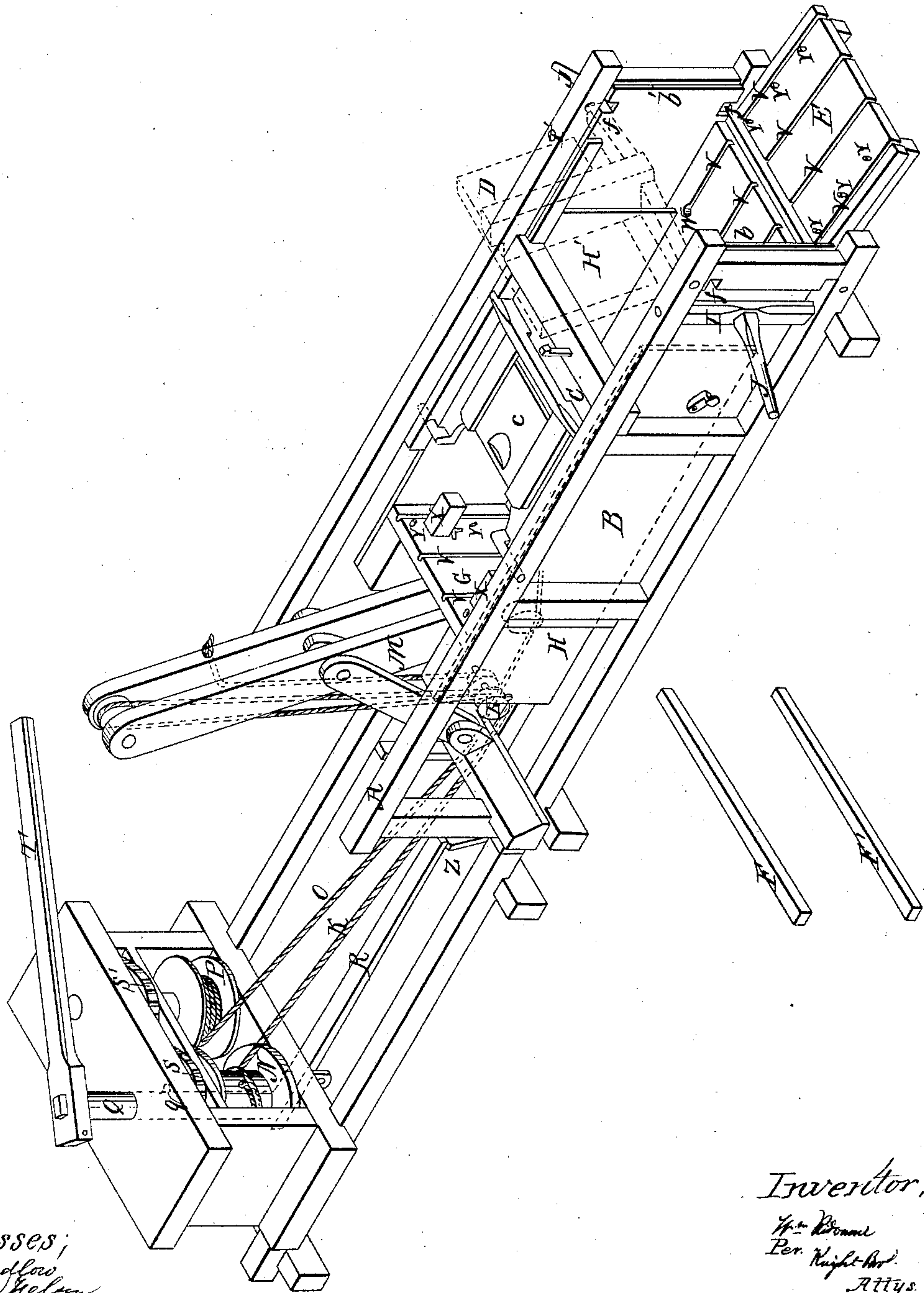


W. Bidonour,
Hay Press.

N^o 37,873.

Patented Mar. 10, 1863.



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UNITED STATES PATENT OFFICE.

WILLIAM RIDONOUR, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN HAY-PRESSES.

Specification forming part of Letters Patent No. 37,873, dated March 10, 1863.

To all whom it may concern:

Be it known that I, WILLIAM RIDONOUR, of Springfield, Clark county, Ohio, have invented a new and useful Improvement in Hay and Cotton Presses, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making part of this specification.

My improvement belongs to the class known as "portable presses," and in which the trunk and the pressing and impelling mechanism are all arranged and operate upon a common level; and my invention consists, chiefly, in devices for insuring a more uniform density in the different parts of the bale, and a more compact and even disposition of its external portions. Where the bale—as is customary in horizontal presses—stands "end up," the lower end becomes much the most dense, owing to the greater amount of tramping it receives, while the upper end, being comparatively loosely packed, and imperfectly laminated, and being, of course, unconfined by any bands, is liable to fray and burst open, resulting in a waste of material and an unsightly appearance. I remedy the above defects in part by making the transverse section of my trunk greater in the horizontal than in the vertical direction, so that the bale lies on its side in the acts of pressing and binding, and the bands are applied in vertical planes longitudinal of the trunk, instead of horizontally. My said mode of flat packing and vertical binding results in a more uniform and better-finished bale than is practicable in the usual mode of operating horizontal presses. The bale in my press being formed on its side, the usual side discharges are inadmissible, and I therefore provide a single discharging-door at the extreme end of my trunk, which door, during the pressing action, is closed by any customary appliance. I construct the vertical sides of my trunk B of yielding boards *b b'*, attached to the frame A at their rear ends, but disconnected from the frame and springing slightly outward at their forward ends. The boards *b b'*, during the act of pressing, are confined by ports or cams *I I'*, pivoted eccentrically to the frame, so that a quarter-turn, to the position shown in the drawing, acts to relieve the said boards, and thus, in conjunction with the doors and wings, hereinafter described, acts to release the pressed and bound bale, and to

permit its expulsion. The trunk B is closed for pressing by the two top doors, C D, and a single end door, E. The door D is thrown open after pressing, to facilitate the binding of the bale. The door C has a sliding panel, *c*, which is shut at the first closing of the trunk, but yields to the forward movement of the trunk in the act of pressing. This expedient, made necessary by the low elevation of my trunk-crown, enables a complete closure of my trunk without interfering with the motion of my follower.

Projecting forward from the follower G are two wings, H H', nearly equal in width to the interior height of the trunk, against whose sides they press, and to which they form a shifting lining which moves forward with the body of hay during the operation of pressing. It is found that the wings H H', by embracing and moving forward with the main body of the hay, preserve its natural lamination and prevent loose and straggling ends. The band-grooves V are coincident with vertical planes longitudinal with respect to the trunk.

W is one of a series of holes for the insertion of the binding-cords.

Y are pins for the support of the staves usually placed inside of the cords.

X are blocks, which, being hooked to the front of the follower, after a slight temporary retraction thereof, act to expel the finished bale when the follower is again advanced. The sweep T, to which the team is hitched, has a shaft, Q, whose foot rests on a treadle, R, by which the shaft may be elevated or depressed, so as to bring a tooth, *q*, either directly in gear with the windlass N, which operates the pressing, or through the medium of gearing S S', with windlass P, which acts to retract the follower. The windlass N operates to advance the follower through the medium of cord K, pulleys L, and toggle M, while the retraction of the follower is simply effected by extending a cord, O, directly to the windlass P. The treadle R enables the operator to reverse the motion of the follower at any moment without checking or reversing the team.

Operation: The follower being retracted, the end door, E, is closed by means of bars F, or otherwise, and the doors C and D are thrown open. The ends of the cords are passed up through holes W, and being laid in the grooves

V in the bottom of the trunk and the inner side of the door E, overhang the upper edge of the latter. The usual staves or wooden strips being then laid on the pins Y, hay is thrown into the trunk and well tramped down in the customary manner. The doors C and D are then shut and secured by any approved fastening, and the treadle R being elevated onto the prop Z, the team is started forward, so as to wind up the cord K, and by depressing the toggle M to advance the follower G, the panel *c* sliding forward to make way for the toggle. The follower being sufficiently advanced, the door D is thrown open, and the lower ends of the cords, being by means of a hooked rod drawn up through the holes W and the grooves V in the follower, are fastened to the ends first mentioned on the upper side of bale. The cams I I', and the door E being then opened to the position represented in the drawing, and the treadle R being depressed, the team is started sufficiently to retract the follower a short distance for the attachment of the blocks X. A second advance now of the follower acts to expel the bale through the open end of the trunk.

It will be seen that the winding up of either one of the windlasses N and P acts to take up the slack of the other, so that both cords K and O are kept taut and ready for action.

I claim herein as new and of my invention—

1. The end-discharging horizontal trunk B, made widest horizontally, and having its band-grooves in vertical planes longitudinal of said

trunk, the whole being combined and operating substantially as set forth.

2. The end-discharging horizontal trunk B, whose sides *b b'*, toward its discharging end, are disconnected from the frame, and are confined by cams I I', for the pressing of the bale, and are adapted to spread for the release of the bale, substantially as set forth.

3. Constructing the follower of an end-discharging horizontal hay or cotton press, with side wings, HH', which project forward and embrace the hay or cotton on two opposite sides during the advance of the follower, in the manner set forth.

4. The rear upper door, C, hinged at back, and having the sliding panel *c*, adapted to close the rear end of the trunk until the passage of the follower, as herein explained.

5. The provision in an end-discharging horizontal press of expelling block or blocks X, attachable to the front of the follower, and operating as described.

6. The described arrangement of pressing and retracting windlasses N and P, sweep T Q q, gearing S S', treadle P, cords O and K, pulleys L, toggle M, and follower G, as and for the objects stated.

In testimony of which invention I hereunto set my hand.

WM. RIDONOUR.

Witnesses:

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