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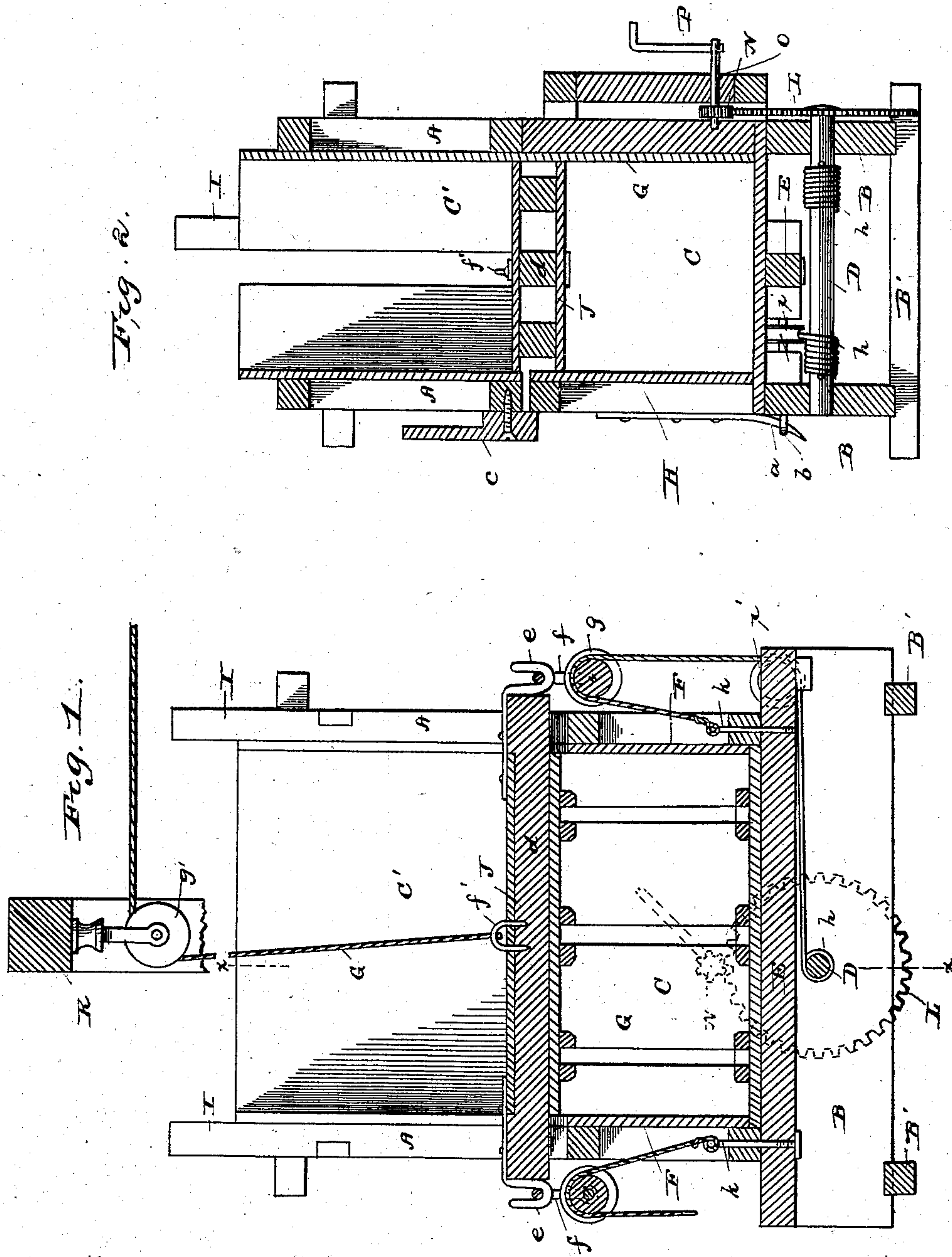
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J. G. BOYLAND.

HAY PRESS.

No. 258,192.

Patented May 16, 1882.



Witnesses.  
Edmund L. Gernell.  
H. Aubrey Coulman

Inventor,  
Jephtha G. Boyland  
By C. M. Alexander  
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(No Model.)

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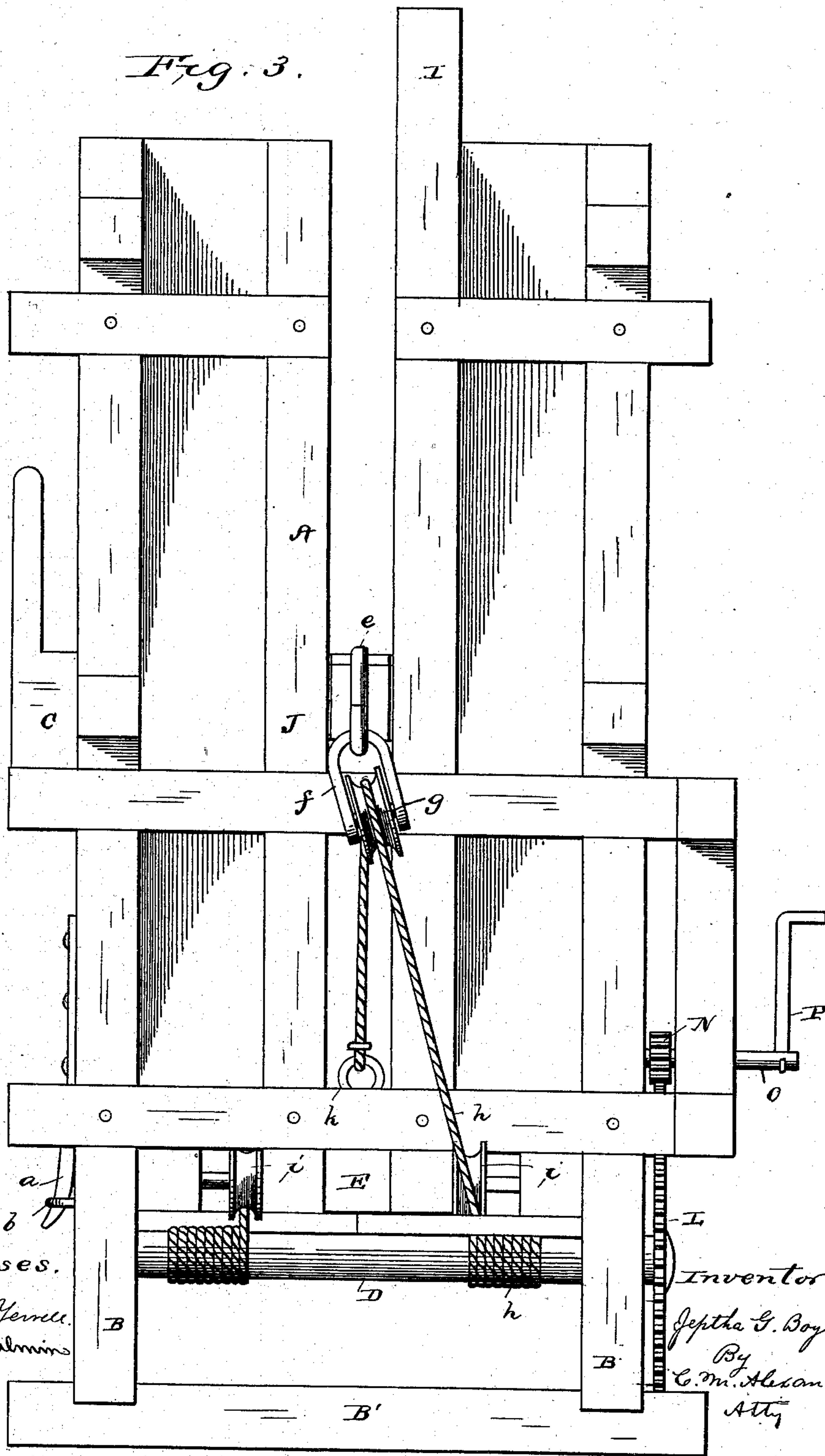
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*Fig. 3.*



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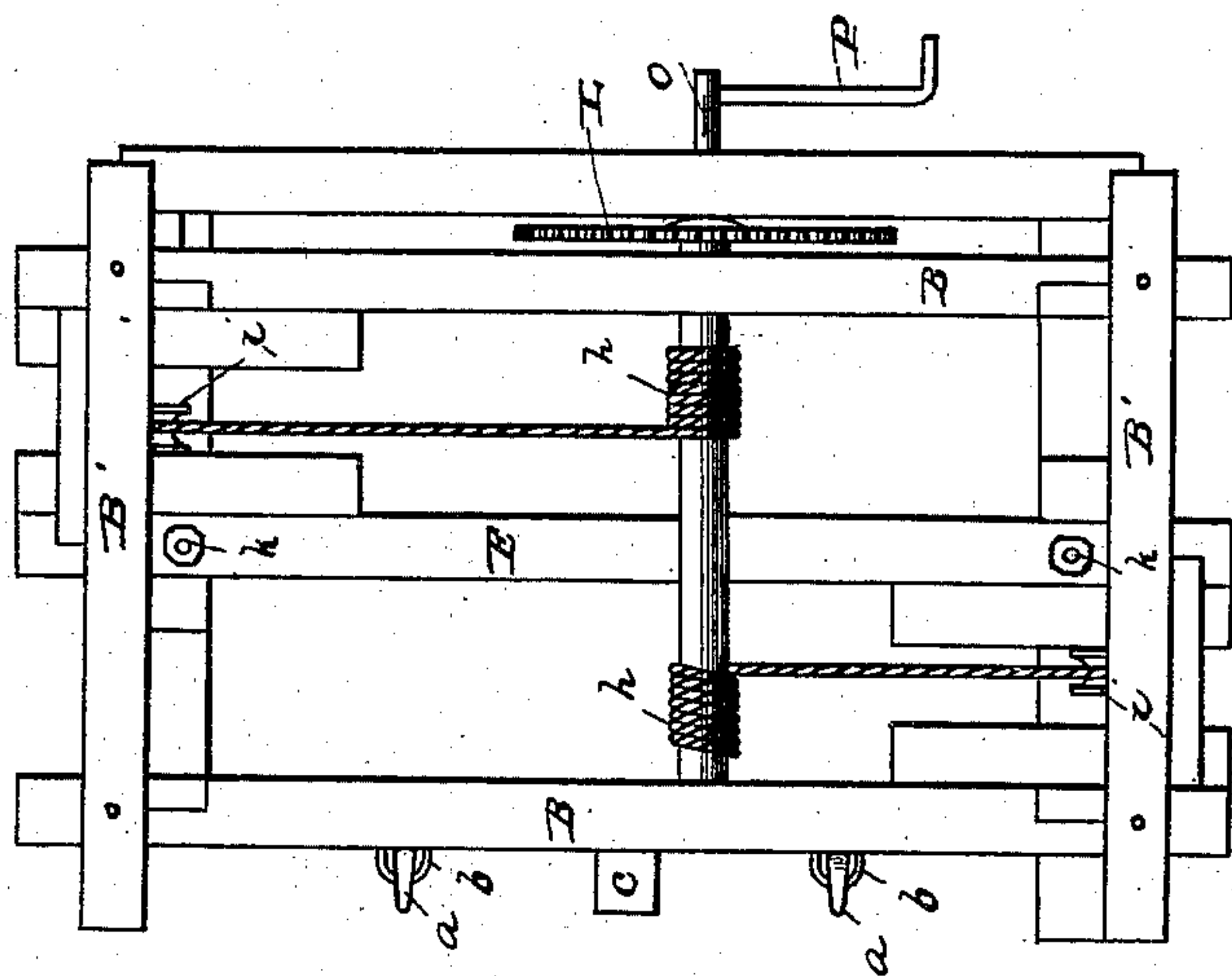
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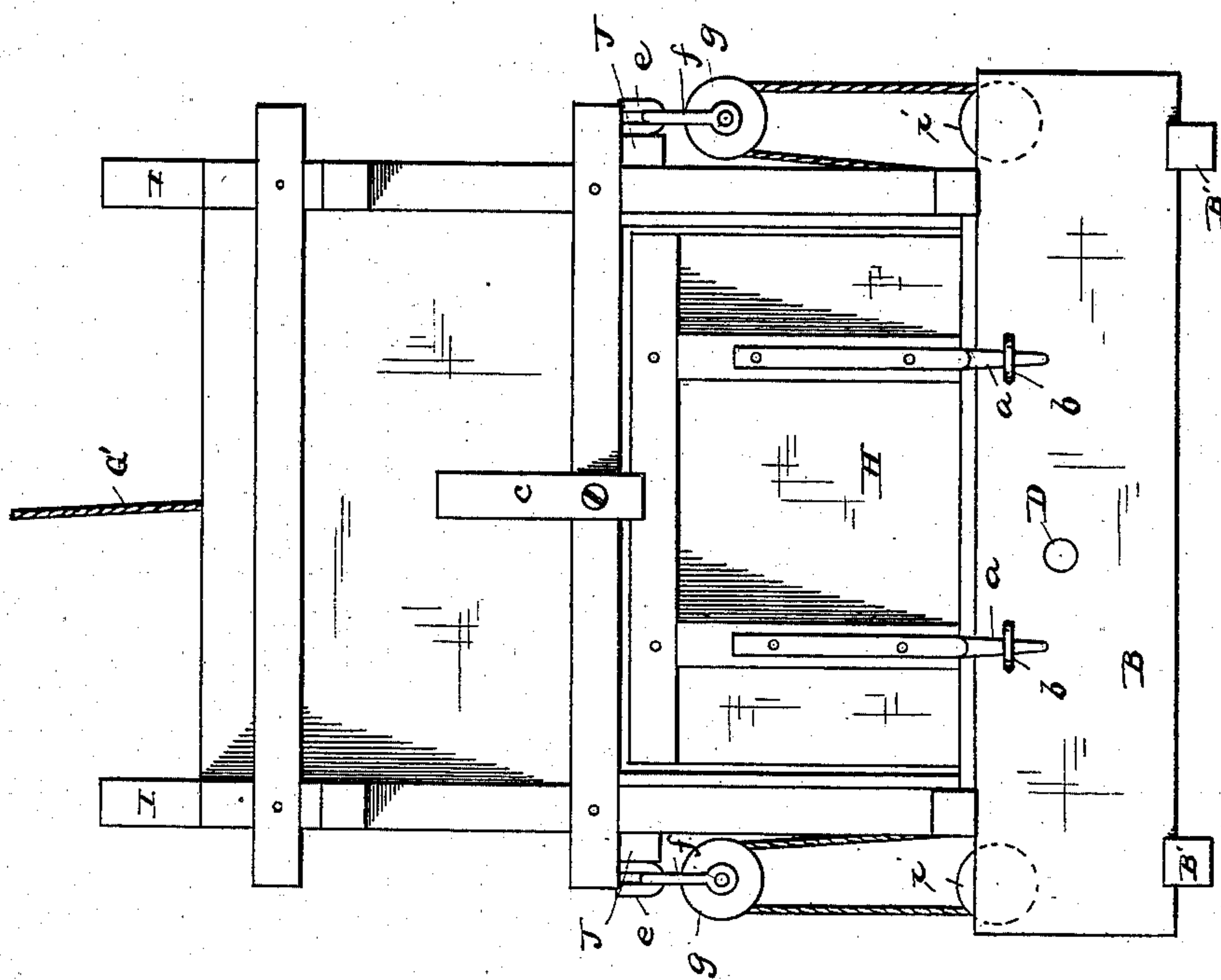
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Box 5.



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# UNITED STATES PATENT OFFICE.

JEPHTHA G. BOYLAND, OF CRAWFORDSVILLE, INDIANA, ASSIGNOR OF ONE  
HALF TO PAUL HUGHES, OF SAME PLACE.

## HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 258,192, dated May 16, 1882.

Application filed April 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JEPHTHA G. BOYLAND, of Crawfordsville, in the county of Montgomery, and in the State of Indiana, have invented certain new and useful Improvements in Hay-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to an improved press for baling hay and other similar products; and the nature of my invention consists in the combination of a windlass, which is arranged beneath the bottom of the press-box and which has its end bearings in the strong frame thereof, a master spur-wheel keyed on one end of this windlass, which engages with a pinion on a winding-shaft provided with a crank-handle, a novel arrangement of ropes or chains which are passed about grooved pulleys, and pulleys attached to swivel-links and to the vertically-movable follower of the press; and also a rope or chain which is centrally connected to the follower and which passes over a pulley hung from the rafter of the building and is carried off for use in elevating rapidly the follower after each pressing operation, all of which I will hereinafter make plain from the following description, when taken in connection with the annexed drawings, in which—

Figure 1 is a vertical section of the press and the rafter of the building in which the press is arranged, showing the pulley and the lifting-rope applied to the latter for quickly raising the follower. Fig. 2 is a vertical transverse section through the press-box and its appurtenances. Fig. 3 is an end elevation of the press-box. Fig. 4 is an elevation of the front of the press-box. Fig. 5 is a bottom view thereof.

In order that the invention which I have made should be fully understood, I will state that the press-box must have a firm foundation and that it must be fixed thereto. I therefore prefer a ground-floor of a barn or other suitable building in which hay is stacked, or which is adapted to receive hay in large quantities. In this building I erect a rectangular

frame, A, of strong timbers crossed and firmly bolted together. The broad sill-timbers of this frame are lettered B B, and they elevate the press-box C a sufficient distance above the flooring of the building to afford space for a horizontal transverse shaft or windlass, D, which has its bearings in said broad sill-timbers. These timbers B B are tied together by subsills B' B', which are the base-supports for the press-frame. The floor of the press-box C is of strong material, firmly secured upon the timbers B B, and strengthened by a horizontal beam, E, which is bolted to the transverse sills of the uprights of the main frame.

The press-box C is provided with closed ends F F, a slatted back, G, and a removable door, H, opposite said slatted back. This door is strongly battened and held in place at its lower end by curved fingers *a a* and staples *b b*. At its upper end it is held by a turn-button, *c*. Other equivalent fastenings may be employed for holding the press-box door firmly in place while pressing a bale. Above the press-box is the receiving-box C', which is closely housed in on its four vertical sides.

The two intermediate vertical uprights, I I, at the ends of the main frame afford guides for the prolongations of the beam *d* of the follower J, which beam protrudes beyond the ends of the main frame, and has rigidly secured to it hooks *e e*, on which hooks the links *f f*, bearing grooved pulleys *g g*, have their bearings. The links *f f* are readily detachable from the hooks *e e*, when it is desired to remove the follower from the receiving-box C'.

The bottom of the follower J and the top of the press-box floor are provided with transverse slats, between which narrow spaces are left for the passage of the binding material, whatever may be used, after the pressing operation, and to facilitate the passage of the binding material through the said narrow spaces a needle or other equivalent device may be employed. At the center of the follower J a staple, *f'*, is secured, to which is secured a rope, G', that passes over a grooved pulley applied to an elevated beam, or to a rafter, K, and is thence carried down to be conveniently handled by a person on the press-floor. The object of the rope G' is to enable an



attendant to quickly pull up the follower after each pressing operation, so that there shall be no unnecessary delay in preparing the press-box and receiving-box for a charge after each pressing of a charge.

The windlass D has secured to it, near its extremities, but inside of the timbers B B, two ropes or chains, *h h*, which pass outwardly in opposite directions, and beneath grooved pulleys *i i*, at the extremities of the beam E. The ropes or chains *h h* thence extend upward and are passed over the pulleys *g g* at the ends of the follower-beam, and are carried down and secured to eyes formed on bolts *k k*, rigidly fixed to the transverse sills and to the beam E. It will be observed that the ropes or chains *h h* pass obliquely from the ends of the windlass D to the pulleys *i i*, and that these two pulleys have free end-play on their respective rods. This arrangement will allow the said ropes or chains to be wound evenly on the windlass, and will prevent liability of their running off the said endwise-movable pulleys. The upper pulleys, *g g*, will swivel more or less by reason of their being suspended from the hooks at the ends of the follower-beam.

On one end of the windlass D a master spur-wheel, L, is keyed, which, in consequence of the construction of my press-frame, can be made of considerable diameter. With this master wheel engages a pinion, N, which is keyed on a horizontal shaft, O, one end of which has a bearing in the vertical intermediate upright of the press-box frame, and the other end has its bearing in an auxiliary frame secured to the main frame. The outer end of the shaft of pinion N has a crank, P, applied to it for effecting the pressing operation by manual labor; but, if desired, steam or other motive force may be substituted.

I am aware that there are a great many cotton and hay presses of the vertical kind wherein the followers are moved by means of cords and pulleys, windlasses, and levers. Such means I do not broadly claim as my invention.

The sub-base sills of my press are rigidly secured to a solid foundation, and above this free access is allowed beneath the press-box to the windlass-journals, to the windlass itself, and to the endwise-movable pulleys *i i*. There is also a free space above the press-frame for manipulation in the receiving-box above the press-box, for the reason that I utilize one of the rafters of the building as a support for the pulley over which the rope passes by which the follower is rapidly raised to a position for filling the receiving-chamber and press-box after every pressing operation.

It will also be observed that the frame-work of my press is peculiarly put together, in that I unite the broad sill-timbers, on which the floor of the press-box has its supports, to the main uprights, and tie these two timbers to-

gether by the transverse subsills. The structure is thus solid and substantial.

Having described my invention, I claim as new—

1. The vertical baling-press frame, consisting of the housed-in receiving-box O', slotted vertically at its ends to receive the ends of the follower-beam, the press-box C, closed at both ends, slatted at one side, and provided with a removable door on the opposite side, the floor of the press-box provided with transverse slats, the broad sill-timbers B B, the intermediate floor-beam, E, and the subsills serving as supports and also ties for the timbers B B, the latter being firmly united to extensions of the corner uprights of the main frame, all substantially in the manner and for the purpose described.

2. The combination of the timbers B B, the corner uprights of the main frame of the superstructure secured rigidly to these timbers, the windlass D, having its end bearings therein, the subsills secured by tie-joints thereto, the press-box floor secured thereon, the beam E, the endwise-movable pulleys at the extremities of this beam, the ropes or chains *h h*, the loosely-hanging pulleys *g g*, the supporting hooks at the ends of the follower-beam, and the eyebolts to which the said chains are attached, all arranged for joint operation, substantially as described.

3. The combination, in an upright press, of a follower, a rope or chain, G', carried from the follower over a pulley applied to the rafter of the building in which the press is mounted, the ropes or chains secured to the sills of the main frame of the press, loosely-pendent pulleys applied to the follower-beam, endwise-movable pulleys arranged at the ends of the floor-beam of the press-box, a windlass arranged between these pulleys beneath the floor of the press-box, and the spur-wheels for actuating the windlass while depressing the follower, substantially as described.

4. In a vertical press of the kind described, the horizontal transverse windlass arranged on one side of the press-box center, beneath the press-box, the ropes or chains *h h*, secured to this windlass near its ends, the endwise-movable pulleys arranged on opposite sides of the press-floor beam under which said ropes pass, the loosely-hanging pulleys *g g*, attached to the ends of the follower over which the said ropes pass, and the eyebolts fixed centrally to the press-frame to which these ropes are secured, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 28th day of March, 1882.

JEPHTHA G. BOYLAND.

Witnesses:

MAURICE THOMPSON,  
PAUL HUGHES.