

(No Model.)

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W. H. BURGESS.
COTTON OR HAY PRESS.

No. 263,111.

Patented Aug. 22, 1882.

Fig. 1.

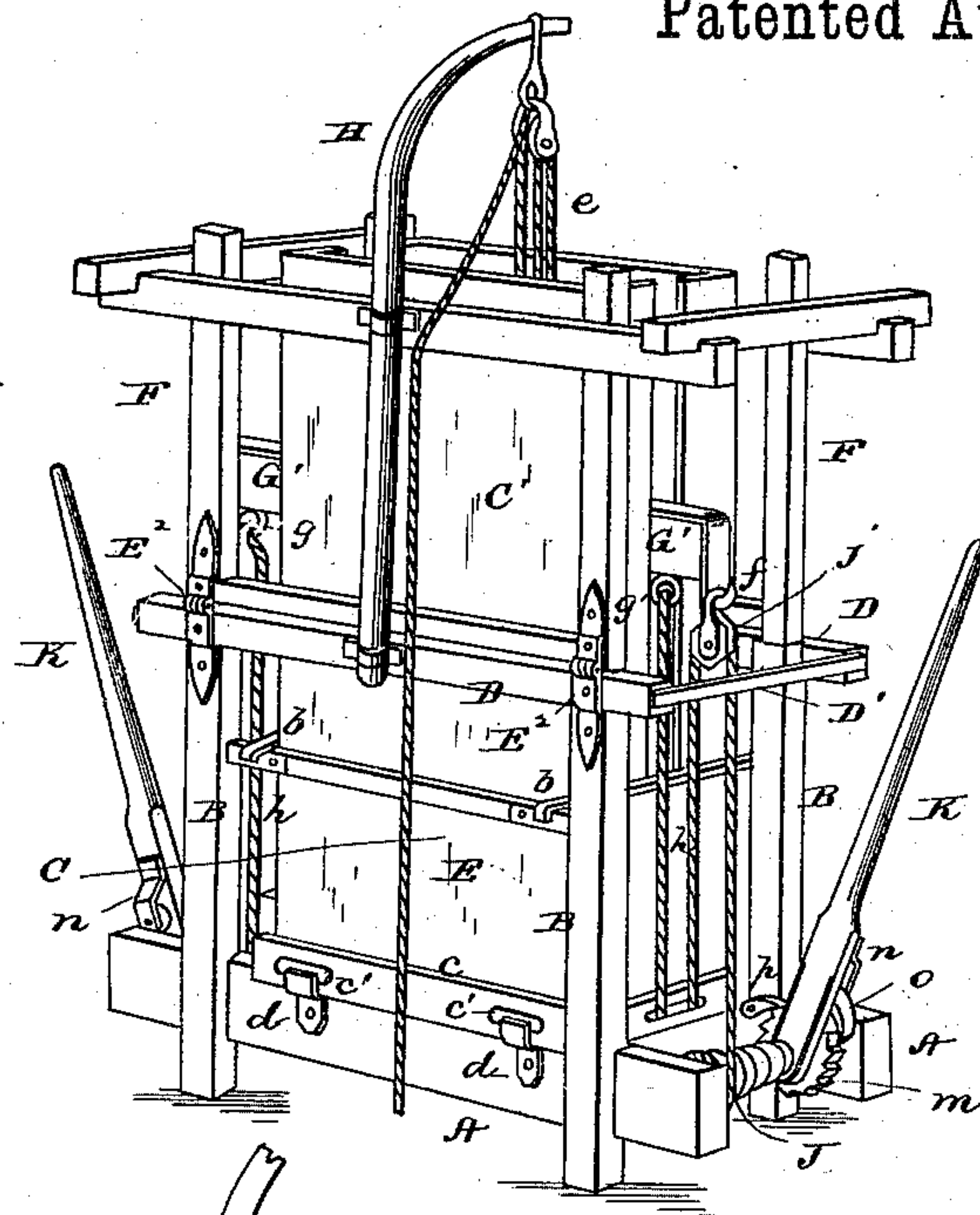
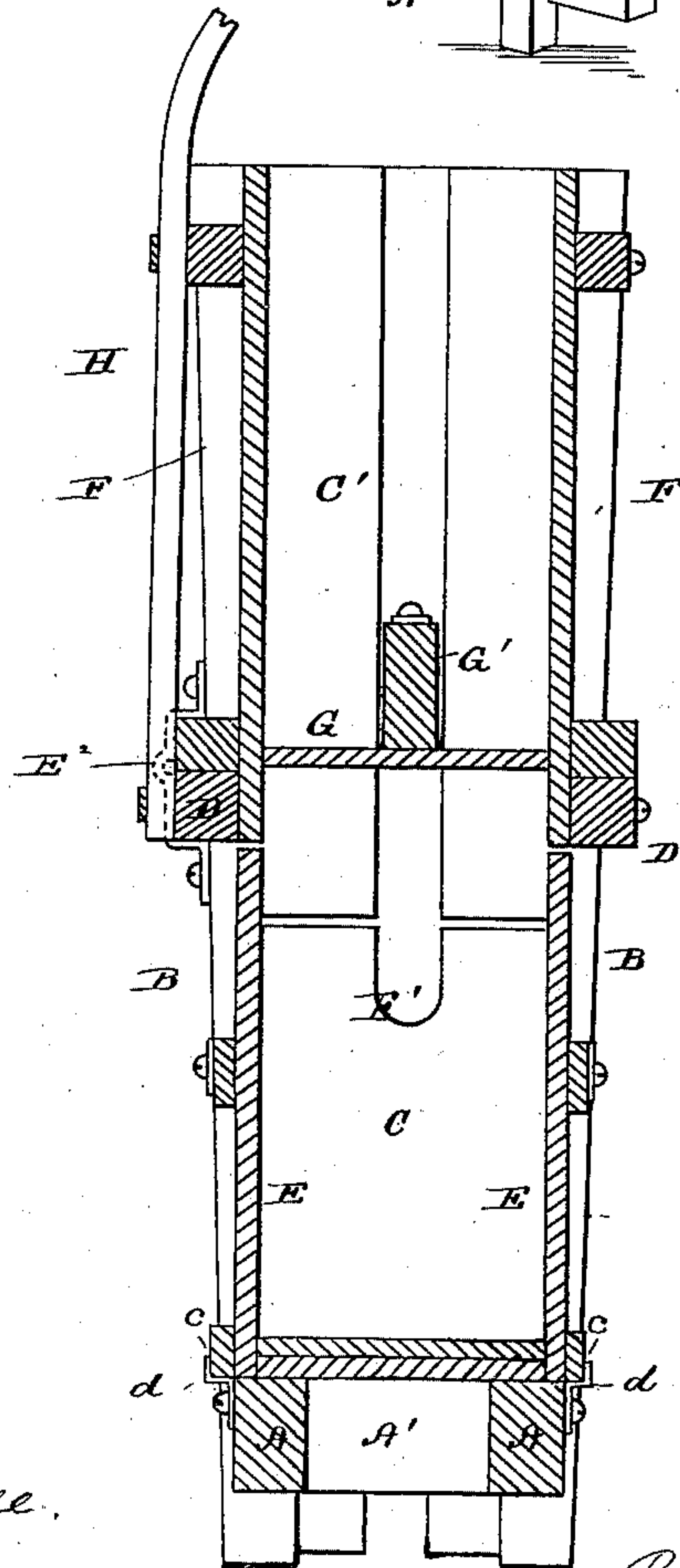


Fig. 2.



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By C. M. Alexander,
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(No Model.)

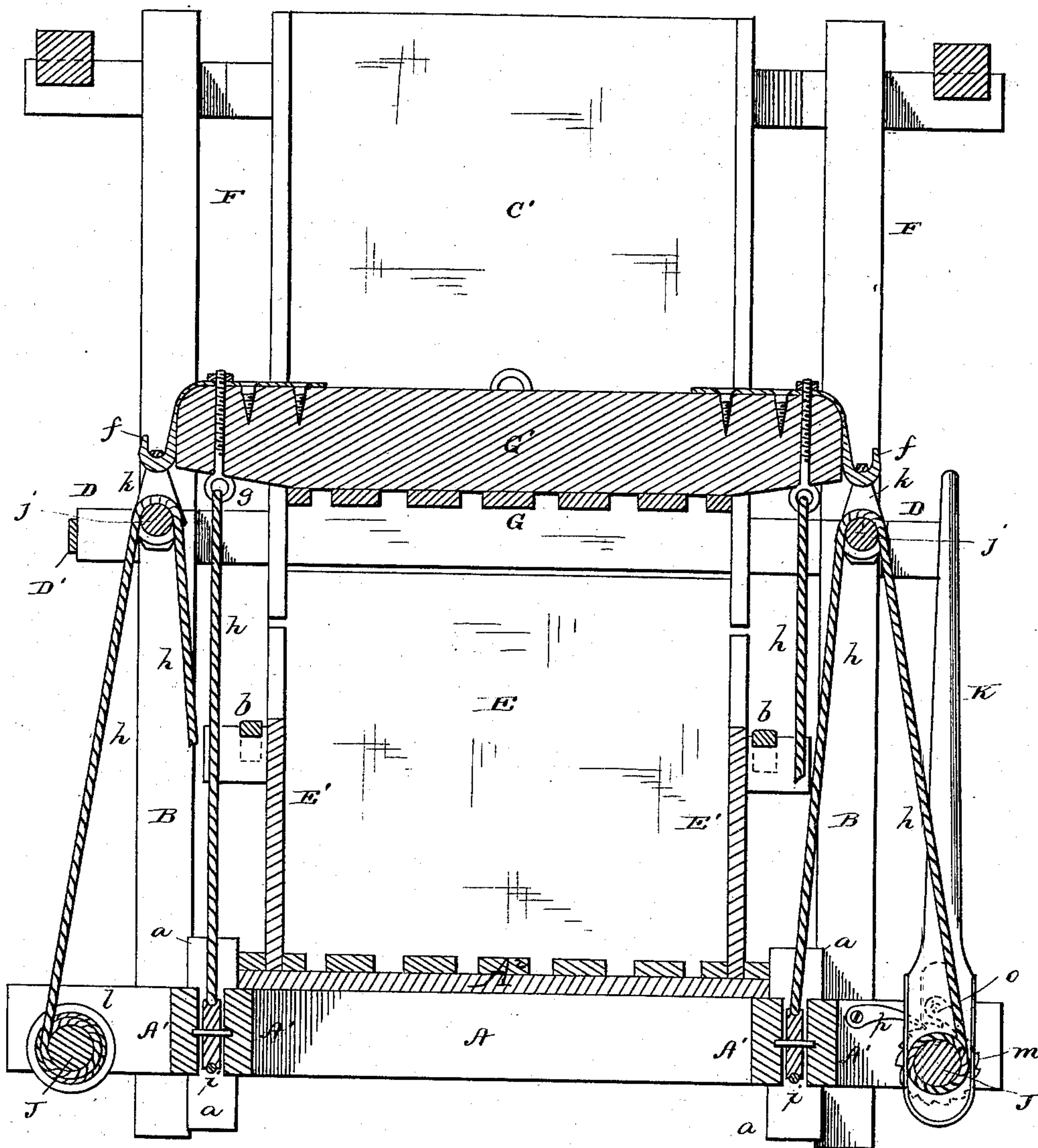
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Fig. 3



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Fig. 6.

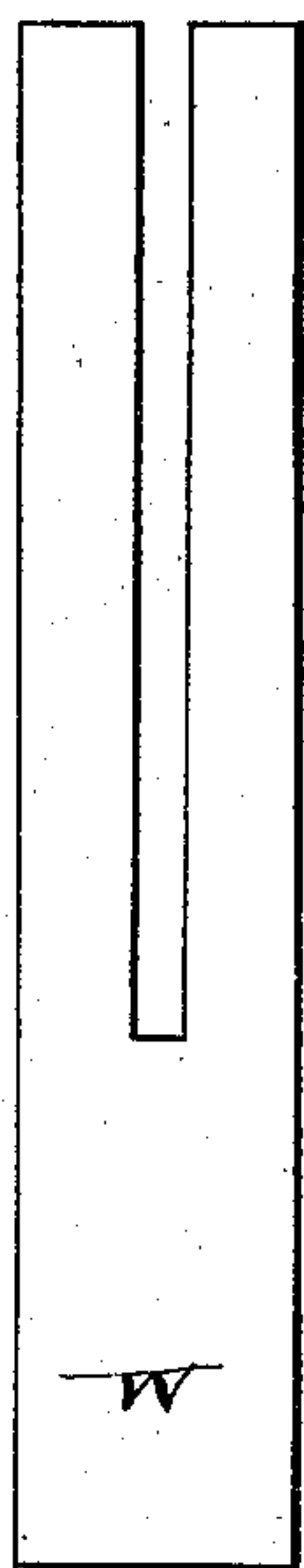


Fig. 4.

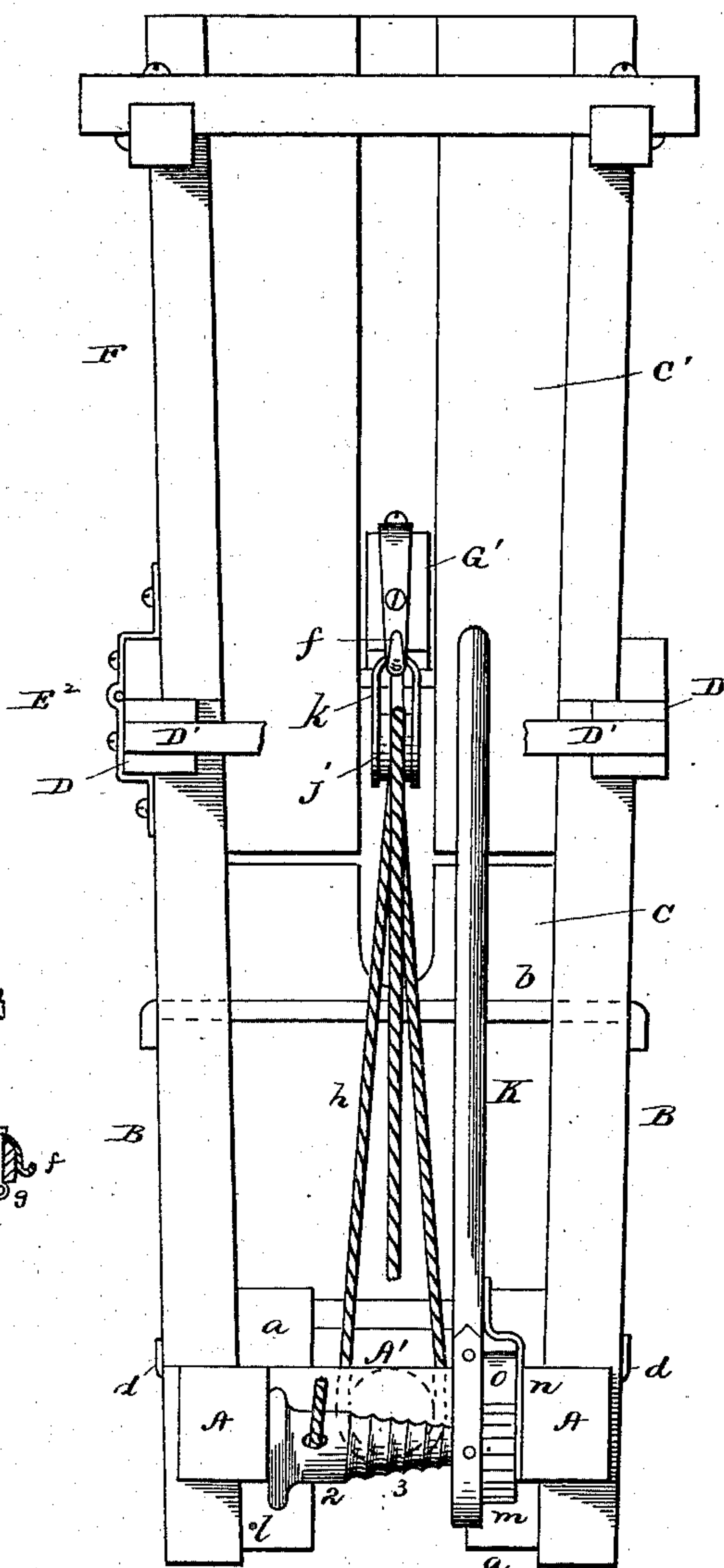


Fig. 5.

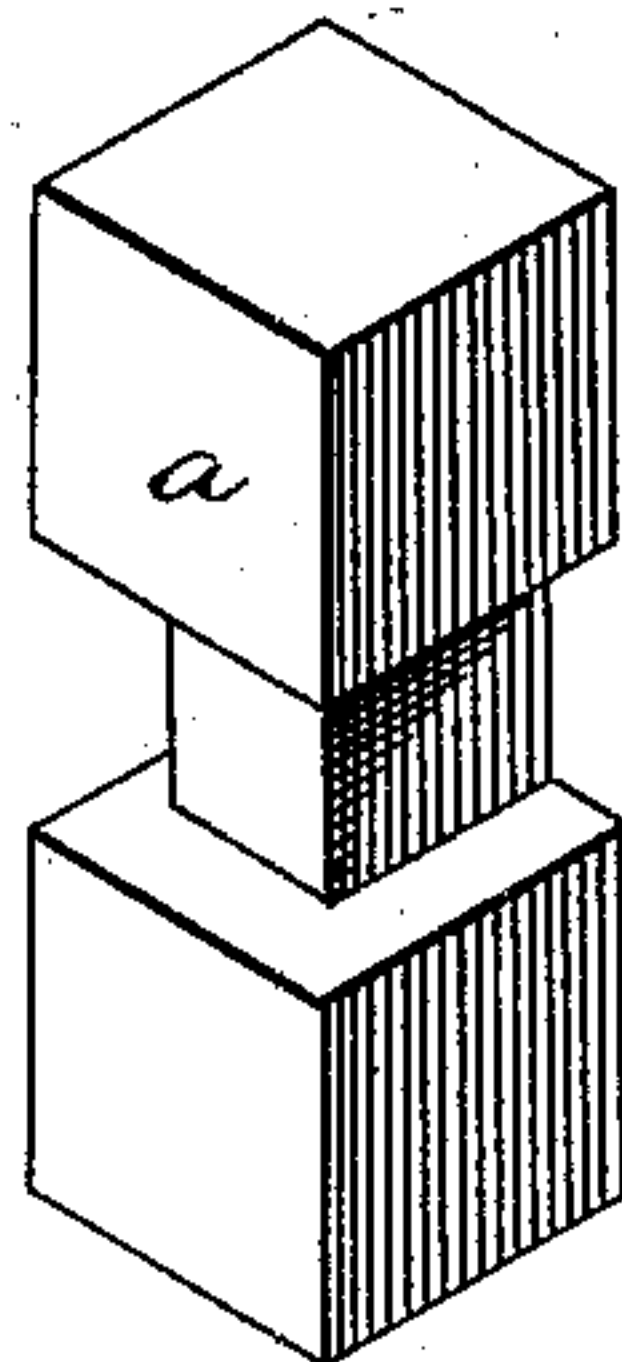


Fig. 7.

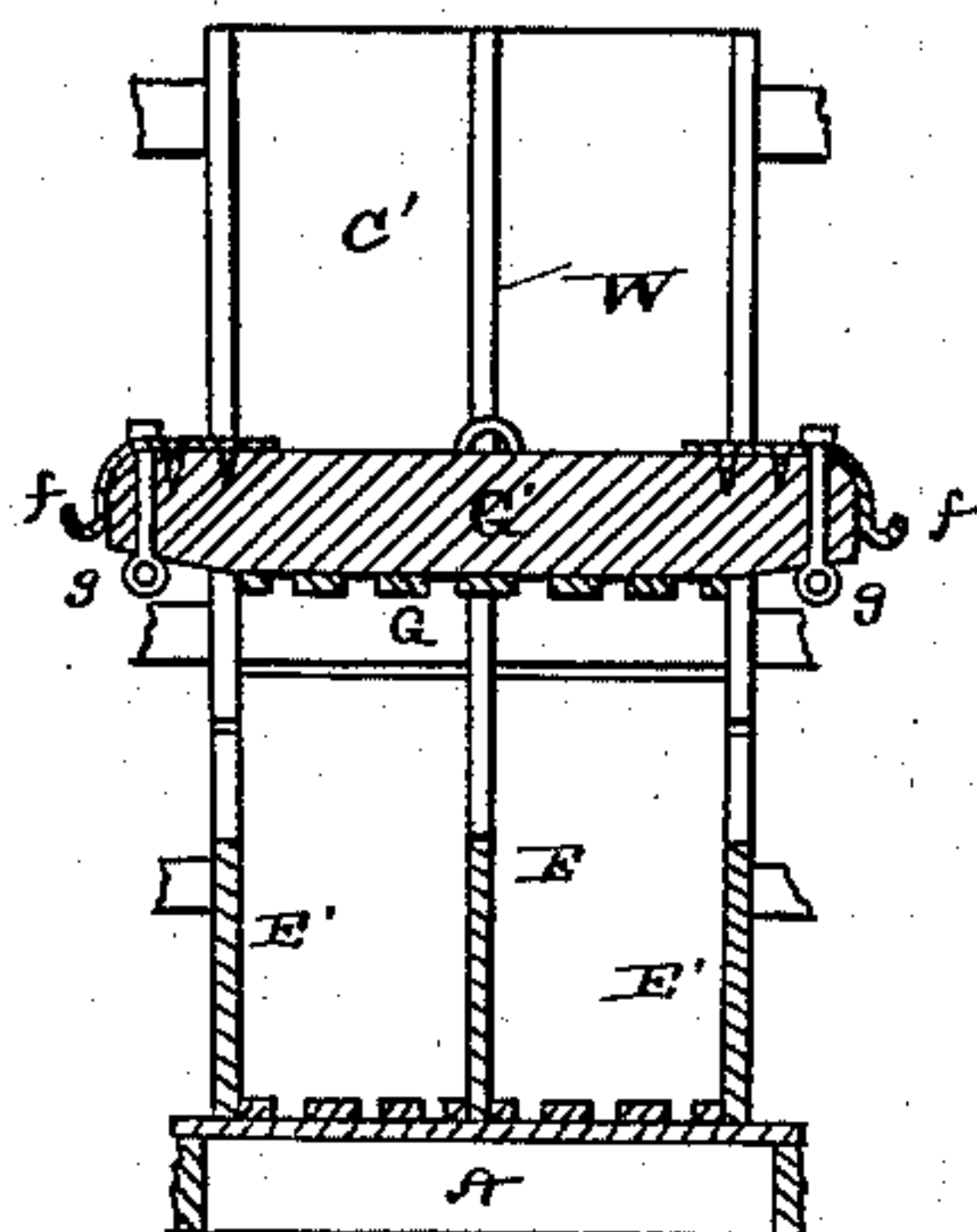
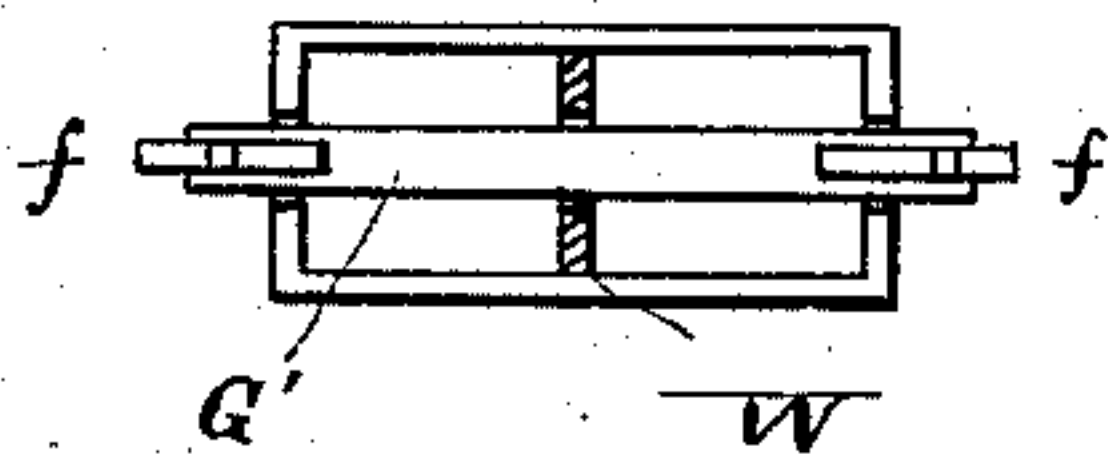


Fig. 8.



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UNITED STATES PATENT OFFICE.

WILLIAM H. BURGESS, OF RICH SQUARE, NORTH CAROLINA.

COTTON OR HAY PRESS.

SPECIFICATION forming part of Letters Patent No. 263,111, dated August 22, 1882.

Application filed May 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. BURGESS, of Rich Square, in the county of Northampton, and in the State of North Carolina, have invented certain new and useful Improvements in Cotton or Hay Presses; and I do hereby declare that the following is a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to baling-presses of the upright kind; and the nature of my invention consists, first, in a novel construction of the press-frame, whereby it is made exceedingly strong and substantial, and at the same time light and portable, by the use of certain compound clamping-blocks, which bind together the vertical posts of the frame to the longitudinal and transverse sill-timbers; second, in the combination of a horizontally-divided lint box or receiver with the press-box when these parts are hinged together so that they can be folded compactly for transportation; third, in the combination, with the ropes, pulleys, and levers used to depress the follower, of winding-up drums or windlasses which are cylindro-conical, the conical portions being helically grooved, and the ends of the cylindrical portions being flanged; fourth, in providing the rounded ends of the follower-beam with strong metal hooks adapted to receive the clevises in which the pendent pulleys are applied, said hooks being rigidly secured to their beam by bolts, to which one end of each pulley-rope is secured; fifth, in the combination, with the removable side doors of the press-box, of hooked supporting brackets secured to the longitudinal sills of the press-frame, and with grooves or mortises formed in the bottom battens of said doors, and adapted to receive the ends of the supporting-brackets when the doors are swung down, thus forming loose hinges for the doors to allow them to be detached or not, as may be desired; sixth, in the combination of angular braces with the power-levers which vibrate on the ends of the windlasses and transmit rotation to said windlasses by means of pawls and ratchets, all of which will be fully understood from the following description, when

taken in connection with the annexed drawings, in which—

Figure 1 is a perspective view of my improved upright press complete. Fig. 2 is a vertical cross-section through the press. Fig. 3 is a vertical longitudinal section of the same. Fig. 4 is an elevation of one end of the press, and Fig. 5 is a perspective view of one of the corner-clamps for the sill-timbers. Fig. 6 is a view of a slotted removable partition which is designed for use in the machine for separating the bales, so that two bales can be pressed at the same time and bound separately. Fig. 7 is a view similar to Fig. 3, showing the slotted partition adjusted in position in the press to allow the follower to press two bales simultaneously. Fig. 8 is a top view of the press having the slotted partition in it.

The press-frame is composed of vertical and horizontal beams, halved together, and strongly bolted to resist powerful strain. The longitudinal sill-timbers A A are halved and bolted to the corner-uprights B of the frame of the press-box C, and the sill-timbers A A, which are very strong, are connected together by means of parallel transverse sills A' A' near each end, which are mortised and tenoned into the sills A A. Between each pair of sills A' A', at the ends thereof, are clamping-blocks a a, which are halved to these sills, and also to the longitudinal sills A A. The clamps a firmly bind or tie together the sill-timbers, and aid in forming a substantial base for the transversely-grooved floor A² of the press-box. The uprights of the press-box C are connected together at their upper ends by longitudinal ties D and transverse ties or bars D'; and the press-box is formed of four removable vertical sides, E E E' E', that are strongly confined in their places and held by end clamps, b b. The sides E E are the doors, and the battens c c thereof have grooves c' c' in them, which will receive the ends of hooked brackets d d when the doors are turned down and hold the doors to the press-frame. The said brackets d d are secured to the sills A A, and support the doors when they are confined by the clamps b b in contact with the sides E'. The object of keeping the doors attached to the brackets d when the press-box is opened is to

prevent these doors from getting muddy in wet weather and soiling the cotton bales. The doors can at any time, when free from their clamps, be lifted from their brackets.

5 C' designates the lint-box or filling-chamber, which is composed of four sides, secured to a strong frame, F, which latter is connected by strong hinges E² to the ties D of the press-box frame on one side thereof and on the
10 other side provided with suitable latches, clamps, or bolts for fastening the said frame F securely in the working position shown in Figs. 1, 2, 3, and 4. The lint-box C' being hinged as described, it is obvious that it can
15 be turned over and adjusted alongside of the press-box, thereby reducing the height of the machine about one-half and making it convenient for transportation.

G designates the follower of the press, and
20 G' the strong beam thereof, the ends of which pass through vertical slots through the ends of the lint-box C' and are guided thereby. This follower G has attached to its beam a pulley or sheave, through which passes a hoisting-rope, e, that also passes through a sheave
25 hung from a davit, H. This davit is removable from the lint-box frame. By these means the follower can be conveniently elevated after each pressing operation.

30 To the ends of the follower-beam G', I rigidly secure strong metal hooks f f, formed on the ends of straps, which are fitted upon the rounded ends of the said beam, and which receive through them the shanks of eyebolts g g,
35 to which one end of each windlass-rope h is secured. The eyebolts aid in securing the straps of the hooks f to the follower-beam, and the ropes h pull on these eyebolts, the said straps, and follower-beam during the pressing
40 operation. The ropes h pass from the eyebolts f down and beneath grooved pulleys i, thence up and over grooved pulleys j, which are applied in blocks or clevises k, hung loosely from the hooks f. From these pendent pulleys the
45 ropes h are carried down and their ends secured in depressions made in the cylindrical portions of two horizontal transverse windlasses, J J. The windlasses have their end
50 bearings in the longitudinal sill-timbers A A, outside of the transverse sills A', between which latter the pulleys i have their bearings, as shown in Fig. 3. The windlasses are cylindro-conical and constructed with flanges l on their ends, and with spiral rope-receiving
55 grooves in their conical or tapering portions. At the commencement of the pressing operation, when comparatively little power is required, the ropes are wound upon the enlarged cylindrical portions 2 of the windlasses. As
60 the material in the press becomes compacted the ropes pass from the cylindrical portions 2 upon the conical portions 3 of the windlasses and are gradually wound down as the resistance increases, so that at the close of the pressing operation the ropes pass off from the smallest
65 diameters of the cones, where the leverage is the greatest. During the operation of wind-

ing the ropes h from the largest to the smallest parts of the windlasses the hanging pulleys j will swing laterally and allow the ropes
70 to follow or lie evenly on the windlasses without overriding.

K K designate hand-levers, which are free to vibrate on the windlasses, and on one side of each lever a ratchet-wheel, m, is keyed on a
75 windlass, which is embraced by an angular strap, n, one end of which receives freely through it a reduced portion or journal of the windlass, and the other end of which is secured rigidly to the lever K. Between the strap n
80 of each lever and the latter a pawl, o, is pivoted, adapted to engage with the teeth of the ratchet-wheel m, and to turn the windlass for winding-up rope h when lever K is moved in one
85 direction. When a lever, K, is moved back or toward the press, pawl o will not turn the windlass. Each windlass is provided with a
pawl, p, which is pivoted to a sill-timber, A, and which, when it is engaged with its ratchet-wheel, will prevent the rope h from unwinding
90 from a windlass during the pressing operation.

The operation of the press may be briefly described as follows: The follower is drawn
95 out of the lint-box C' by means of the rope e, and when the press is properly charged with the material to be baled the follower is returned to its place and the clevises k of pulleys j are hung on the hooks f. Pawls o and p are then
100 engaged with their ratchet-wheels, and the two levers K K are vibrated together so as to bring down forcibly the follower. As the follower descends the resistance increases, and ropes
h h will slowly wind from the largest to the smallest diameters of the windlasses, and thus
105 increase the leverage. When the bale is pressed and bound, pawls p o are detached from their ratchet-wheels, the press-box is opened, the bale removed, the pulley-clevises k detached from the follower-hooks, and the follower ele-
110 vated out of the lint-box for commencing another pressing operation.

For the purpose of pressing more than one bale at the same time in the press-box, I use a slotted partition, W, which is removable from
115 the machine, and which is constructed with a vertical slot in it extending down to a point below the lowest point to which the follower will be moved during the pressing operation. The follower G' is notched to receive the inner
120 edges of the bifurcated parts of the said partition W. When the follower is removed from the press-box the partition W can be taken out, if desired. When the two masses of hay or other material have been pressed it will be
125 seen that they are separated by the partition W, and can be readily bound with the same facility that one bale can be bound. The two bales can be readily removed from the machine after they are bound and the sides of the ma-
130 chine are detached.

Having described my invention, I claim—

1. In an upright press-frame, the combination of the sill-timbers A A A' A', arranged

at right angles and supporting the floor of the press-box, with the compound tie or clamping blocks *a*, secured to said timbers, substantially in the manner described.

5 2. The combination, with the ends of the follower-beam, of metal hooks *f*, the eyebolt attachments therefor, and the hanging pulleys over which the windlass-ropes pass, one end of each rope being secured to one of said eye-
10 bolts, substantially as described.

3. In a vertical baling-press, the combination of a lint-box, *C'*, with the press-box *C*, substantially in the manner and for the purposes described.

15 4. The combination of a lint-box hinged to

the press-box *C* with a hoisting davit or crane, applied removably to said boxes, substantially in the manner and for the purposes described.

5. In a baling-press, the combination of a removable partition and a grooved follower, 20 substantially in the manner and for the purposes described.

In testimony whereof I affix my signature, in presence of two witnesses, this 13th day of April, 1882.

WILLIAM H. BURGESS.

Witnesses:

A. J. GOHAGAN,
WINTHROP BARR.