

(No Model.)

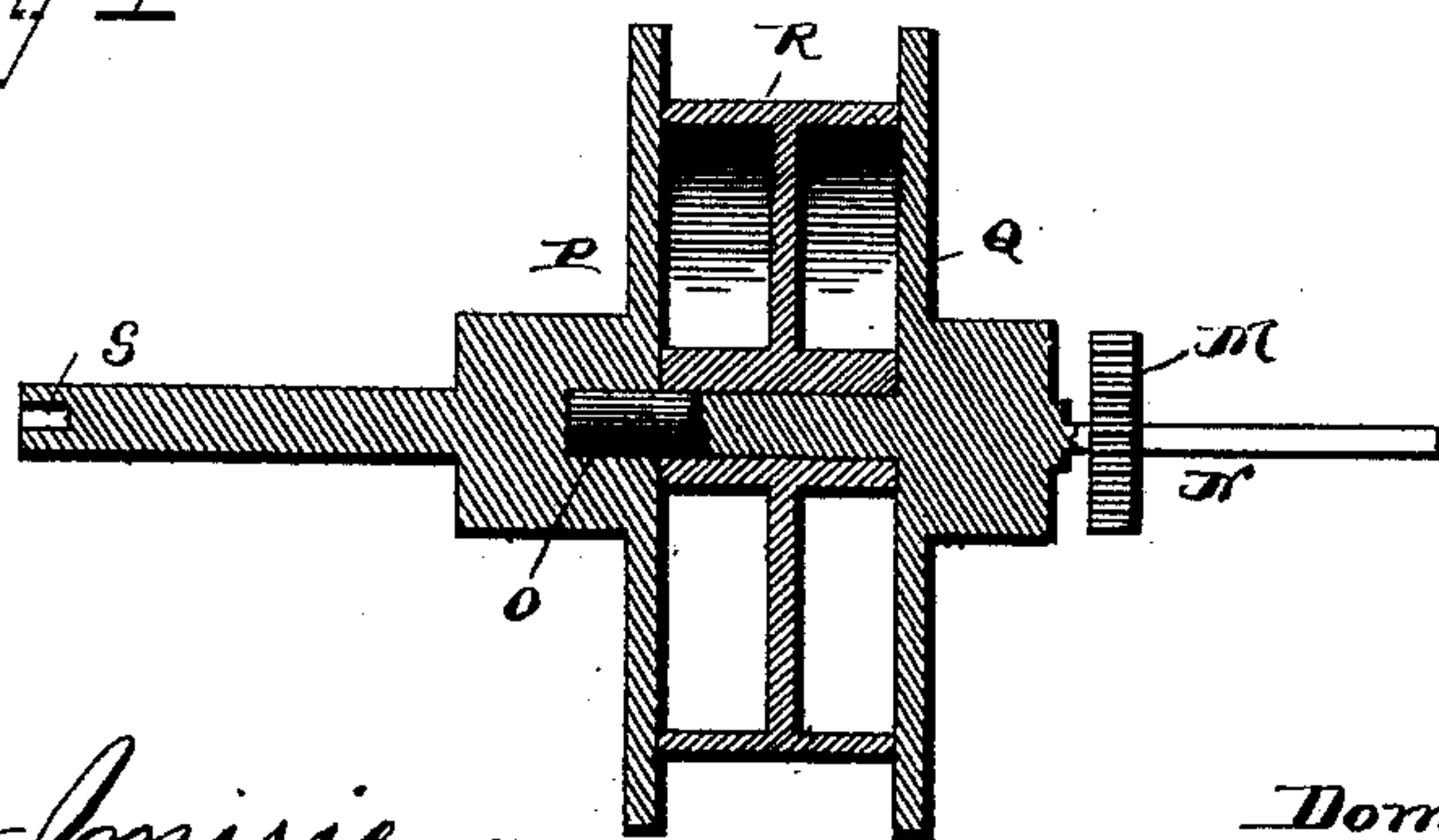
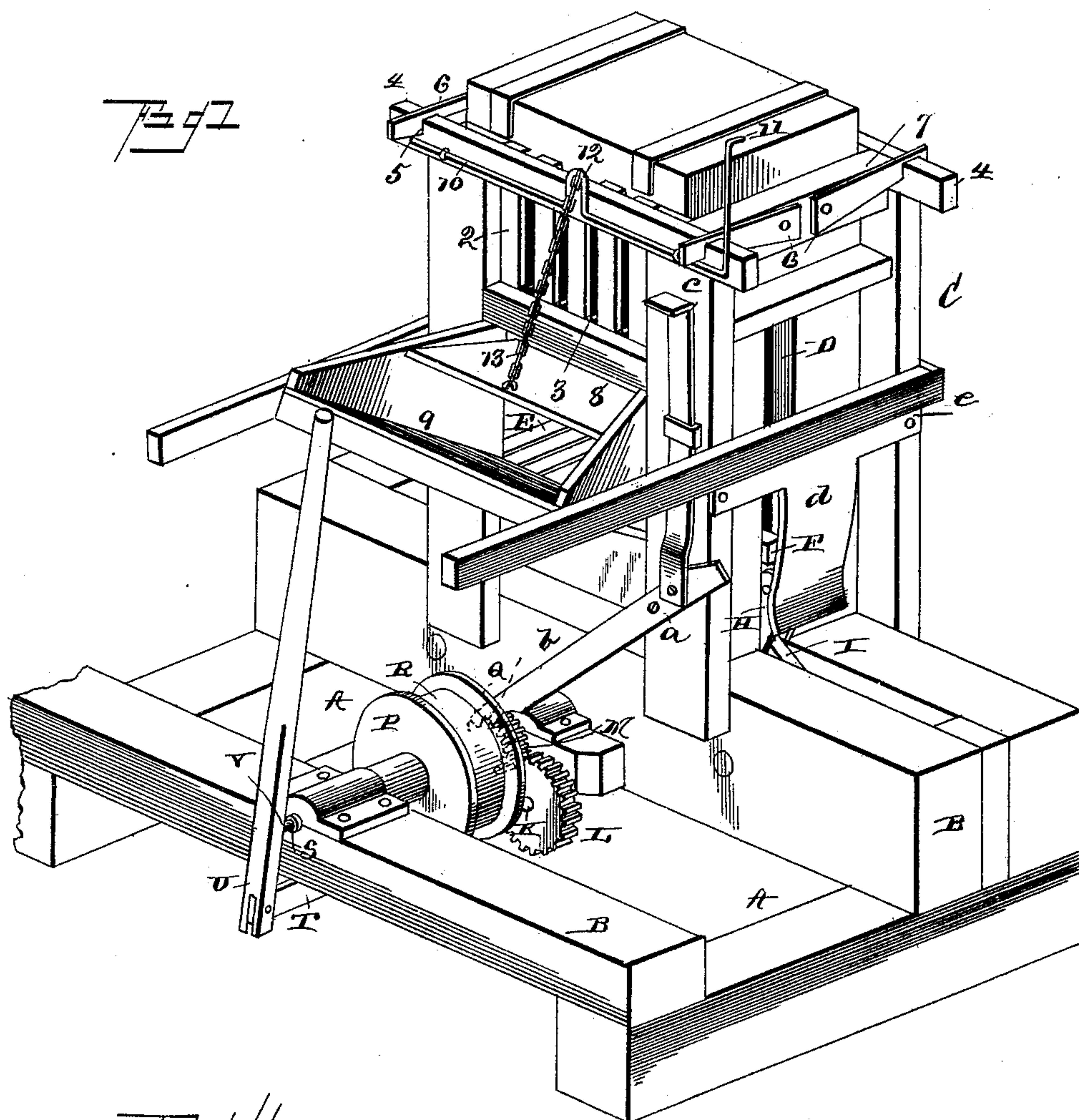
2 Sheets—Sheet 1.

D. FORNIRASEO.

BALING PRESS.

No. 414,036.

Patented Oct. 29, 1889.



Witnesses

John Amie
R. W. Bishop.

Inventor

Domenico Forniraseo

By his Attorneys

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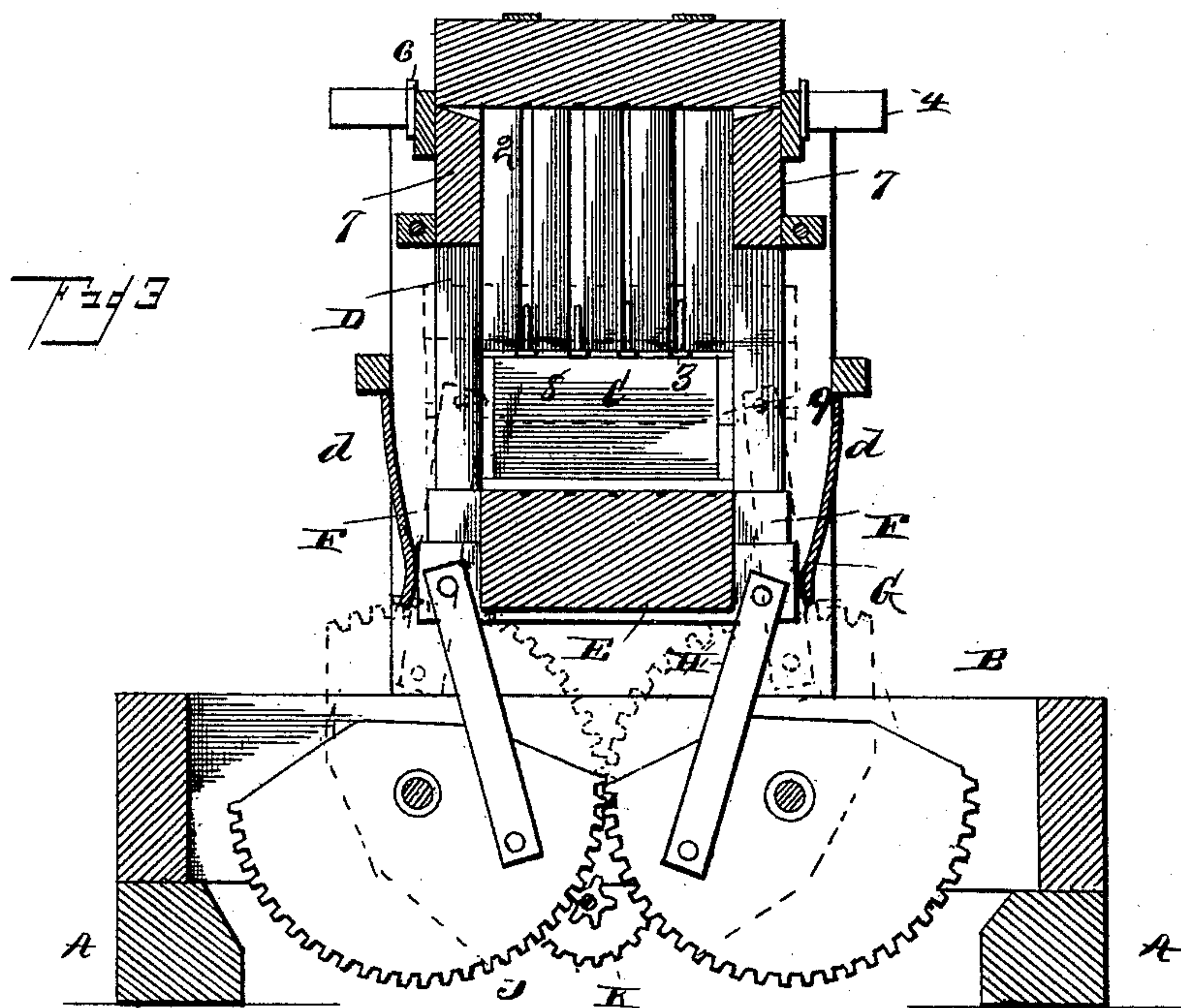
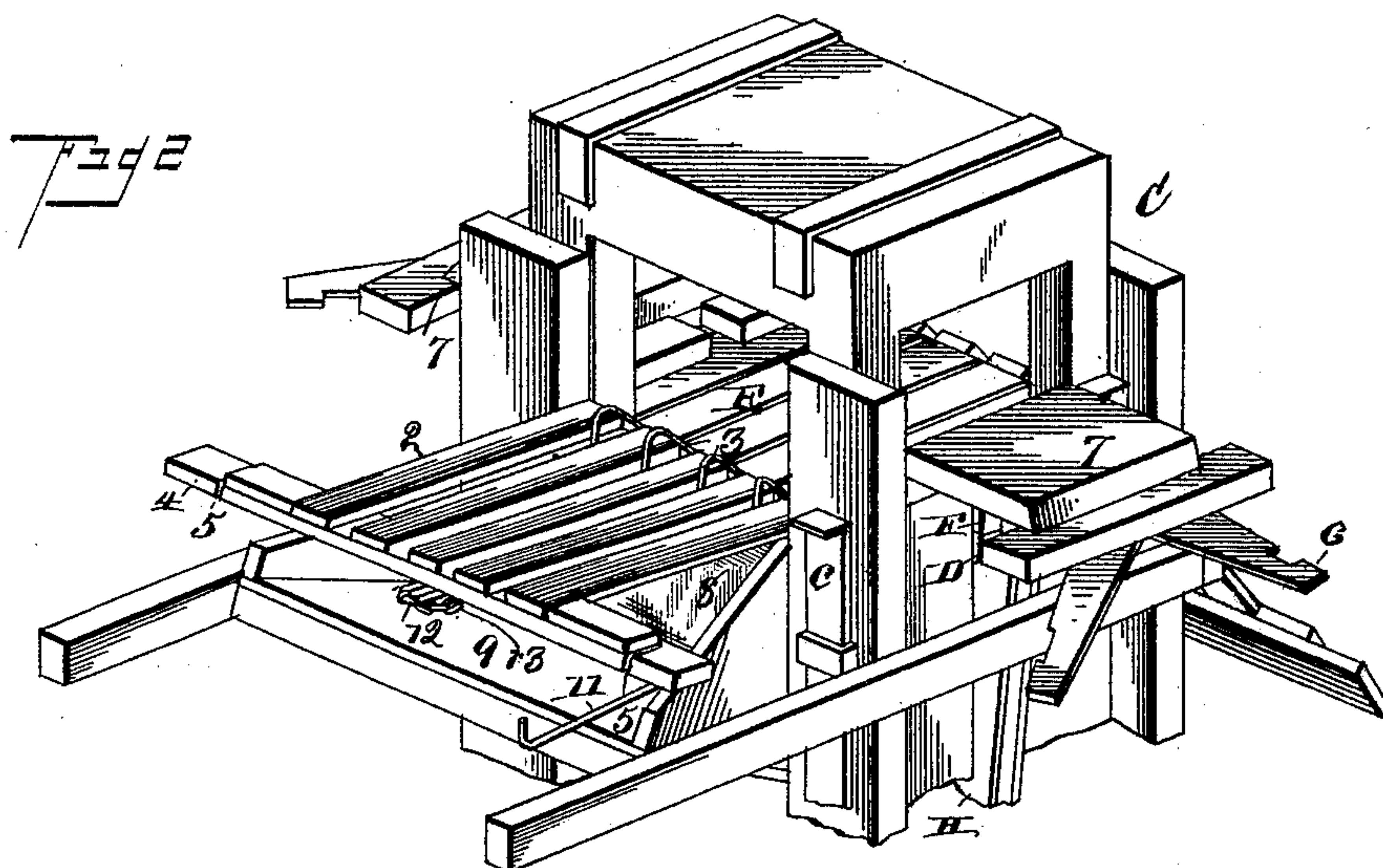
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UNITED STATES PATENT OFFICE.

DOMANECO FORNIRASEO, OF BELTON, TEXAS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 414,036, dated October 29, 1889.

Application filed March 13, 1889. Serial No. 303,072. (No model.)

To all whom it may concern:

Be it known that I, DOMANECO FORNIRASEO, a citizen of the United States, residing at Belton, in the county of Bell and State of Texas, have invented new and useful Improvements in Baling-Presses, of which the following is a specification.

My invention relates to improvements in baling-presses; and it consists in certain novel features, hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view showing the press adapted to receive a charge. Fig. 2 is a similar view showing it arranged to allow the bale to be withdrawn. Fig. 3 is a vertical sectional view looking toward the front, and Fig. 4 is a detail view of the operating mechanism.

The base of my improved press consists of the end bars or sills A A and the beams B, secured to and extending between the ends of the said end bars. The front beam B is not as large as the rear beams, and the press-box C is erected on the rear larger beams, as shown. The press-box is provided in its ends with the vertical slots D, which register with the space between the rear beams B, as shown. The follower-block E is arranged in the lower portion of the press-box, and is provided at its ends with the lateral tongues F, which enter the vertical slots D of the press-box, and thereby guide the follower-block in its movements. The follower-block is also provided at its ends with the lugs G, to which I pivot the upper ends of the pitmen H, the lower ends of which pitmen are pivoted to the segmental gears I, which are journaled between the rear beams B and mesh with each other, as clearly shown. These segmental gears are set in motion by a pinion J on a longitudinal shaft K, which is journaled in suitable bearings on the under sides of the rear beams B. This pinion meshes with only one of the segmental gears, the other segmental gear deriving its motion from the segmental gear which is driven by the pinion. On the front end of the shaft K, I secure a gear-wheel L, which is engaged by a pinion M, secured rigidly on a shaft N, which has its rear end journaled in a suitable bearing on the front side of one of the beams B, and has its front end resting in a socket O in

a disk P, as shown. The shaft N is provided with a fixed disk Q, and on the said shaft, between the disks P Q, I arrange a loose band-pulley R. The shaft of the disk P is journaled in a suitable bearing on the upper side of the front beam B, and is provided with a recess or socket S in its front end. On the under side of the front beam B, I provide the forwardly-projecting arm T, and to the said arm I pivot the lever U, the said lever being provided with a pin V, which is adapted to enter the recess or socket S in the end of the shaft of the disk P. By this arrangement, when the lever is pushed toward the press-box the disks P Q will be made to bind against the opposite sides of the band-pulley R, so that the motion of the said pulley will be communicated to the disks, and from them through the intermediate mechanism to the segmental gears I and the pitmen H to raise the follower-block.

By the mechanism just described the plunger-block will be elevated, and in order that it may be held elevated while tying the bail I pivot to the front side of the press-box a detent a, which is provided at its free end with the notches b, adapted to engage the teeth of the pinion M, and thereby prevent movement of the gearing. This detent is thrown out of engagement with the said pinion by means of a sliding bar or rod c, mounted on the front side of the press-box and having its lower end pivoted to the detent above the pivot of the same. When this sliding rod is depressed, the detent will be thrown out of engagement with the pinion, and when it is raised the detent will be thrown into engagement with the pinion. When this detent just referred to is thrown out of engagement with the pinion and the band-pulley is allowed to rotate loosely, the weight of the follower-block and the material thereon, combined with the weight of the pitmen and the other parts connected thereto, will cause the follower-block to descend into position to admit a fresh charge into the press-box; and in order to facilitate this action I provide the springs d, which have their lower free ends arranged to bear against the segmental gears and the pitmen, and which have their upper ends formed integral, with plates e, secured on the

sides of the press-box. These springs force the segmental gears inward and downward, so as to aid in lowering the follower-block, as will be readily understood, and if so desired they may be formed separate from the plates and secured thereto.

At the upper end of the press-box, in the front and rear sides of the same, I provide the swinging doors 2, which are provided at or near their lower edges with the stops 3, which are adapted to hold the pressed material until a quantity sufficient to form a bale has been pressed in the usual manner. These doors are formed of a series of vertical slats or strips, so that the tying-wire may be easily passed through them and the press-box to tie the bale after it has been formed, and they are provided at their upper edges with the sills or bars 4, the ends of which project beyond the doors, and are adapted, when the doors are raised, to fit over the upper ends of the corner-posts of the press-box. These bars or sills 4 are provided in their upper sides with notches 5, which are engaged by latches 6, pivoted to the doors 7, said latches fitting in the said notches and over the sides of the said bars or sills. The doors 7 are hinged to the ends of the press-box, and are adapted to be turned downward to permit the bale to be more easily handled.

In the front side of the press-box, and below the door 2, I provide the gate or flap 8, which is arranged at the inner lower end of a chute or feed-trough 9, projecting from the front side of the press, and adapted to direct the material to be pressed into the press-box. This gate is sufficiently heavy to be held normally closed by its own weight, and it is raised or opened by means of a rock-shaft 10, mounted on the front door 2, and having a lever-arm 11 at one end by which it may be operated. At or about its central portion this rock-shaft is provided with a crank-arm 12, and the said crank-arm is connected with the gate or flap 8 by a chain 13, as shown.

In practice, when it is desired to form a bale, the doors 2 and 7 are swung upward, and the latches 6 are engaged over the cross-bars 5, so as to hold the several doors in their closed positions. The ends of the latches engage over the edges of the cross-bars of the front and rear doors, and thereby prevent the said doors from falling, while the notches in said end bars pass up on opposite sides of the latches, and thereby prevent the same moving laterally, so as to permit the end doors to fall. The gate or flap 8 is then raised, so as to open the lower end of the chute or feed-trough, and the material to be pressed is then fed into the press-box through the said chute or trough. When the material is fed into the press-box, it is directed onto the follower-block and supported thereby. The lever U is then pushed inward, so that the motion of the loose pulley R will be communicated, through the mechanism hereinbefore described, to the follower-block, and the follower-

block thereby elevated. When the follower-block is elevated, it carries the material against the top of the press-box, and thereby compresses the same. When the follower-block has been raised to its highest point, the lever U is pulled outward, so that the band-pulley R will rotate loosely upon its shaft, and the driving-gearing will be free to move in the reverse direction, so as to lower the follower-block to receive a fresh charge.

From the foregoing description it will be seen that I have provided a very compactly arranged press, which is easily operated, and by which great power is applied to the material to be pressed, so that the bale will be rapidly and positively formed. By means of the segmental gears meshing with each other and the pitmen connecting the same with the follower-block the said follower-block will be raised evenly, so as to move squarely against the top of the press-box, and consequently the bale will be firmly pressed throughout. These segmental gears are further advantageous for the reason that as they mesh together they can be set in motion by a small pinion and will act upon each other, so as to exert a strong leverage against the follower-block through the pitmen.

When sufficient material has been pressed to form a bale, the tie-wires are passed through the front and rear doors and across the bale, so as to secure the same, after which the several doors are swung downward, as shown, and the bale removed. The doors are then closed and the press is ready to form another bale.

My press can be used to compress any desired material; but is especially adapted for pressing hay and cotton, and its advantages are thought to be obvious.

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

1. The combination of the vertical press-box, the follower-block moving therein, the intermeshing segmental gears arranged below the press-box and connected with the follower-block to operate the same, the shaft N, having a fixed disk Q, the band-pulley loosely mounted on said shaft adjacent to said disk, the disk P, loosely mounted on said shaft and adapted to bind the band-pulley against the disk Q, the pivoted lever adapted to shift the disk P, and gearing between the shaft N and the segmental gears, as set forth.

2. The combination of the main frame, the longitudinal shaft N, the pinion M on said shaft, the detent pivoted on the frame and having a series of notches in its end adapted to engage the teeth of the pinion, and the vertically-sliding bar mounted on the frame and pivoted to the detent, all arranged and operating substantially as and for the purposes set forth.

3. The combination of the vertical press-box having a feed-opening in its side, the chute projecting from the press-box and lead-

ing to said opening, the upwardly-swinging gate in the lower end of the chute adapted to cover the feed-opening, the horizontal rock-shaft mounted on the side of the press-box 5 above the gate and having a central crank-arm, and the chain connecting said crank-arm with the gate, as set forth.

4. The combination of the press-box having vertical slots in its sides, the follower- 10 block moving therein, the segmental gears arranged transversely below the press-box, the pitmen connecting said gears with the

follower-block and playing in the slots, mechanism for operating said gears, and the springs mounted on the press-box and bearing on the 15 pitmen, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

DOMANECO FORNIRASEO.

Witnesses:

W. S. HOLMAN,
W. T. SHANNON.