

(No Model.)

2 Sheets—Sheet 1.

E. M. & T. S. LOW.

HAY PRESS.

No. 266,486.

Patented Oct. 24, 1882.

Fig. 1.

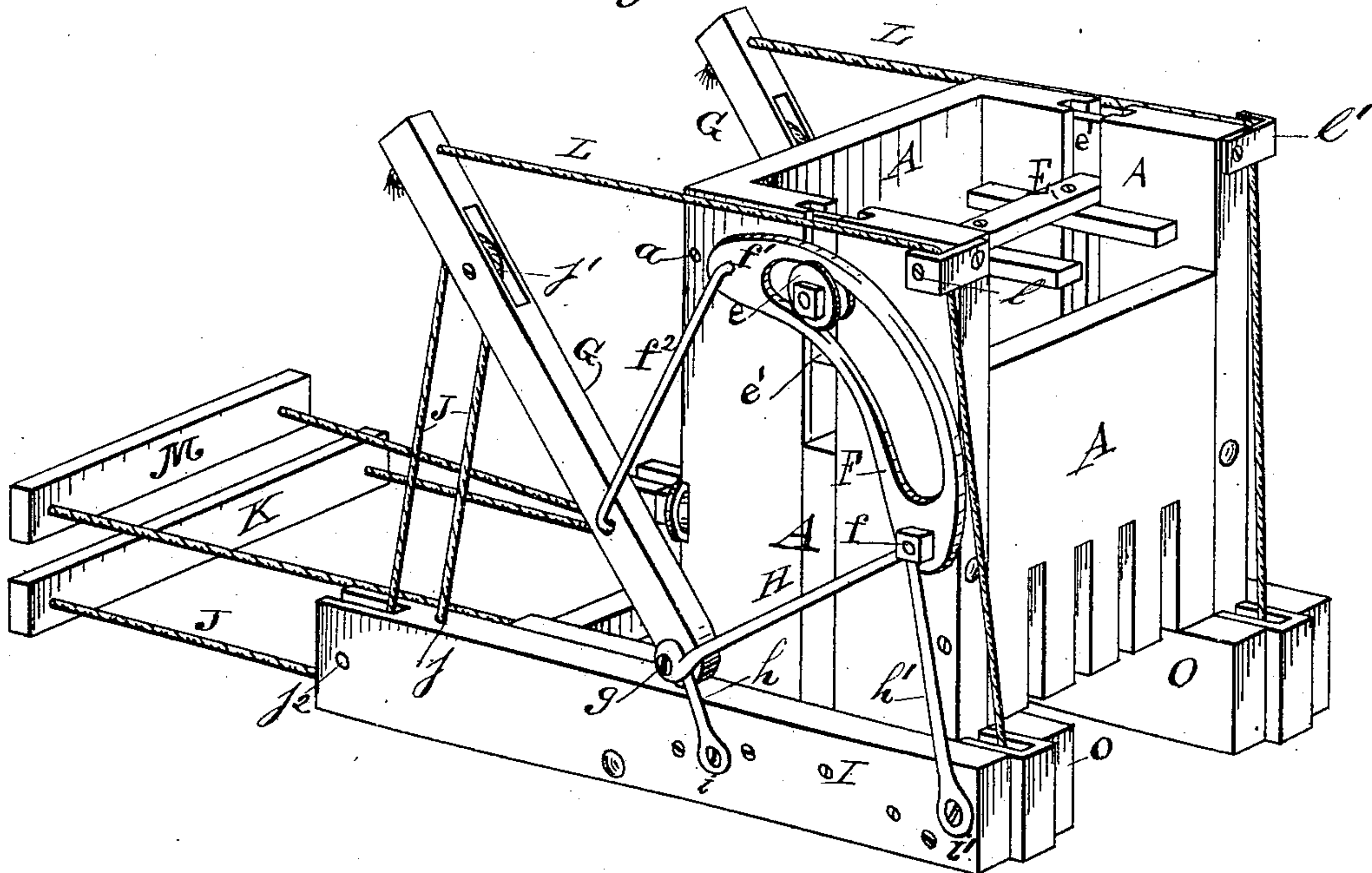
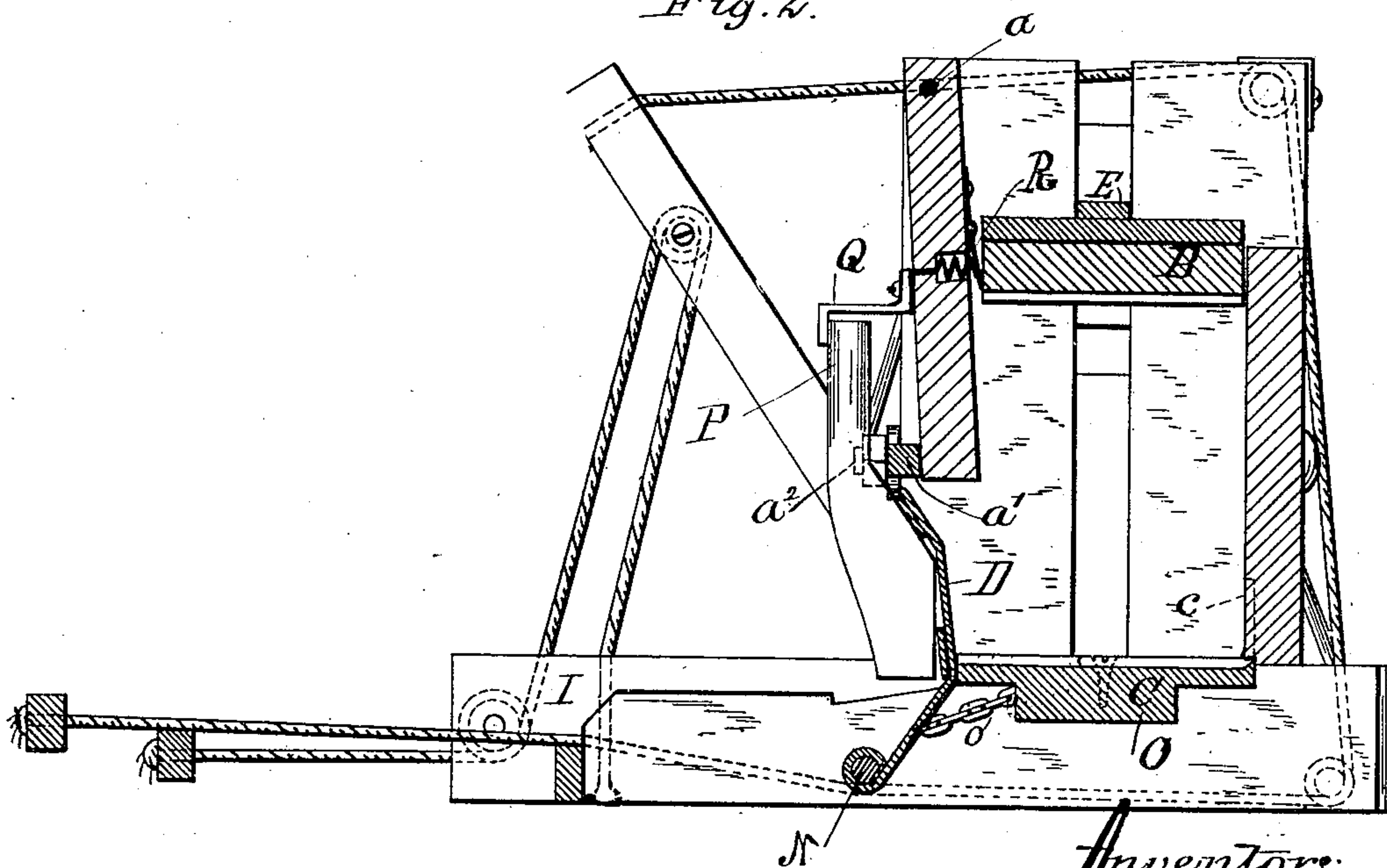


Fig. 2.



Witnesses:

E. B. Stocking
Chas. Flint

Inventors:
E. M. & T. S. Low

E. M.

T. S. Low

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2 Sheets—Sheet 2.

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Fig. 3.

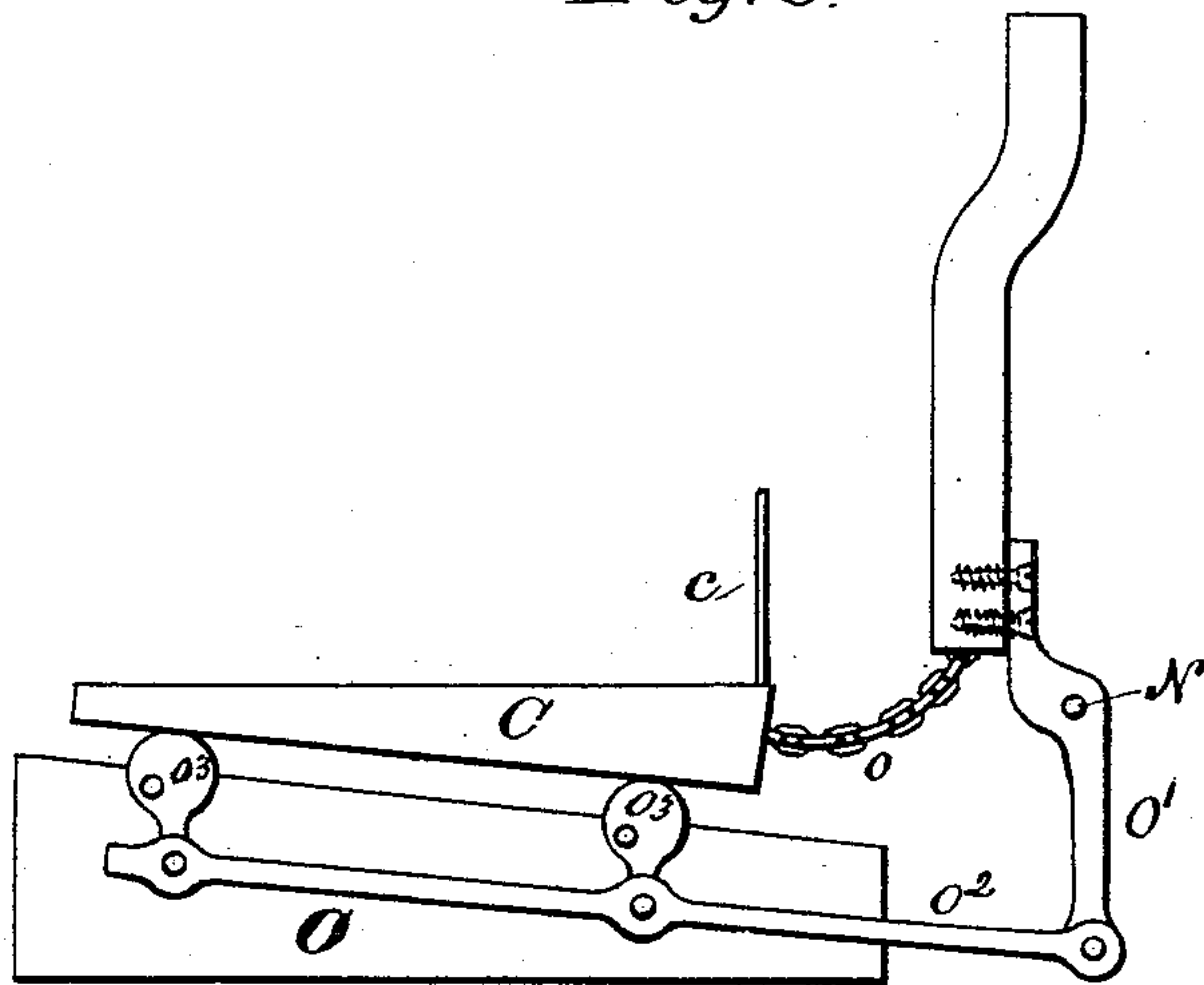
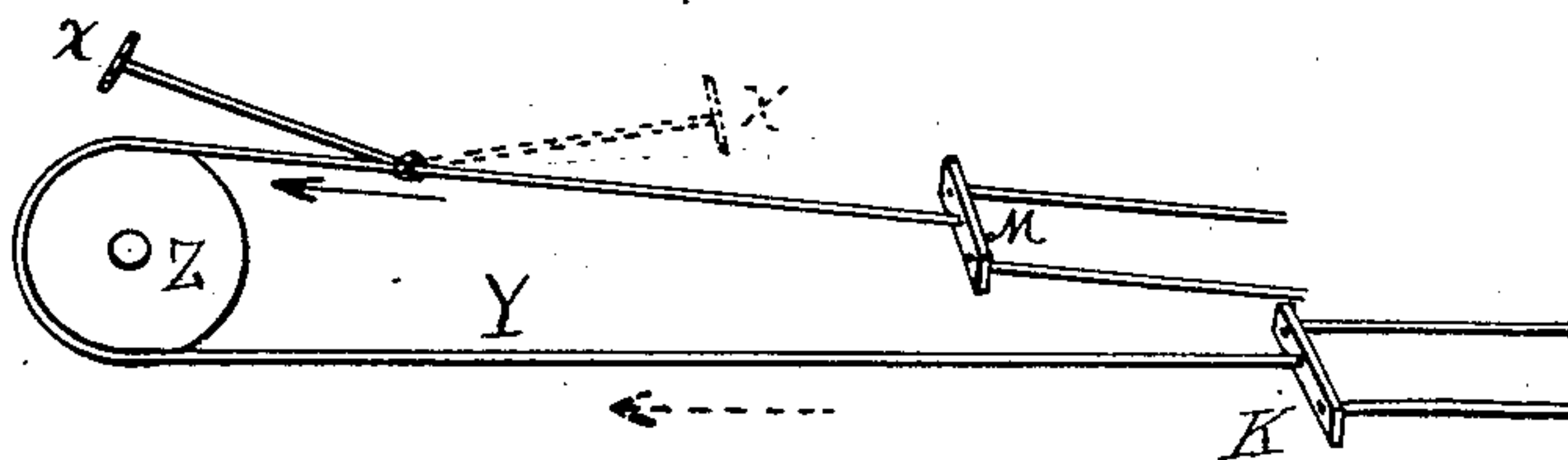


Fig. 4.



Witnesses:
E. B. Stocking
Chas. Flint

Inventors:
E. M. & T. S. Low
[Signature]
[Signature]

UNITED STATES PATENT OFFICE.

EDGAR M. LOW AND TRUMAN S. LOW, OF PULASKI, ILLINOIS.

HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 266,486, dated October 24, 1882.

Application filed April 26, 1882. (No model.)

To all whom it may concern:

Be it known that we, EDGAR M. LOW and TRUMAN S. LOW, citizens of the United States of America, residing at Pulaski, in the county of Pulaski and State of Illinois, have invented certain new and useful Improvements in Hay-Presses; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Our invention relates to that class of presses which are adapted to compress hay, cotton, tobacco, and similar materials in bulk, and to permit the same to be bound by suitable ties while in a compressed state, so that compact bales of said materials are produced; and the object of our invention is to construct such a press upon principles which can be economically put in practice and still accomplish satisfactory results.

Our invention consists in certain devices and combinations of devices hereinafter described, and specifically set forth in the claims.

Figure 1 is a perspective of a press embodying our invention; Fig. 2, a central vertical section from front to rear; Fig. 3, a side elevation of means for raising and lowering the bed, as hereinafter described; and Fig. 4, a detail of the operating-ropes.

Like letters of reference indicate like parts in all the figures.

A A A A represent the sides of the press, which are bolted together in the usual manner, with the exception of the rear side, (that at which the bale is delivered from the press,) which is secured between the adjacent sides by a bolt, *a*, at the upper end of said rear side, the lower end being adjustably held by a cross-bar, *a'*, adapted to project within the adjacent sides and to be secured by bolts *a''* to the edges thereof, whereby the lower end of said rear side may be thrown inwardly and secured, so that the internal measurement of the press is gradually reduced from top to bottom and from front to rear; or it may be from side to side.

B is the platen, and C the bed, of the press, which, like the front and the delivery-gate D

are slotted in the usual manner, for the passage around the bale of the ties, and their attachment to the bale while under pressure. Across the platen is a bar, E, which projects through slots in the sides of the case, and is provided with friction-rolls *e* at each end. Riding in grooves in the slots are guides, *e'*, fitted to the bar by being apertured in such form (as square) that they prevent any oscillation of the platen and bar.

F represents the main compression-levers of the press. Each of these is pivoted at about the vertical center and at the front edge of the side of the press at *f*, and is curved upwardly and extends the entire width (or more) of the press—that is, from front to rear, and at its free end, *f'*, is connected by a rod, *f''*, to the secondary lever, G, which is pivoted at *g*, near the rear edge and bottom of the same side of the press. A brace, H, extends from the pivot of one of these levers to that of the other, and is continued from the pivots in two branches, *h h'*, to the foundation or sills I of the press, where they are securely fastened, at *i i'*, respectively, at such points as to most directly sustain the strain upon the pivots. The main and secondary levers upon the opposite sides of the press are arranged in like manner.

Each lever G is operated in one direction of its movement by means of a rope or chain, J, secured to the sill I at *j*, and passing around one or more pulleys, *j' j''*, in the lever G and sill, and from thence to a draw-bar, K, to which power is applied to operate the press in one direction. The movement of the levers G in the opposite direction is accomplished by means of ropes L, one end of each of which is attached to the outer end of each of the levers, and each rope is guided by pulleys *l l'* to the upper and the lower front corners of the press, and thence beneath the sills, in a groove therein, to the rear of the press, where it is secured to a draw-bar, M, to which power may be applied in the usual manner. When the press has been operated by the draw-bar K, for instance, by a team, a rope or chain secured to the cross-bar M and extended to and about a pulley at the end of the route of the team serves as means whereby the team, on its return to the press, may operate the levers in said opposite direction, as illustrated in Fig. 4, where *x*

may represent the team which has operated the draw-bar K, and by turning to return, as indicated by the dotted lines *x*, the draw-bar M is operated by means of the rope Y and pulley Z.

The bed C is provided with standards *c c*, which, when the press-gate D is closed, enter depressions in the inner surface of the front end of the press, and when said gate is opened the standards assist in ejecting the bale. The gate D is hinged to a cross-bar, N, passing through the bed-plates O, so that as it is opened, by means of the chain *o*, connecting it to the bed, withdraws the gate from the press, the bed-plates being inclined, as shown, to facilitate the operation.

It being advantageous to lower the bed-plate before its withdrawal, as described, the gate-hinge is extended to form an arm, *o'*, extending below the cross-bar and connected to a rod, *o''*, which is attached to eccentrics *o''' o'''*, pivoted to the bed-plates, whereby when the gate is opened the eccentrics are turned so that the bed is lowered before the chain *o* is tightened sufficiently to draw the bed from the press.

The upper or free end of the gate is provided with one or more handles, P, which are suitably fastened to the rear of the press during the pressing of the bale. The means of securing the handles may be a bar, bolt, or a latch, such as shown at Q.

The operation of the press will be readily understood from the description hereinbefore given. The platen being elevated by operating cross-bar M sufficiently above the front end, hay is placed beneath the platen in the press until a sufficient quantity to form a bale is in the press, when cross-bar K is operated, and the platen is lowered by means of the main and secondary levers, the former being so arranged, as described, that the movement thereof over their friction-rollers transforms their leverage from a short arm against the resistance of the platen to a long arm as that resistance increases, thus resulting in the application of immense power by the use of ex-

ceedingly simple and non-expensive means. As the platen depresses the hay it comes in contact with the spring-actuated and pivoted leaves or plates R, located within the press, which serve to smooth the projecting stems and thus improve the appearance of the finished bale. These plates R are located on all the inner sides of the press, and may be counterbalanced by weights instead of springs, if desired.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a hay-press, the combination of the bed, the platen provided with the cross-bar and friction-rollers, the curved levers pivoted to the front of the side of the press and connected to secondary levers pivoted to the rear of the side of the press, and means, substantially as shown and described, for operating said levers, whereby an increasing leverage is gained by means contained within the limits of the side of the press, substantially as shown and described.

2. The combination of the platen B, provided with bar E, friction-rolls *e*, guides *e'*, levers F, pivoted at *f*, rods *f''*, levers G, and means for their operation, all substantially as shown and described.

3. The combination of platen B, levers F and G, and braces H *h h'*, substantially as shown and described.

4. The combination of platen B, levers F and G, with ropes J L, draw-bars K M, rope Y, and pulley Z, substantially as shown and described.

5. The combination of bed C, gate D, chain *o*, slanted bed-plates O, bar N, arm *o'*, rod *o''*, and eccentrics *o''' o'''*, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

EDGAR M. LOW.

TRUMAN S. LOW.

Witnesses:

A. W. LEWIS,

D. W. KENNEDY.