(No Model.)

3 Sheets—Sheet 1.

G. W. PROUTY.

PRINTING PRESS FOR PRINTING ON WOOD.

No. 291,002. Patented Dec. 25, 1883.

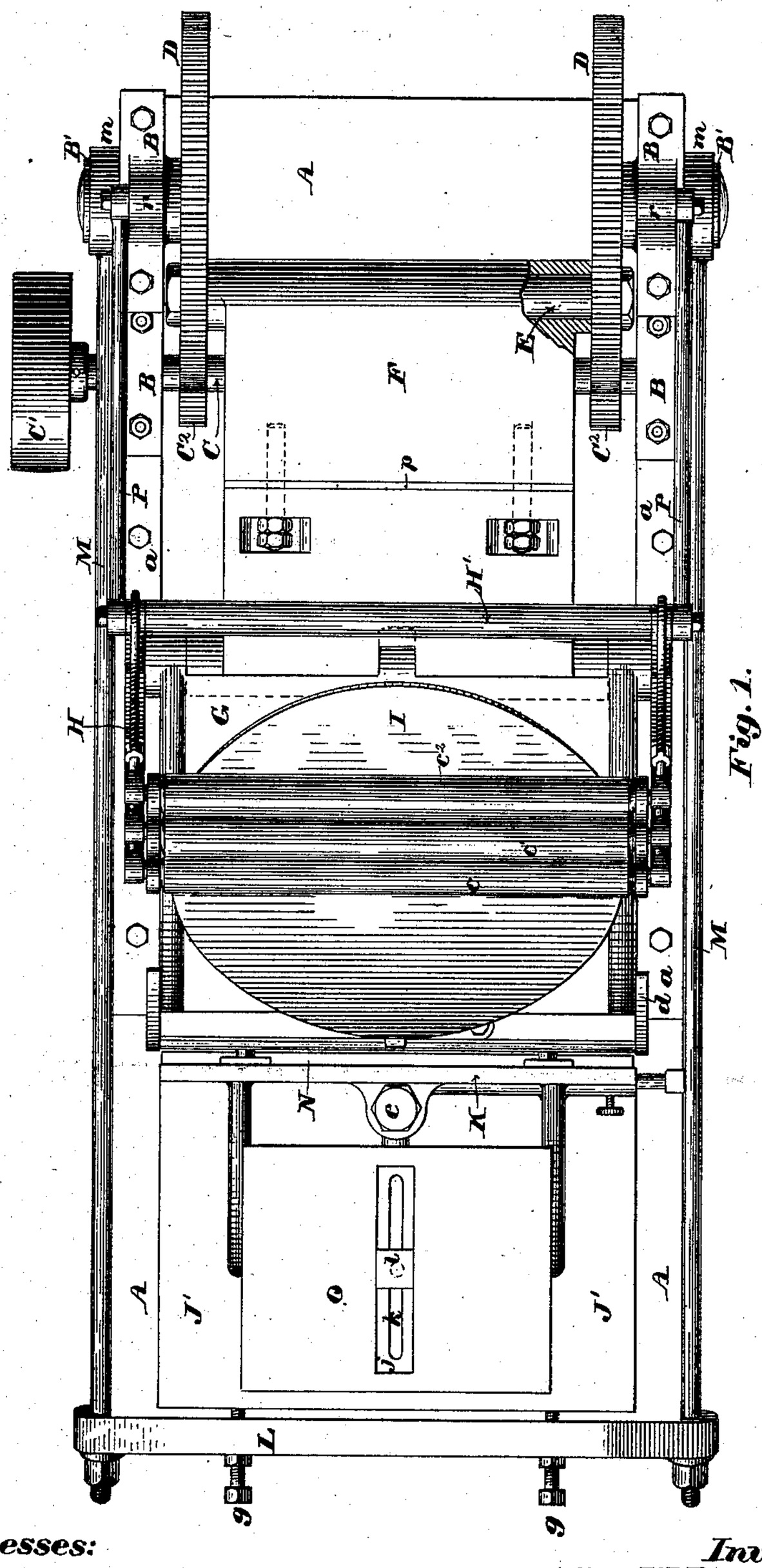

Fig. 1.

Witnesses:

Walter E. Lombard.

E. A. Hemmenway.

Inventor;
Geo. W. Prouty,
by N. C. Lombard
Attorney.

(No Model.) 3 Sheets—Sheet 2.

G. W. PROUTY.

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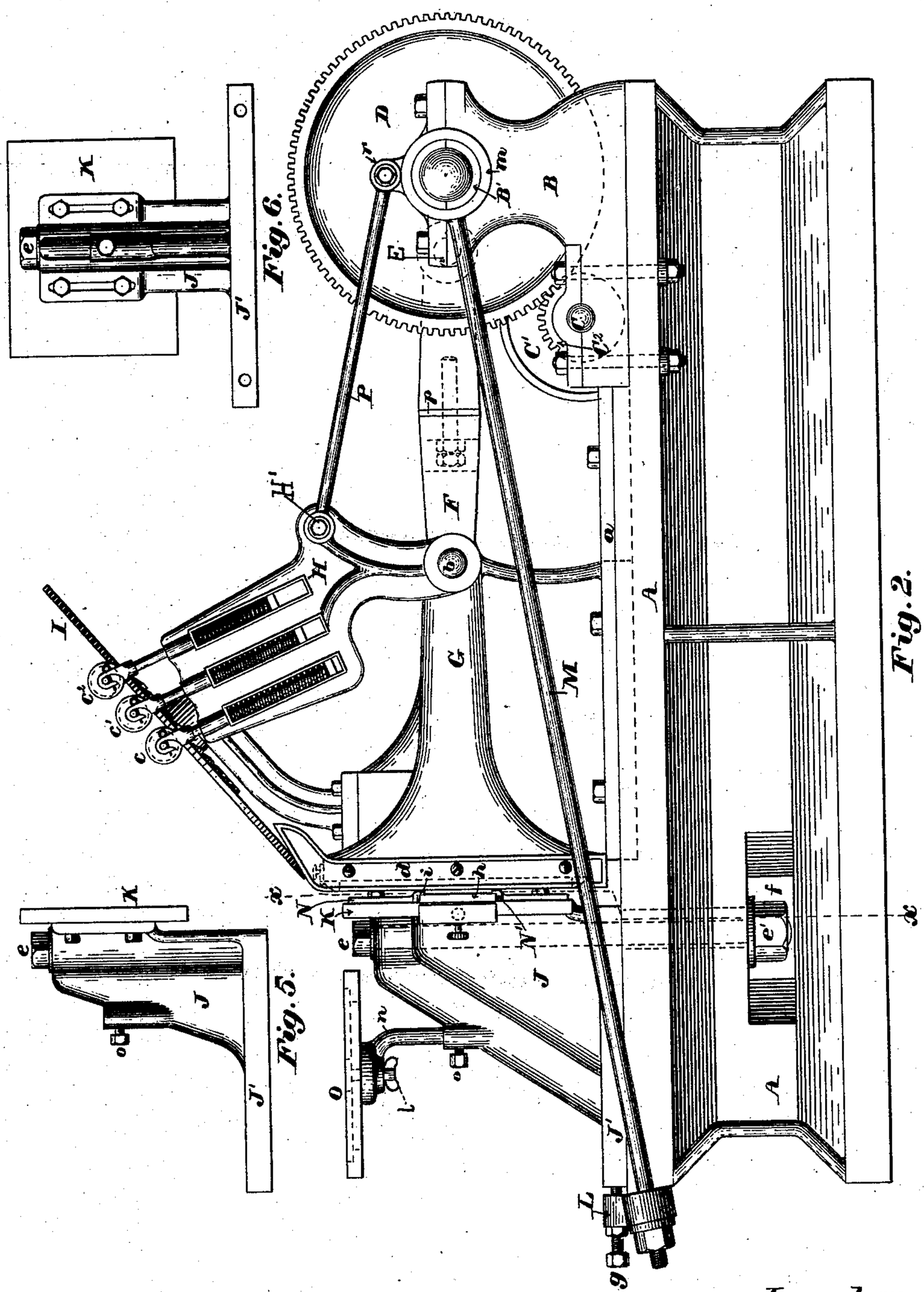

Fig. 2.

Witnesses:
Walter E. Lombard.
E. A. Hemmenway

Inventor;
Geo. W. Prouty,
by N. C. Lombard
Attorney.

(No Model.) 3 Sheets—Sheet 3.

G. W. PROUTY.

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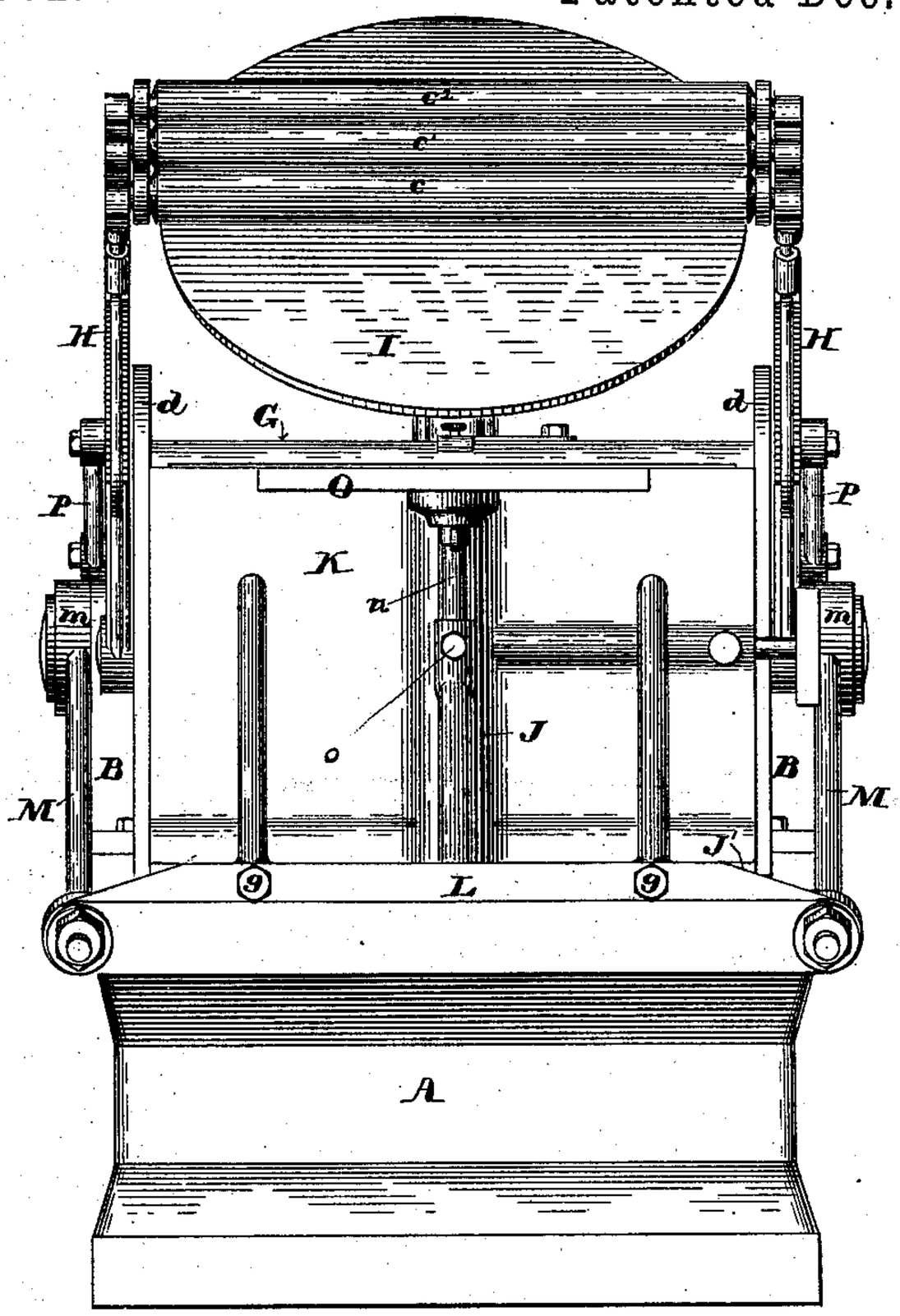

Fig. 3.

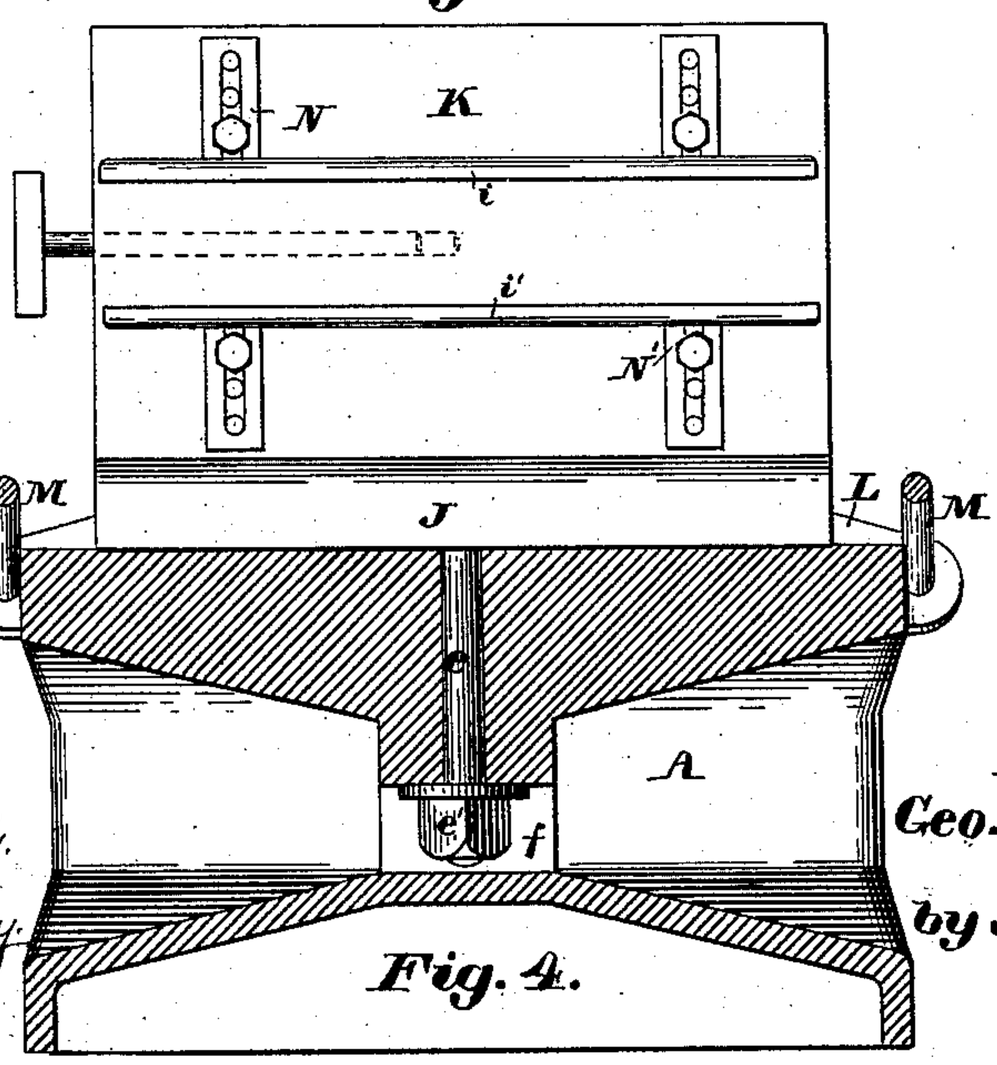

Fig. 4.

Witnesses:
Walter E. Lombard.
E. A. Hemmenway.

Inventor;
Geo. W. Prouty,
by N. C. Lombard
Attorney.

UNITED STATES PATENT OFFICE.

GEORGE W. PROUTY, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO THOMAS S. NOWELL, OF SAME PLACE.

PRINTING-PRESS FOR PRINTING ON WOOD.

SPECIFICATION forming part of Letters Patent No. 291,002, dated December 25, 1883.

Application filed January 29, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PROUTY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Printing-Presses for Printing upon Wood, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of my present invention is the production of a printing-press especially adapted to printing upon wooden boxes after they are nailed together, or upon the boards from which boxes or other articles are to be made; and it consists in a novel construction and arrangement of the platen, whereby it is adapted to enter the interior of a box with one of the sides of the box interposed between said platen and the type-bed.

It further consists in the combination of a stationary platen, a type-bed arranged to be reciprocated or otherwise moved toward and from said platen, and one or more board guiding and supporting gages adjustably secured to the platen, and constructed and adapted to receive a board or other wooden blank to be printed upon fed thereto in a horizontal direction.

It further consists in the combination of a platen constructed, arranged, and adapted to enter the interior of a box, and an adjustable table mounted thereon and adapted to serve as a support for the box, and gage its position relative to the type-form vertically.

It further consists in certain novel details of construction, which will be best understood by reference to the description of the drawings, and to the claims to be hereinafter given.

Figure 1 of the drawings is a plan of a machine embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a front end elevation. Fig. 4 is a vertical transverse section on line *x x* on Fig. 2, and Figs. 5 and 6 are respectively a side elevation and an end elevation of a modified form of the platen and platen-support.

A is the bed or frame of the machine, to the upper surface of which, at one end, is firmly bolted the pillow-blocks B B, in which are formed bearings for the driving-shaft C and the hubs of the gear-wheels D D. The driving-shaft C has mounted thereon the driving-pulley C′ and the spur-pinions C^2 C^2, which pinions engage with and impart motion to the large spur-gear wheel D D. The gear-wheels D D are provided upon their outer sides with long hubs, upon which are turned journals, by which they are mounted in the bearings B′ B′ of the pillow-blocks B B.

E is a crank-pin connecting the gears D D and firmly secured thereto, and carrying one end of the broad connecting rod or plate F, the opposite end of which is pivoted to the rear end of the type-bed G, all as shown in Figs. 1 and 2. The bed G is made very heavy, and fitted to move horizontally toward and from the platen in suitable guideways formed in the upper surface of the frame A, as indicated partly in dotted lines in Fig. 2, *a a* being removable caps, which project inward over the base-flange of the bed G, and form the upper side of the guideways for said bed.

To the ends of the bolt *b*, by which the connection F is pivoted to the bed G, are pivoted the arms H H, which, with the tie-rod H′, make up the ink-roller frame and carry the ink-rollers *c c′* c^2, all constructed, arranged, and operating in a well-known manner.

I is the ink-distributing plate, also constructed, arranged, and operating in a well-known manner. The bearers *d d*, for controlling the position of the inking-rolls as they pass over the type-form, are of ordinary construction and arrangement, and operate in a well-known manner. The "chase" for containing the type-form may be of ordinary construction, and secured to the bed in any well-known way.

J is the platen support or head, made with a broad base-flange, J′, which rests upon the planed upper surface of the machine-bed A, to which it is firmly secured by the heavy wrought-iron bolt *e*, which extends vertically through the same and through a slotted hole in the bed A, and screws into the nut *e′*, located within the opening *f* in the bed A, as shown in Figs. 2 and 4. The platen-plate K may be cast upon the head J, as shown in Figs. 1, 2, and 3, if desired; but I prefer to cast said platen separate from the head J, and bolt it thereto, as shown in Figs. 5 and 6, for the reason that to adapt the machine to print

upon large and small boxes the size of the platen must be adapted to the size of the box to be printed, and it is much easier to change the platen alone than the platen and head combined.

It is obvious that the platen must be as large in area as the type-form to be printed, and it is equally obvious that a platen adapted to print a form twelve or eighteen inches long could not be used to print upon the size of a box the inside measurement of which was less than twelve or eighteen inches, respectively, and hence it will be seen that quite a number of different-sized platens would have to be provided in order to print upon all sizes of boxes; but by making the platen separate from the head two sizes only of the heads will be required to print upon the various sizes of boxes up to the largest size that could be printed upon the machine represented. The platen-head J may be adjusted toward the type-bed G by means of the set-screws *g g*, working in the wrought-iron bar L, extending across the front end of the bed A, and connected at its ends by the oblique rods M M to the bearings of the gear-wheels D D, said rods being provided at their rear ends with rings *m m*, adapted to fit upon the projecting hubs of the bearings B′ B′, as shown. These rods serve as stay-rods to take, in connection with the cross-bar L, the strain applied to the platen-head in giving the impression. The rods M M are necessarily placed in an inclined position in order that a box may be placed over the platen, or a board may be fed endwise and horizontally between the platen and bed; but by the combination of the inclined rods M M, the cross-bar L, and the heavy holding-down bolt *e*, I am enabled to render the platen firm and unyielding, and at the same time adapt it to enter the interior of a box, and to have a board fed between it and the type-bed in a horizontal direction and of a width equal to the width of the type-form.

N and N′ are two lipped guides adjustably attached to the inner face of the platen K with their lipped edges toward each other, as shown in Figs. 2 and 4. These guides may be adjusted to a greater or less distance apart, according to the width of the board to be printed, as shown at *h* in Fig. 2, the guide N serving to support the board *h* in the desired position on the platen, and the lips *i* and *i′* of the guides N and N′ serving to guide the board to position when being fed, and to hold it in an upright position.

O is a box-supporting table, provided in its upper face with the recess *j*, in the center of which is the slot *k*, cut through said table, by means of which and the bolt *l* said table is adjustably attached to the upper end of the bent standard *n*, the lower end of which is fitted to a socket formed for the purpose in the platen-head J, and secured therein in the desired position by means of the set-screw *o*. The table O may be adjusted vertically and in any desired direction horizontally to gage the position of the box relative to the type-form according to the case in hand.

In printing upon wood it sometimes happens that a knot in the board acts injuriously upon the type in consequence of its greater hardness, and consequently unyielding nature. To obviate this difficulty I propose to make the connection F in two parts bolted together with a strip of rubber, *p*, interposed between said two parts and compressed to such a degree that said connection shall be unyielding under a pressure sufficient to print upon good clear stock, but adapted to yield slightly when the pressure is increased beyond a certain point and before it becomes sufficient to injure the type.

I have shown the rubber as applied at a point near the center of the length of the connection F; but it may be applied near either end of said connection; or a series of heavy metallic springs may be used instead of the rubber without affecting the principles of my invention.

I have illustrated a machine in which the platen is stationary and the type-bed movable during the operation of giving the impression; but it is possible to reverse this arrangement—that is to say, make the type-bed stationary and the platen movable without materially affecting the principles of my invention; and hence I do not wish to be limited to the precise construction and arrangement of parts shown and described.

P P are two radius-arms pivoted at one end to the ears *r* on the caps of the bearings B′ B′, and at their other ends to the arms H H of the ink-roller frame, and serve to impart motion to said ink-roller frame, or, rather, to act in conjunction with the reciprocating movement of the pivotal connection of said arms H H to the type-bed to cause a movement of the inking-rollers to and fro over the distributing-plate and type-form, in a well-known manner.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a printing-press, an adjustable platen and platen head or support arranged to be secured in a fixed position, and adapted to enter freely the interior of a box with one side wall of the box between the platen and the type-bed, substantially as and for the purposes described.

2. The combination, in a printing-press, of an adjustable stationary platen, a type-bed arranged to be moved toward and from the platen, and one or more adjustable gages arranged and adapted to receive and support a board of wood fed thereto in a horizontal direction, substantially as described.

3. The combination of a platen and platen head or support arranged and adapted to enter the interior of a box, and an adjustable table, also adapted to enter the interior of the box and to gage the position of the box vertically, substantially as described.

4. In combination with a type-bed and

platen arranged and adapted to be moved one toward the other, and means for supporting a board or other piece of wood to be printed, a connection made in two parts, and adapted, as set forth, to transmit the impression and to yield when the pressure is increased beyond a predetermined point, substantially as described.

5. The combination of the stationary platen-head J, the platen K, the reciprocating type-bed G, means, as set forth, for imparting a reciprocating motion to said bed, the cross-bar L, the oblique rods M M, and the bearings B′ B′, all arranged and adapted to operate substantially as described, for the purposes specified.

6. The combination of the bed A, the platen-head J, the bolt *e*, and nut *e′*, the cross-bar L, the oblique rods M M, and the bearings B′ B′, all arranged and adapted to operate substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 26th day of January, A. D. 1883.

GEO. W. PROUTY.

Witnesses:
E. A. HEMMENWAY,
WALTER E. LOMBARD.