

(No Model.)

2 Sheets—Sheet 1.

A. SIMPSON.

BALING PRESS.

No. 373,617.

Patented Nov. 22, 1887.

Fig. 1

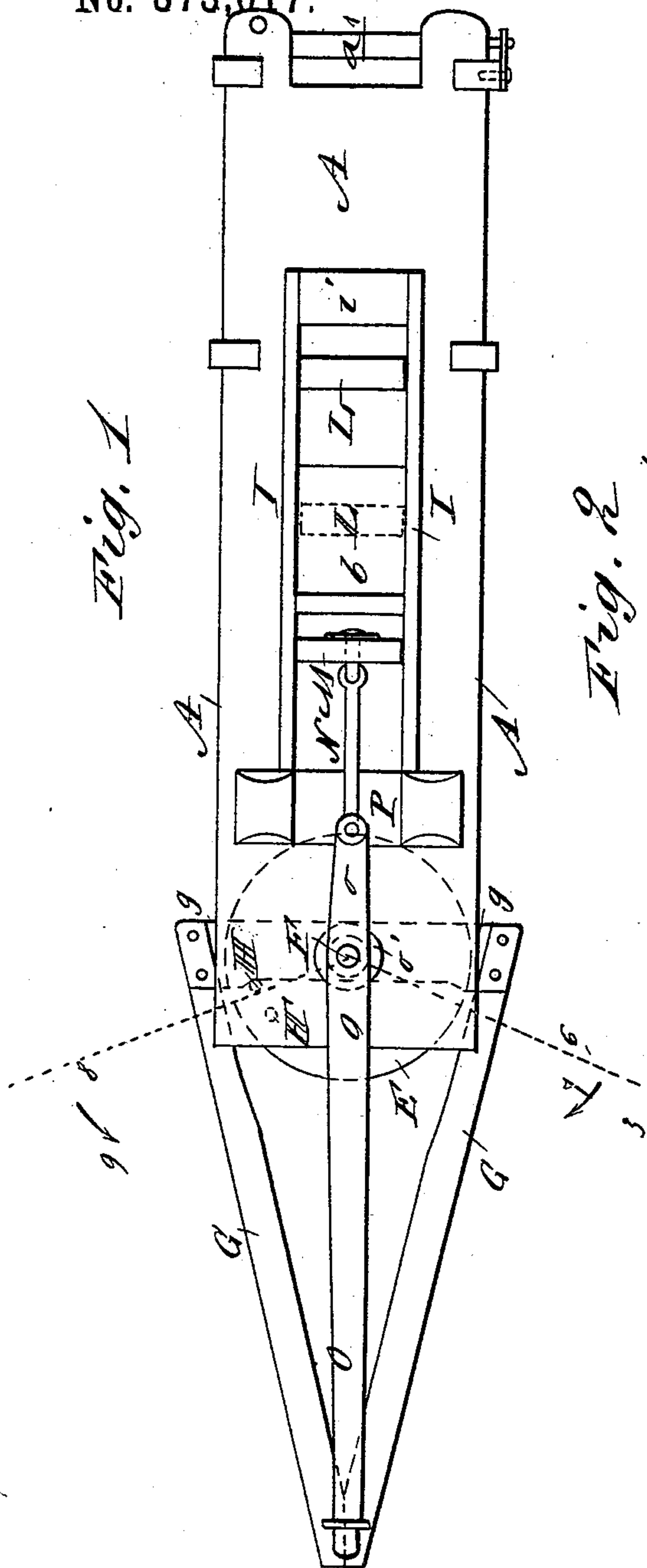
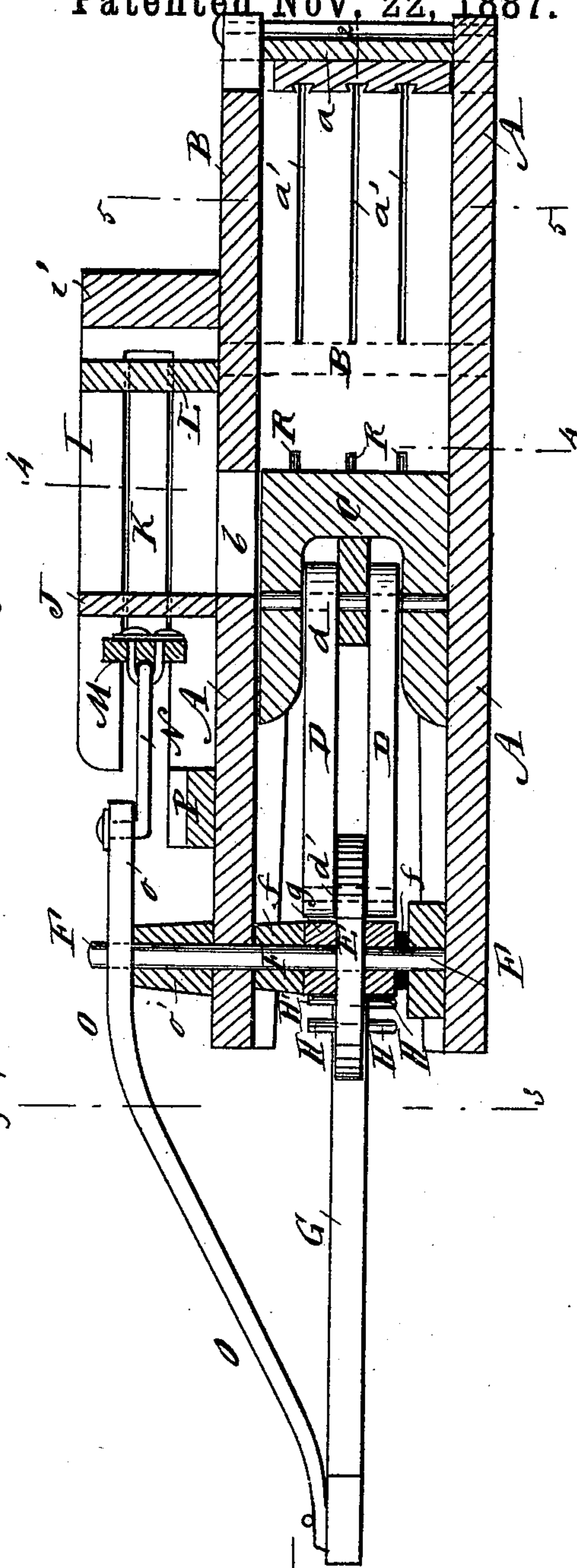


Fig. 2



WITNESSES:

C. Neveu  
C. Sedgwick

INVENTOR:

A. Simpson

BY

Munn & Co.

ATTORNEYS.

(No Model.)

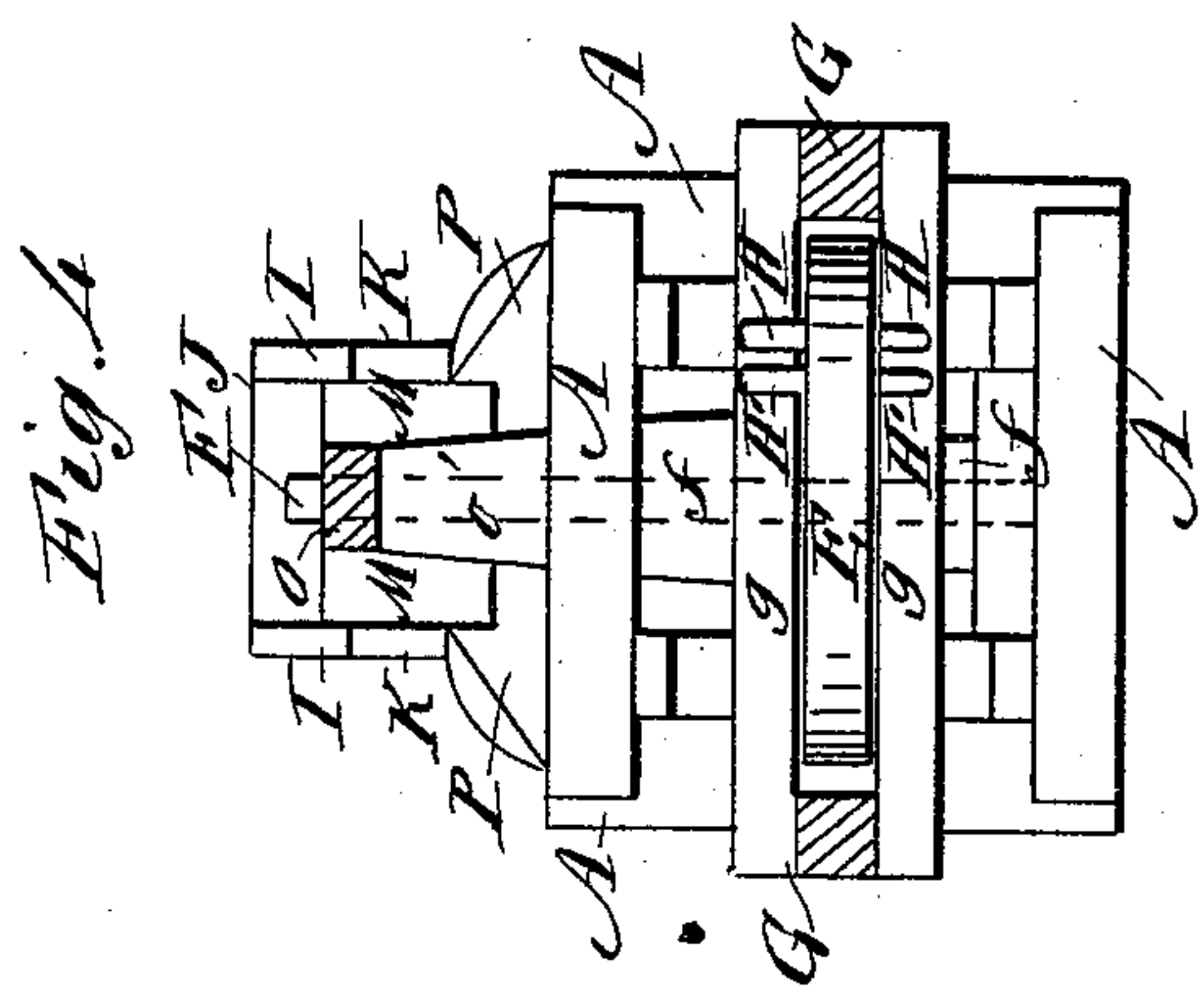
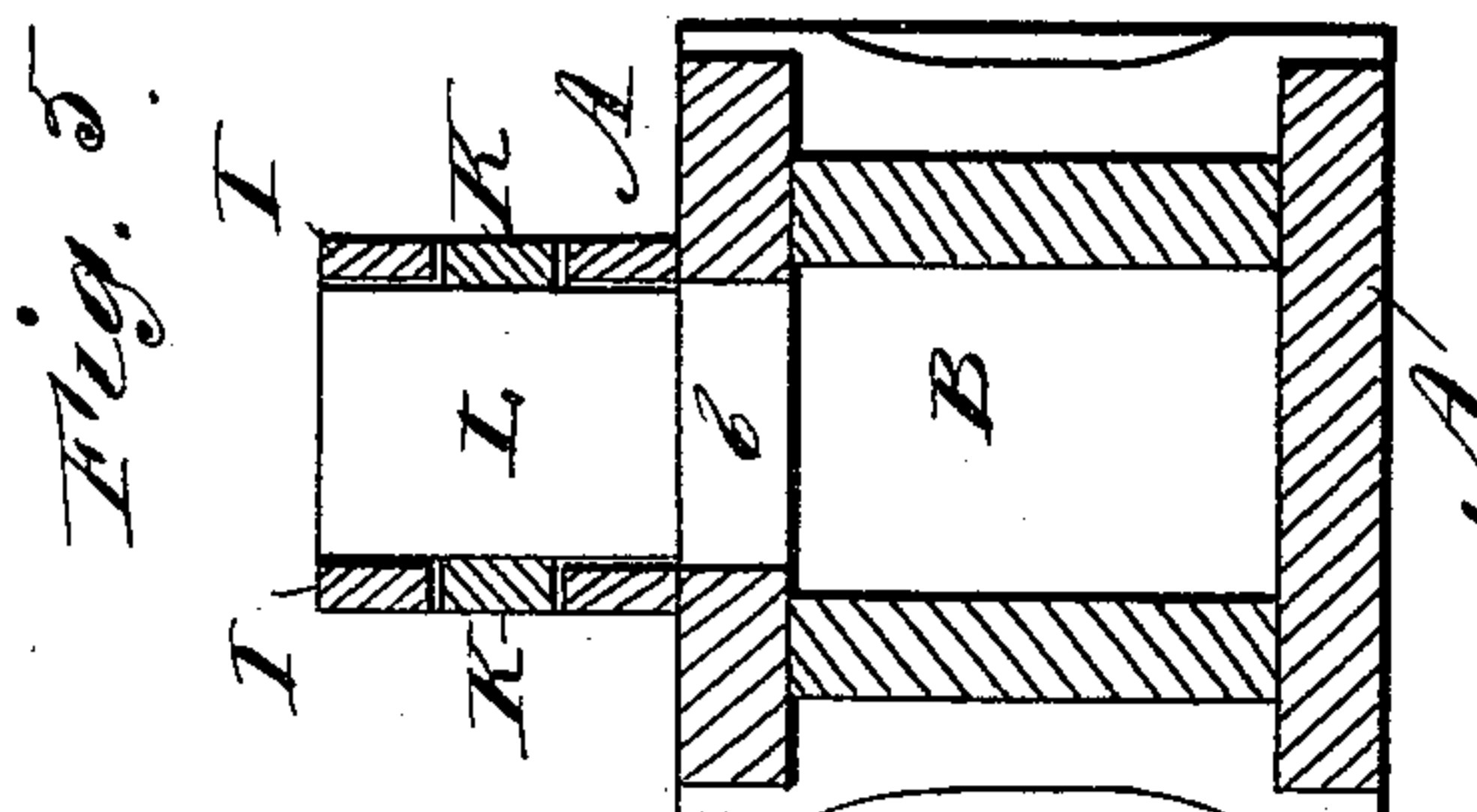
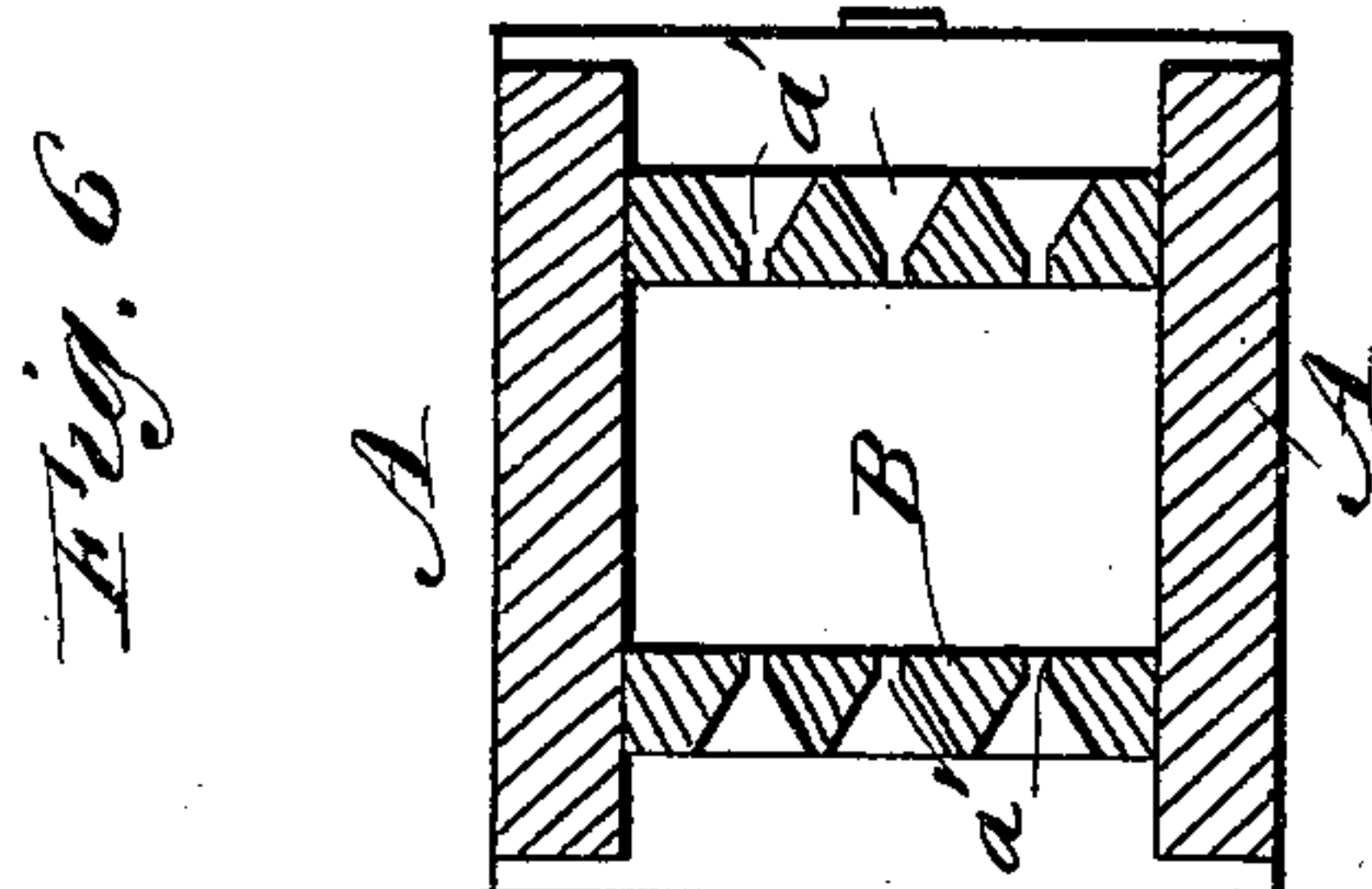
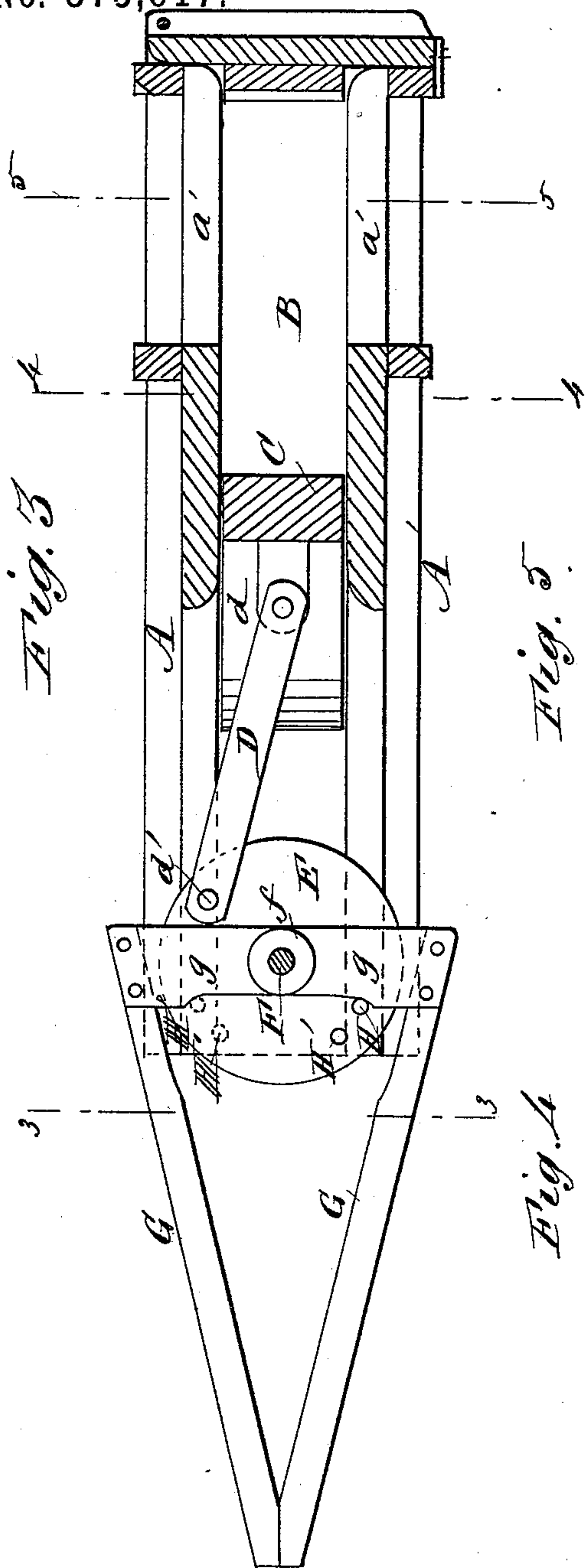
2 Sheets—Sheet 2.

A. SIMPSON.

BALING PRESS.

No. 373,617.

Patented Nov. 22, 1887.



WITNESSES:

*C. Keweenaw*  
*C. Sedgwick*

INVENTOR:

*A. Simpson*  
BY *Munn & Co.*  
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# UNITED STATES PATENT OFFICE.

ABIJAH SIMPSON, OF LAPEER, MICHIGAN, ASSIGNOR TO HIMSELF AND  
WILLIAM McDONALD, OF SAME PLACE.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 373,617, dated November 22, 1887.

Application filed May 26, 1887. Serial No. 239,486. (No model.)

*To all whom it may concern:*

Be it known that I, ABIJAH SIMPSON, of Lapeer, in the county of Lapeer and State of Michigan, have invented a new and Improved  
5 Baling-Press, of which the following is a full, clear, and exact description.

My invention relates to presses for baling hay, straw, cotton, or other material, and has for its object to provide a simple, inexpensive,  
10 and effective press of this character.

The invention consists in certain novel features of construction and combinations of parts of the baling-press, all as hereinafter fully described and claimed.

15 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved baling-press. Fig. 2 is a central vertical longitudinal sectional elevation thereof, taken on the line 1 1, Fig. 1. Fig. 3 is a plan view in section on the line 2 2, Fig. 2. Fig. 4 is a front end view of the press, with parts in transverse  
25 section, on the line 3 3 in Figs. 2 and 3. Fig. 5 is a vertical transverse section taken on the line 4 4 in Figs. 2 and 3; and Fig. 6 is a vertical transverse section taken on the line 5 5, Figs. 2 and 3.

30 The main case A of the press may have any approved form providing a rear baling-box, B, and space in front of said box in which the plunger C is operated to press hay or other material into bales. I show the press-case provided with a rear door, a, which, when  
35 opened, allows discharge of the bale; but the press-case may be made with a rearwardly-tapering baling-box and an open rear end to discharge bales continuously after being tied through suitable slots, a', in the sides of the  
40 baling-box and in grooved head or spacing blocks placed in the box.

The press-case may be mounted upon a suitable wheeled truck, or may be otherwise set  
45 up for use in a barn or elsewhere.

The plunger C is operated by a heavy pitman, D, which is pivoted at d to the plunger and at its other end at d' to a disk or drive-wheel, E, which is fitted loosely upon an up-  
50 right shaft, F, held in the press-frame and between the inner heavy upper and lower cross-

bars, g g, of a sweep, G, which is also pivoted on the shaft F, which passes through the cross-bars g. A pair of heavy pins, H H', fixed in the drive-wheel E, by their resistance against  
55 the forward edges of the sweep cross-bars g, cause the plunger to be forced rearward in the press-case and allow the plunger to be forced outward again by the expansion of the material pressed in the baling-box at each half-revo-  
60 lution of the sweep, thus permitting one charge of material to be pressed as the sweep is drawn over toward either side of the press. Suitable spacing blocks or washers, f, will be used  
65 between the cross-bars g of the sweep and the upper and lower parts of the press case or frame to hold the sweep and drive-wheel in proper relation to the pitman and plunger.  
(See Figs. 2 and 4 of the drawings.)

At the side of the press-case next the feed-  
70 opening b, through which the material to be pressed passes into the baling-box B, and preferably at the top of the case, as shown in the drawings, an auxiliary feed and press box, I, is built. This box I is open at the top, and  
75 opens also about at its center to the feed-opening b of the baling-box B, and with which opening the fixed front end, J, of the box I registers, while the rear end, i, of the box, which lies on the main press-case A, serves as a brace or  
80 stay to the opposite sides of the box, which are slotted to receive side bars, K K, to which, within the box I, a head-block, L, is fixed, so as to travel backward and forward in the box.

A cross-bar, M, which is fixed to the forward ends of the opposite side guides, K K,  
85 of the head-block, is connected pivotally by a pitman, N, with the inner end or short arm, o, of a lever, O, which is fulcrumed on the main shaft F, and is extended forward to the  
90 outer end of the sweep G, to which it is coupled by a bolt, clip, or other device, and whereby, as the sweep is turned to operate the plunger C in the baling-box B, the head-block L will also be reciprocated in the feed-box I. A  
95 heavy block, P, grooved at the top to receive the cross-bar M as it moves forward, takes the force of the extreme or maximum lateral thrusts given the bar M by the pitman and relieves the box I of side strains, to which it otherwise would be subjected. A spacing-block,  
100 o', placed on the shaft F and between the le-



ver O and the press-case A, holds the lever in proper relation to the pitman N and the cross-bar M, connecting the pitman with the head-block.

5 The operation of the press is very simple and effective, and is as follows: We will suppose that the sweep G has been turned to one side until the lever O, which is at the longitudinal center of the sweep, stands about in the  
10 position represented by the dotted line 6 in Fig. 1 of the drawings. At this time the plunger C will have been drawn fully back, and the upper auxiliary head-block, L, will have the position indicated by the dotted lines in  
15 Fig. 1, and the pin H in the drive-wheel E will rest against the cross-bars *g* of the sweep, as shown in Fig. 3 of the drawings. The charge of hay which has been fed into the upper box, I, and has been compressed therein by the head-  
20 block L against the end J of the box, will now be forced down into the baling-box B behind the drawn-back plunger C by any suitable device, and as the sweep is moved in the direction of the  
25 arrow 7 in Fig. 1 the cross-bars *g* of the sweep will bear on the pin H, and will force the plunger C rearward on its effective stroke as the sweep moves around toward the position indicated by the dotted lines 8 in Fig. 1. Dur-  
30 ing the first part of the aforesaid movement of the sweep, and while the plunger C is pressing the material in the box B, the head-block L will be moved rearward in the feed-box I, and when the sweep-lever O is in line with the section-line 1 1 in Fig. 1 the head-block will  
35 have been carried to its extreme rearward position, (shown in full lines in Figs. 1 and 2 of the drawings,) and during this rearward movement of the head-block, and while the feed-opening *b* is closed by the top of the plunger  
40 C, hay, straw, cotton, or other material to be baled will be fed in any way into the box I between its end J and the head-block L. As the sweep and lever G O continue their movement from the line 1 1 toward the line 8, the rear-  
45 ward pressing stroke of the plunger C will be continued, while the material in the box I will be pressed between the end wall, J, of the box I and the forwardly-moving head-block L, and as the lever O nearly comes into line with the  
50 dotted line 8 the pivoted end *d'* of the pitman D will pass the shaft F, and the expansion of the material just pressed by the plunger will cause the plunger C to rebound and swing the wheel E around quickly until its pin H' will  
55 strike the cross-bars *g* of the sweep. The position of the plunger C and head-block L is now as first described, and the charge of material in the box I, now fully pressed therein, will be forced down in rear of the drawn-back  
60 plunger C, and as the sweep is started on its return movement, in the direction of the arrow 9 in Fig. 1 of the drawings, the sweep-bars *g* will bear against the pin H' to force the plunger C rearward on its effective stroke to  
65 press the last charge of material into the bale being formed, while the head-block L will also be carried rearward to allow the next charge

of material to be fed into the upper box, I, to be pressed therein, and afterward forced down when the plunger next rebounds, as will be  
70 understood from the aforesaid description, and the pin H will strike the sweep-bars *g* on the second rebound of the plunger, and the parts will be in the positions first described and ready for the next effective movement of the  
75 sweep from the line 6 toward the line 8, as will readily be understood.

By first compressing the charges of material by the auxiliary head-block or plunger L in the feed-box I am enabled to make the press-  
80 case A shorter and stronger for turning out bales of a given size and weight.

Retainers R (shown in Fig. 2 of the drawings) hold the successive pressed charges or batches of material against undue expansion  
85 in a well-known manner after each rebound of the plunger.

It is obvious that but one of the pins H may be used in the drive-wheel; but the two pins shown and above described are preferred  
90 in practice.

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

1. In a baling-press, the combination, with  
95 a case having a baling-box and a plunger therein, of a shaft in the forward part of the case, a drive-wheel mounted loosely on the said shaft and provided with pins, a sweep pivoted on the said shaft, and a pitman piv-  
100 oted to the plunger and to the drive-wheel opposite the pins therein, substantially as herein shown and described.

2. The combination, in a baling-press, of a  
105 case, A, having a baling-box, B, a plunger, C, in said box, a shaft, F, in the press-frame, a drive-wheel, E, loose on said shaft and provided with a pin or pins, as H H', a sweep, G, on the shaft, and having a cross-bar, *g*, adapted to stop and press against the drive-wheel pins,  
110 with a pitman, D, pivoted to the plunger and to the drive-wheel opposite the pins therein, substantially as described, for the purposes set forth.

3. The combination, in a baling-press, of a  
115 case, A, having a baling-box, B, a plunger, C, in said box, a shaft, F, in the press-frame, a drive-wheel, E, loose on said shaft and provided with a pin or pins, as H H', a sweep, G, on the shaft, and having a cross-bar, *g*, adapted  
120 to stop and press against the drive-wheel pins, a pitman, D, pivotally connected to the plunger and drive-wheel, a feed-box, I, arranged at the feed-opening of the box B, and having a head-block, L, a lever, O, connected  
125 to the sweep and extending rearward of its fulcrum, with a pitman, N, connecting the lever with the head-block L, substantially as described, for the purposes set forth.

4. In a baling-press, the combination, with  
130 a baling-box having an opening in its top, a plunger, and a sweep for operating the plunger, of a feed-box on the baling-box, a head-block, a lever pivoted on the pivot of the



sweep and having its outer end connected to said sweep, and a pitman connecting the rear end of the said lever to the head-block, substantially as herein shown and described.

- 5 5. In a baling-press, the combination, with a press-case, of an auxiliary feed-box on the same, a head-block, L, in the said feed-box, side bars, K, connected to the head-block, and having their ends connected together by a

cross-bar, M, the grooved block P, and means 10 for operating the said head-block, substantially as herein shown and described.

ABIJAH <sup>his</sup> × SIMPSON.  
mark.

Witnesses:

J. R. JOHNSON,  
R. L. TAYLOR.