

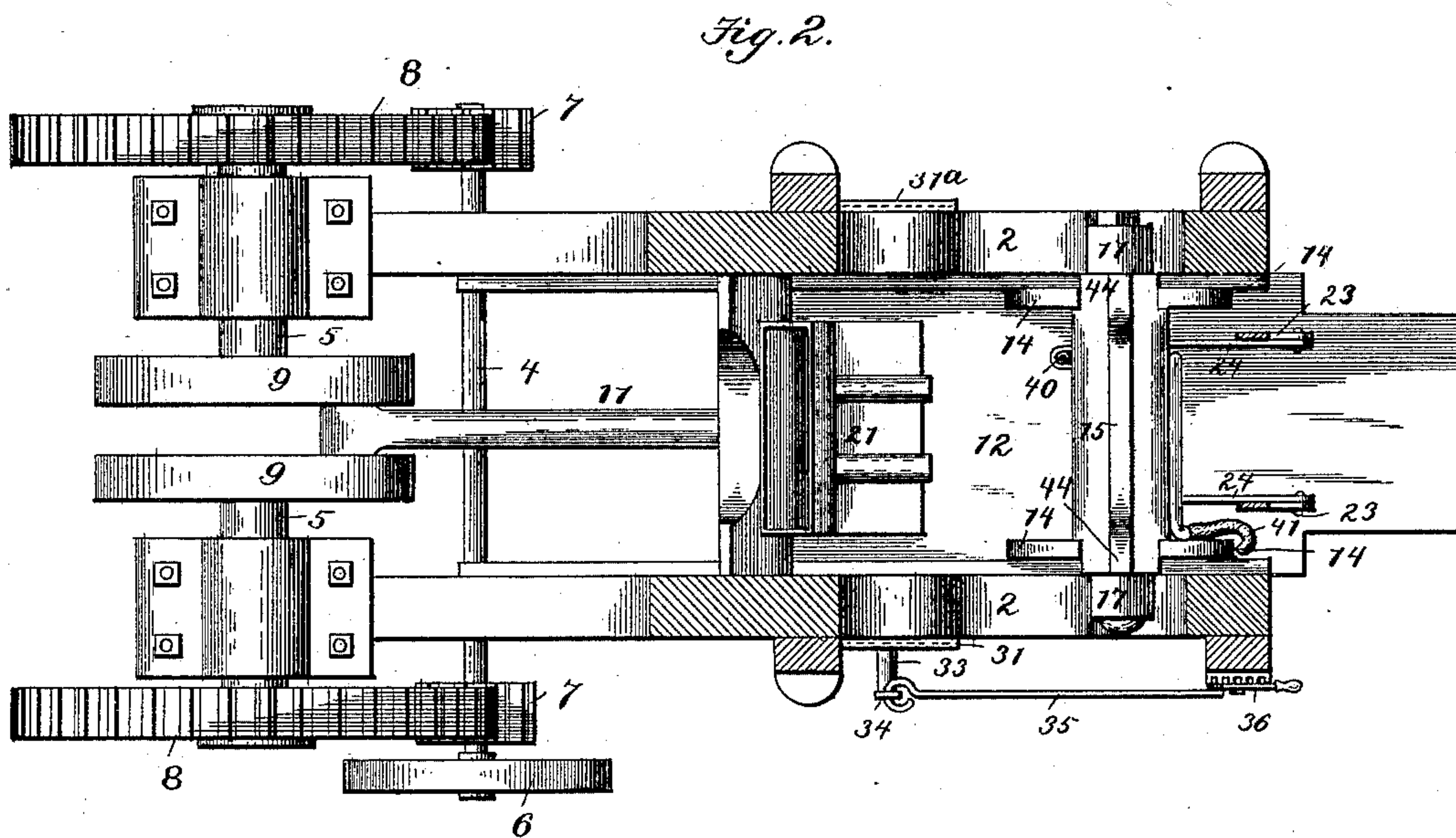
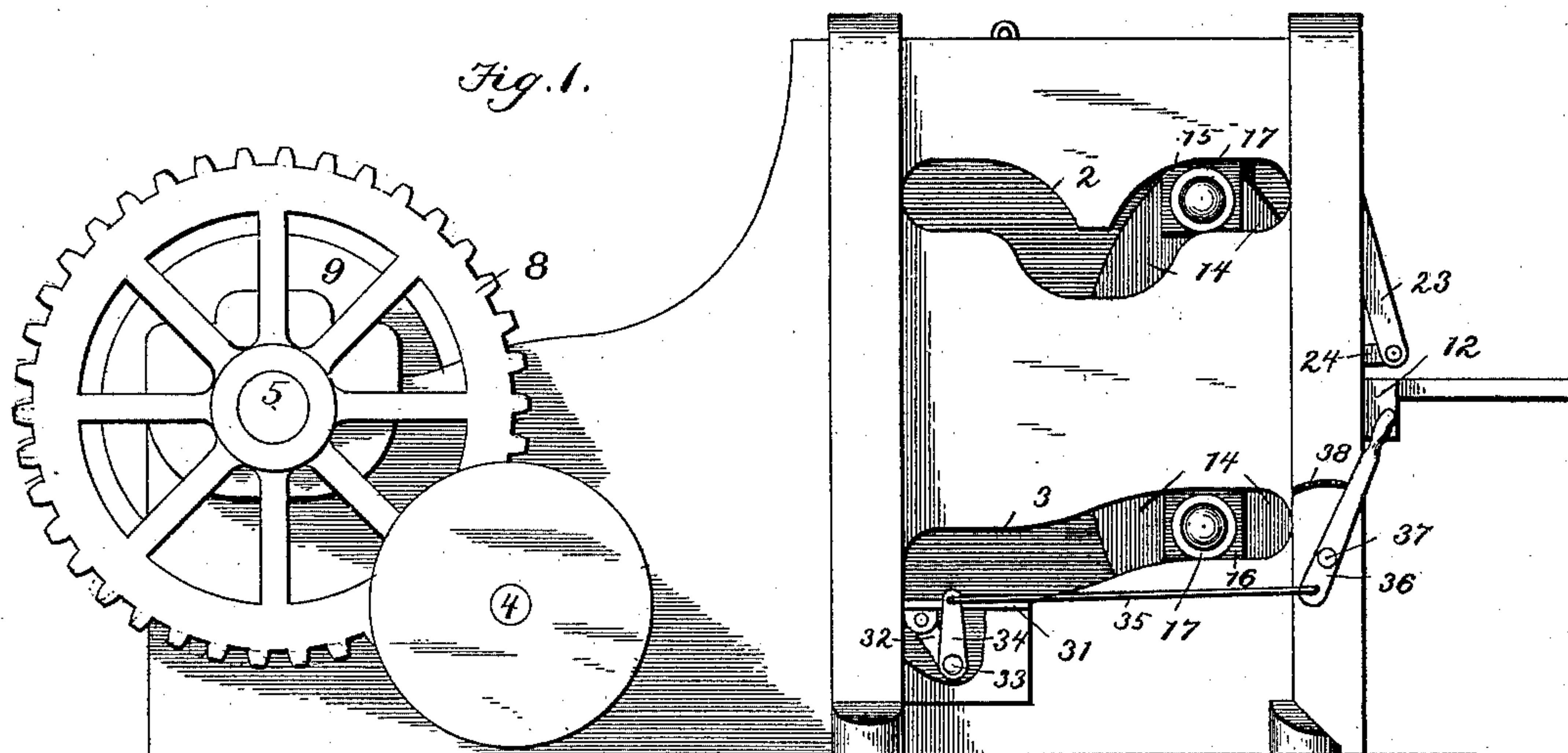
(No Model.)

3 Sheets—Sheet 1.

G. A. BLINN.
BRICK PRESS.

No. 463,246.

Patented Nov. 17, 1891.



Witnesses:
J. E. Robertson
J. E. Robertson

Inventor
George A. Blinn
By *J. W. Robertson*
Attorney.

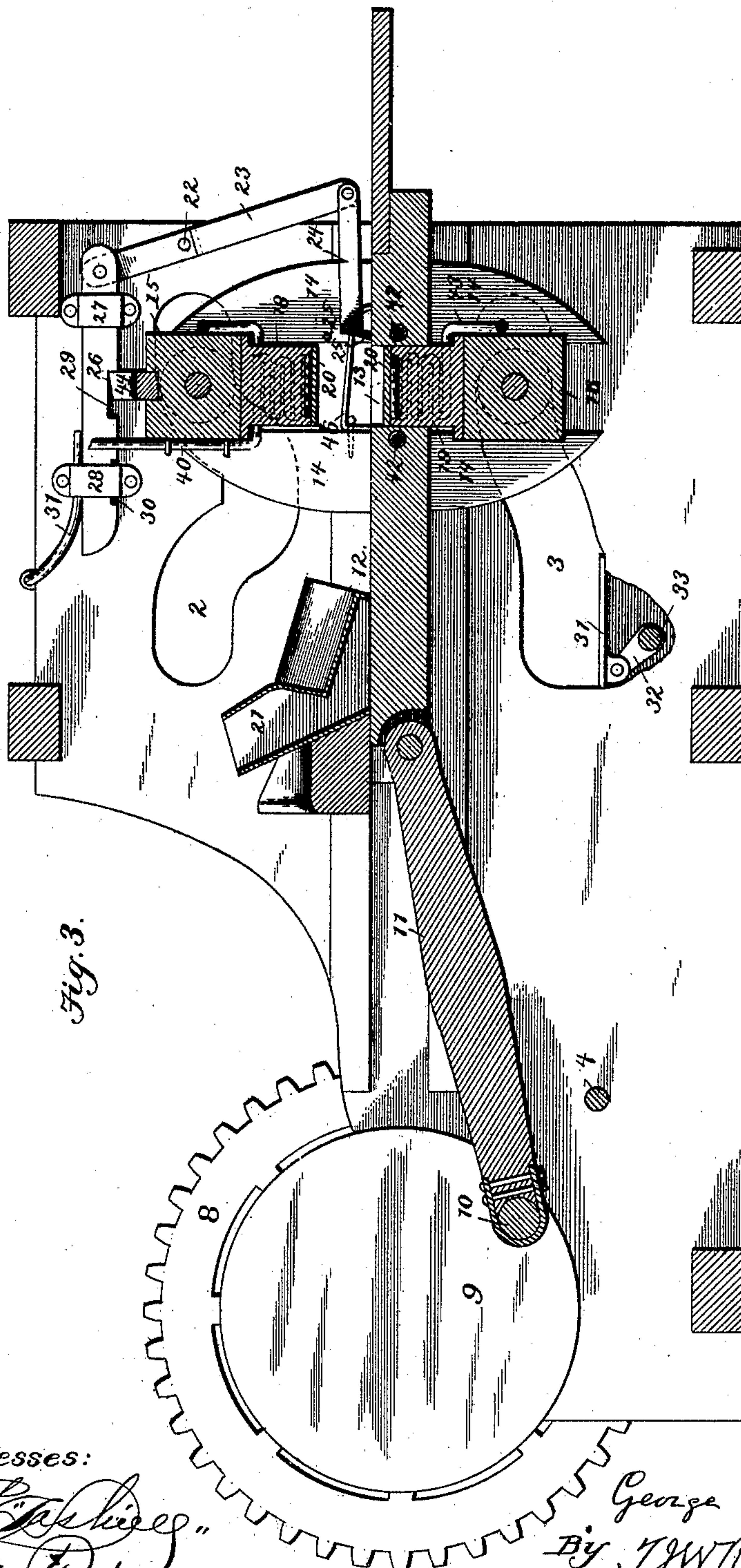
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3 Sheets—Sheet 2.

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Witnesses:

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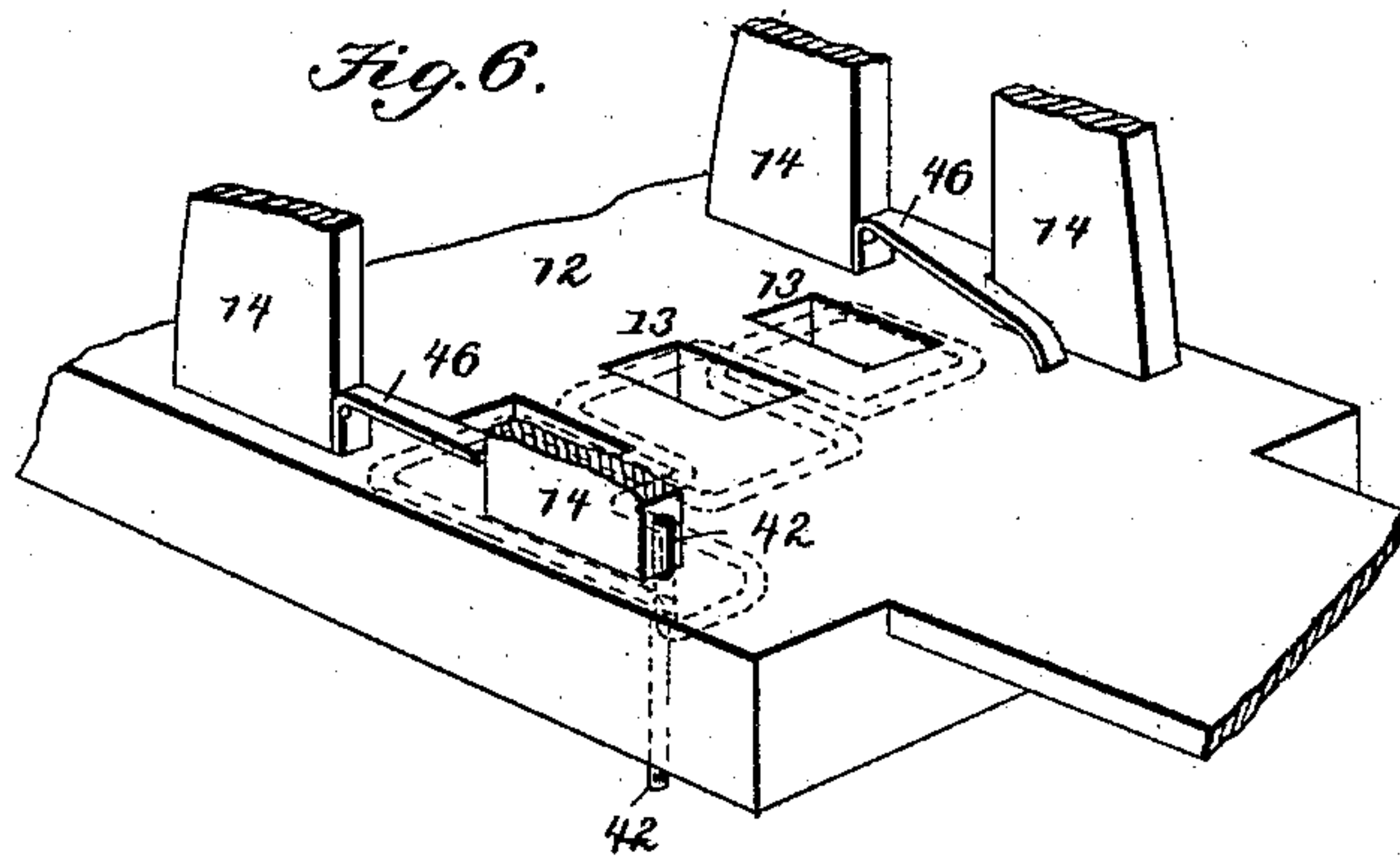
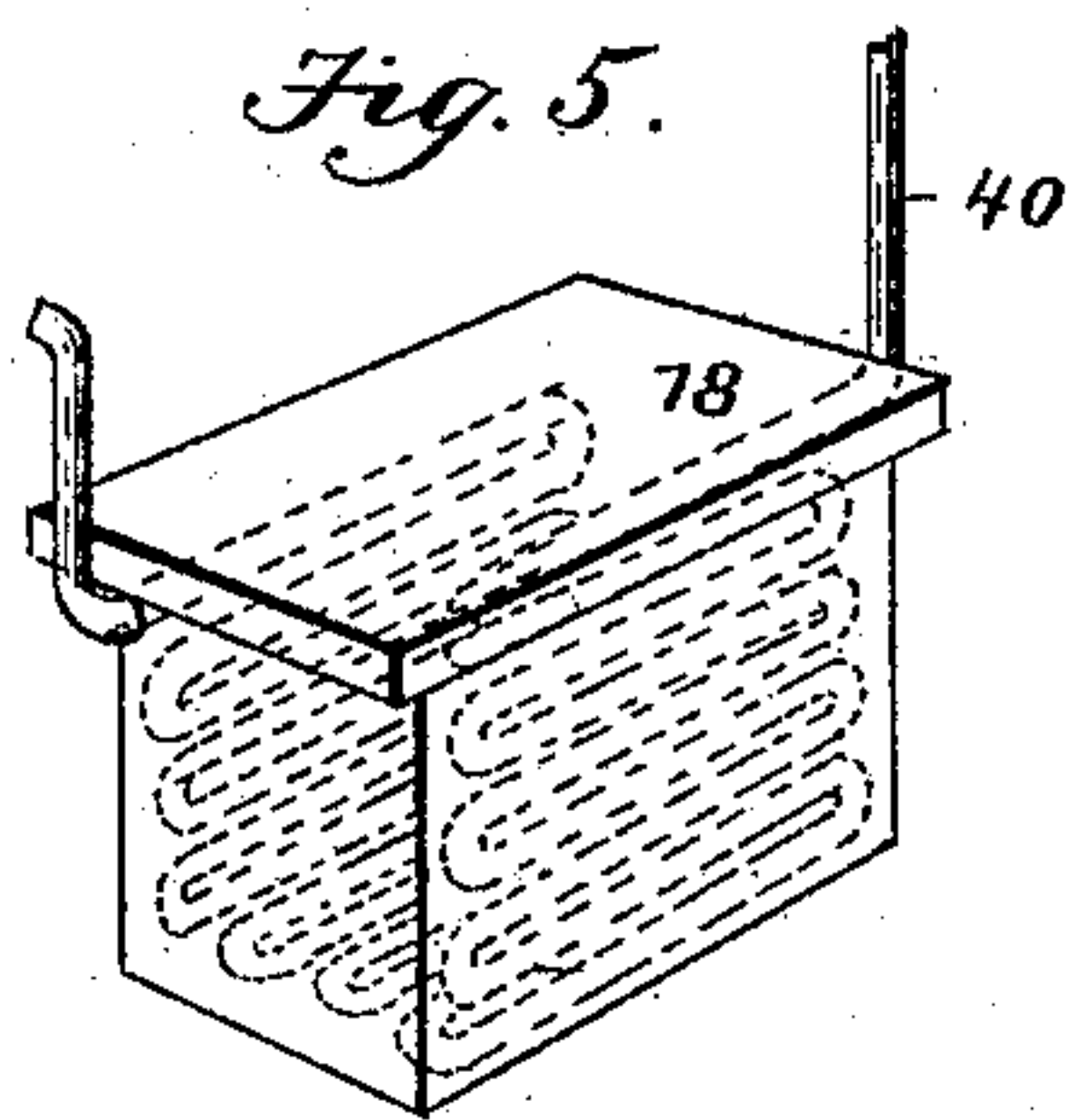
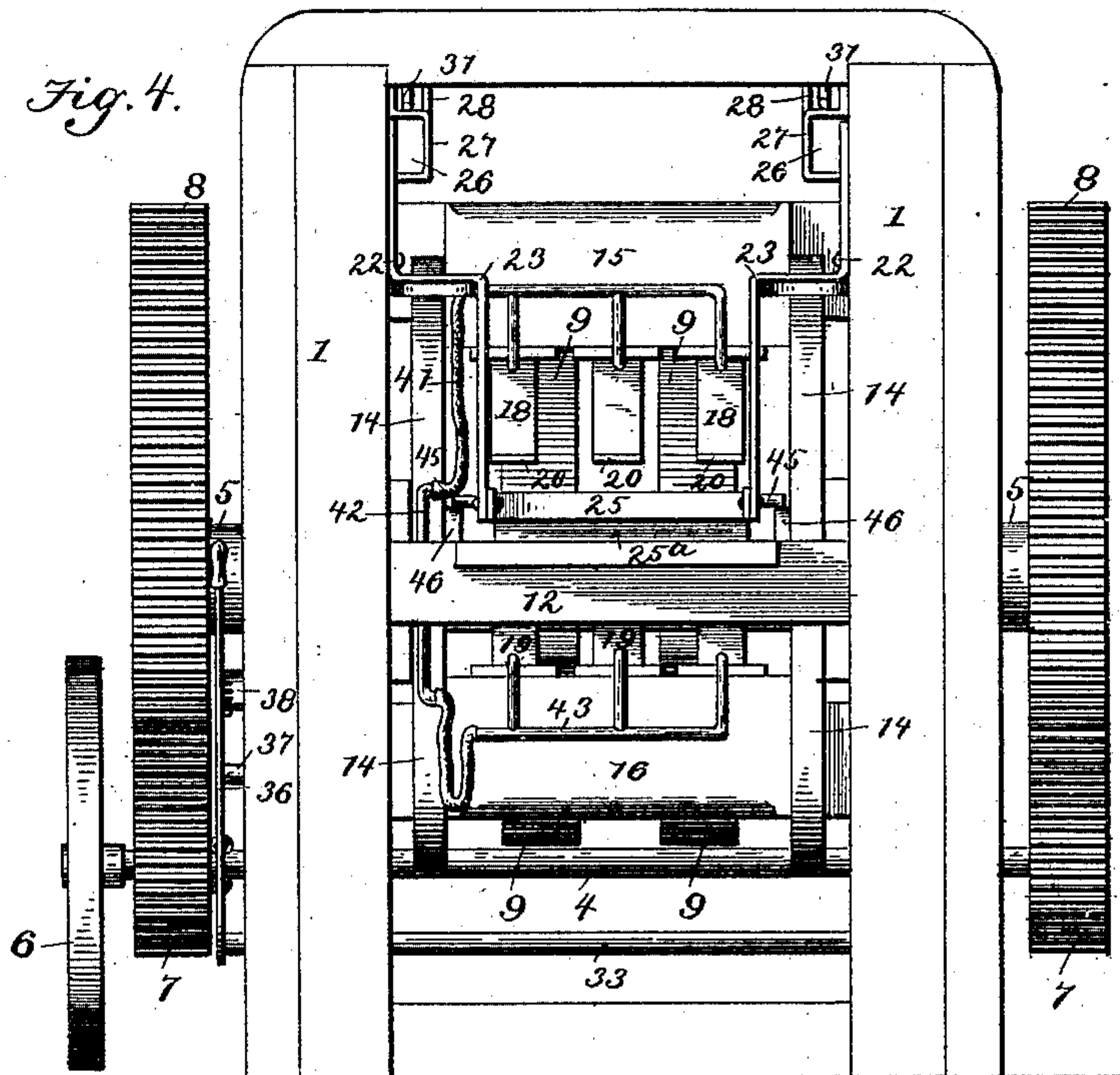
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3 Sheets—Sheet 3.

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UNITED STATES PATENT OFFICE.

GEORGE A. BLINN, OF DENVER, COLORADO.

BRICK-PRESS.

SPECIFICATION forming part of Letters Patent No. 463,246, dated November 17, 1891.

Application filed February 26, 1891. Serial No. 382,941. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. BLINN, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Brick-Presses, of which the following is a specification, reference being had therein to the accompanying drawings.

This improvement is designed to provide a brick-press which shall be cheaply made, powerful and convenient in operation, and durable in use; and the invention consists in the peculiar construction, arrangement, and combination of parts hereinafter more particularly described, and then definitely claimed.

In the accompanying drawings, Figure 1 shows a side view of a press constructed according to my improvement. Fig. 2 is a plan of the same with part of the frame cut away. Fig. 3 is a vertical longitudinal central section of the same. Fig. 4 is an end view. Figs. 5 and 6 are details.

Referring now to the details of the drawings by letter, 1 is the frame of the press, having in each side peculiarly-formed slots 2 3 and provided with bearings for the driving-shaft 4 and the counter or crank shaft 5. On said driving-shaft 4 is mounted a belt-pulley 6 and pinions 7, which latter mesh with gears 8, mounted on the shaft 5, each of which shafts is provided with face-plates 9, connected by wrist-pin 10. It is obvious, however, that the said shaft 5, face-plates 9, and wrist-pin 10 may be replaced by a single shaft having a crank in its center, if preferred.

Attached to the wrist-pin is a pitman 11, connected in any suitable manner with a mold-bed 12, having molds 13 formed therein and having at each side guides 14, in which work cross heads 15 and 16, having anti-friction rollers 17 working in the slots 2 and 3. Attached to these cross-heads are the upper and lower plungers 18 and 19, carrying die-plates 20, as shown. Between the sides of the frame 1 is bolted the feed-hopper 21, having its upper side inclined and provided with channels that pass between the upper set of plungers 18 as the latter move backward.

Pivoted at 22 to the sides of the frame are levers 23, having pivotally secured to their lower ends the arms 24 of the deliverer 25,

whose lower end is provided with a brush 25^a, preferably made of three-ply rubber webbing or packing. The upper ends of these arms are pivoted to slides 26, working in guides 27 and 28 and provided with two notches 29 and 30. Above each side is shown a spring 31, arranged to press the slide downward, so as to normally hold the notch 30 in the guide 28, and thus keep the deliverer stationary during a part of the time the press is in motion. At the lower end of the slot 3 are adjustable plates 31, which are adjusted by means of arms 32, set on a rock-shaft 33, having an arm 34, which is connected by the rod 35 to the lower end of the lever 36, which is pivoted to the frame at 37 and catches in the notches in curved rack 38, so as to hold said rock-shaft and arms at any desired position.

The press may be used with very good success when constructed as so far described; but to produce the best effect I heat the mold-bed and plungers by steam, as hereinafter described.

40 represents a steam-pipe, which may be connected with the steam-boiler of the engine that drives the press, or it may be connected with the exhaust of the engine. Said pipe is continued down into the plunger shown at the left hand in Fig. 4, and after passing backward and forward in the bottom of said plunger emerges again and runs along the front of the cross-head 15 to a flexible or jointed pipe 41, dropping branches on its way to the other plungers suspended from said cross-head 15. This flexible pipe is connected with the upper end of a pipe 42 running around the molds, as shown in Fig. 5, and whose other end is connected to a series of pipes 43 running through the lower plungers, as shown in Fig. 3.

I do not propose to limit myself to any particular arrangement of the pipes for supplying steam, nor to pipes in cast metal, as shown in Figs. 5 and 6, for the mold and plungers may be made with steam-channels cast directly in the body of the metal of which they are made, if preferred.

The operation is as follows: Motion being given to the press by a belt on the pulley or by any convenient means and the hopper being filled with the brick material, as soon as the mold-bed is drawn backward far enough

to bring the molds under the hopper the molds become filled, and as the mold-bed moves forward the lower plungers begin to rise and the upper ones to fall until the bricks have received the desired amount of pressure, when both sets of plungers rise, leaving the upper set clear of the bricks and the latter on a level with the top of the mold-bed, at which time the lugs 44 on the cross-head 15 catch in the notches 29, and as they carry the slides 26 forward the levers 23 carry the deliverer backward. On each side of the deliverer is a pin 45, which slides over the spring 46, attached to the guides 14, thus lifting the deliverer over the bricks, and then falling down over the end of the spring drops the deliverer behind the bricks, so that as the cross-head retreats it carries back the slides 26 and the deliverer moves forward, raking the brick off of the lower plungers. As soon as the slides 26 in their backward movement carry the notches 30 into the guides 28 the spring 31 presses them downward, and thus they are securely held in that position, as the lugs 44 drop out of the notches 29 and have no effect on them until the cross-head again comes forward. As the bed continues to move backward and the deliverer is stationary the bricks are drawn forward onto the extreme end of the bed, from which they may be removed by hand. The amount of clay to be fed into the machine will be regulated by raising or lowering the plates 31, which may be readily accomplished by means of the lever 36, rod 35, arms 32 and 34, whose operation will easily be seen.

From the above description it will be seen that I have produced a machine that is simple, cheap to construct, very powerful, easily operated, and not likely to get out of order.

As the molds and plungers are heated by steam, the bricks do not stick to them, and consequently all the bricks are of perfect shape.

What I claim as new is—

1. In a brick-press, the combination of a frame provided with slots at each side, cross-heads working in said slots, carrying oppositely-moving plungers, and a reciprocating mold-bed moving between said cross-heads, substantially as described.

2. In a brick-press, the combination of a frame provided with slots at each side, cross-heads working therein, carrying oppositely-moving plungers, a reciprocating mold-bed, and a deliverer operated by the said mold-bed, substantially as described.

3. In a brick-press, the combination of a frame provided with slots at each side, a reciprocating mold-bed provided with side guides, and cross-heads carrying oppositely-moving plungers and working in said guides and slots, substantially as described.

4. In a brick-press, the combination of a frame provided with slots at each side, a reciprocating mold-bed working in guides on said frame and provided with guides at each side, cross-heads carrying oppositely-moving plungers and working in said guides and slots, and a deliverer operated by the motion of the mold-bed, substantially as described.

5. In a brick-press, the combination of a frame provided with slots at each side, a reciprocating mold-bed working in guides on said frame and provided with guides at each side, cross-heads carrying oppositely-moving plungers and working in said guides and slots, a deliverer operated by the motion of the mold-bed, and means, as the pin 45 and spring 46, for raising said deliverer as it passes backward over the bricks, substantially as described.

6. The combination, in a brick-press, of a frame having slots for raising and lowering the lower plunger, and the adjustable plates in the bottom of said slots for regulating the amount of feed, substantially as described.

7. The combination, in a brick-press, of a frame for raising and lowering the lower plunger, movable plates forming the lower wall of said slots, the arms 32, operating on said plates and mounted on the rock-shaft 33, and the arm 34, mounted on said rock-shaft and connected by the rod 35 to the adjusting-lever 36, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 14th day of February, 1891.

GEORGE A. BLINN.

Witnesses:

JNO. J. SHOTWELL,
W. J. MATHERLY.