No. 881,133. PATENTED MAR. 10, 1908.

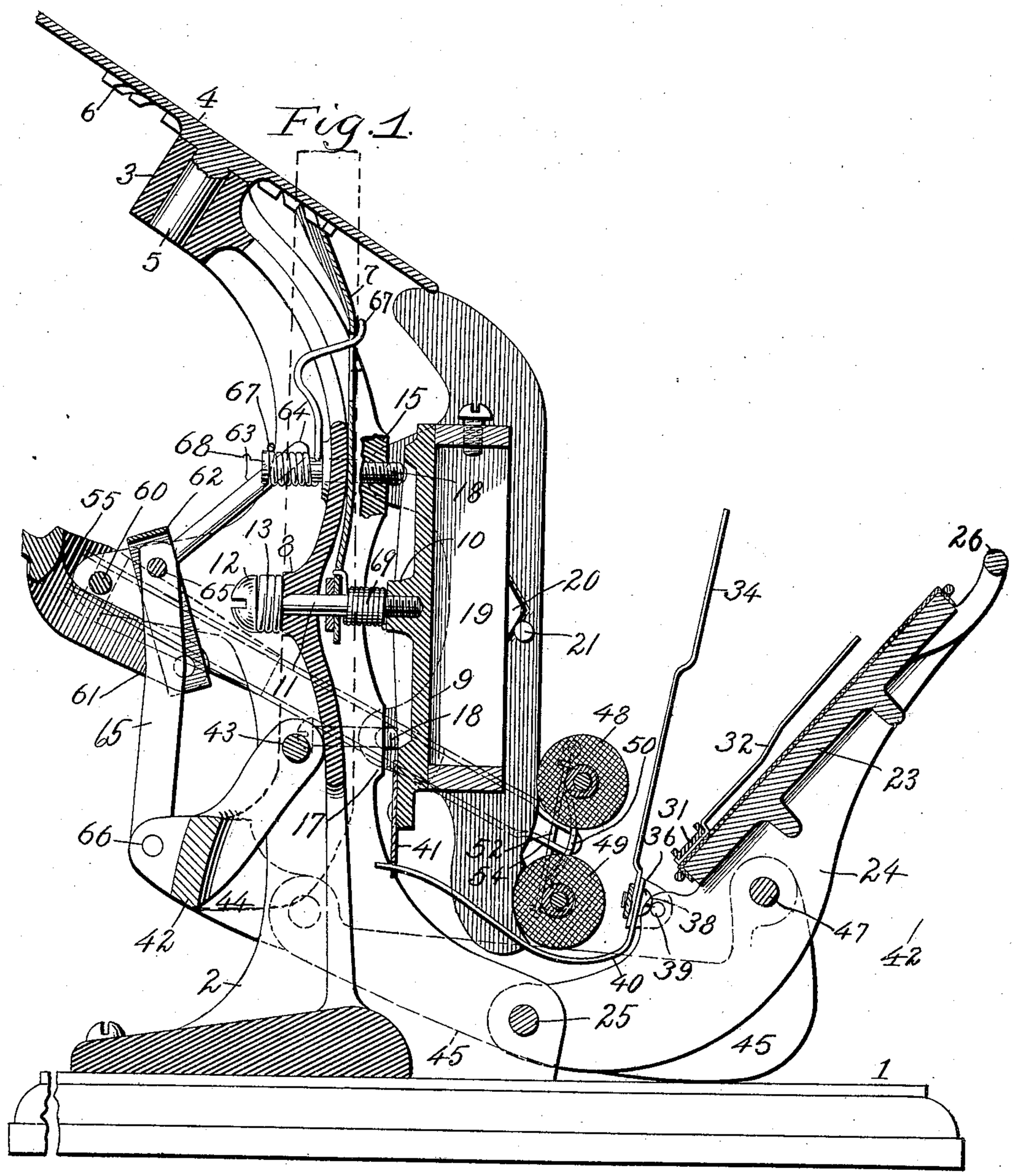
H. T. KINGSBURY.

PRINTING PRESS.

APPLICATION FILED MAR. 25, 1907.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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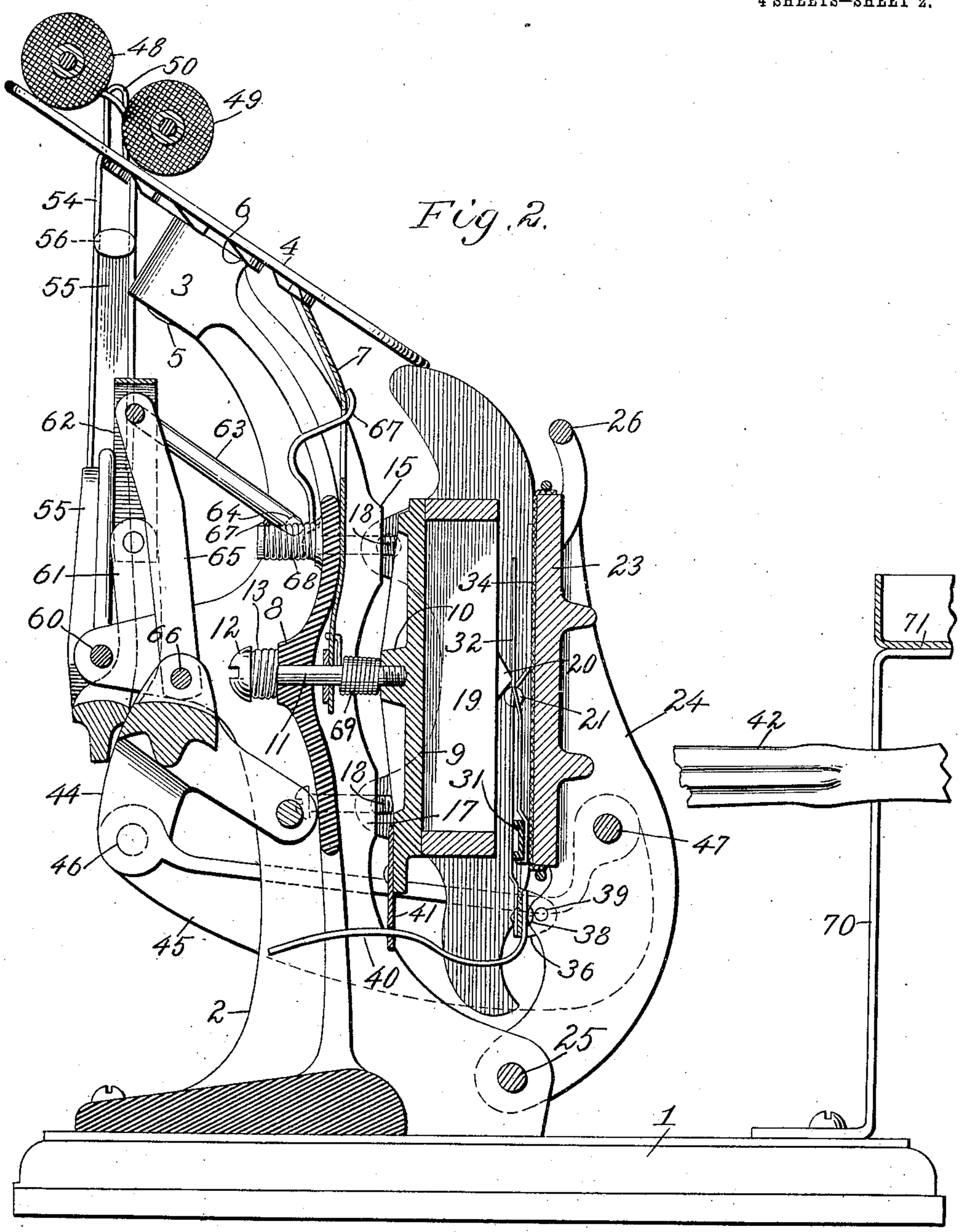
4 SHEETS—SHEET 2.

Fig. 2.



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4 SHEETS—SHEET 3.

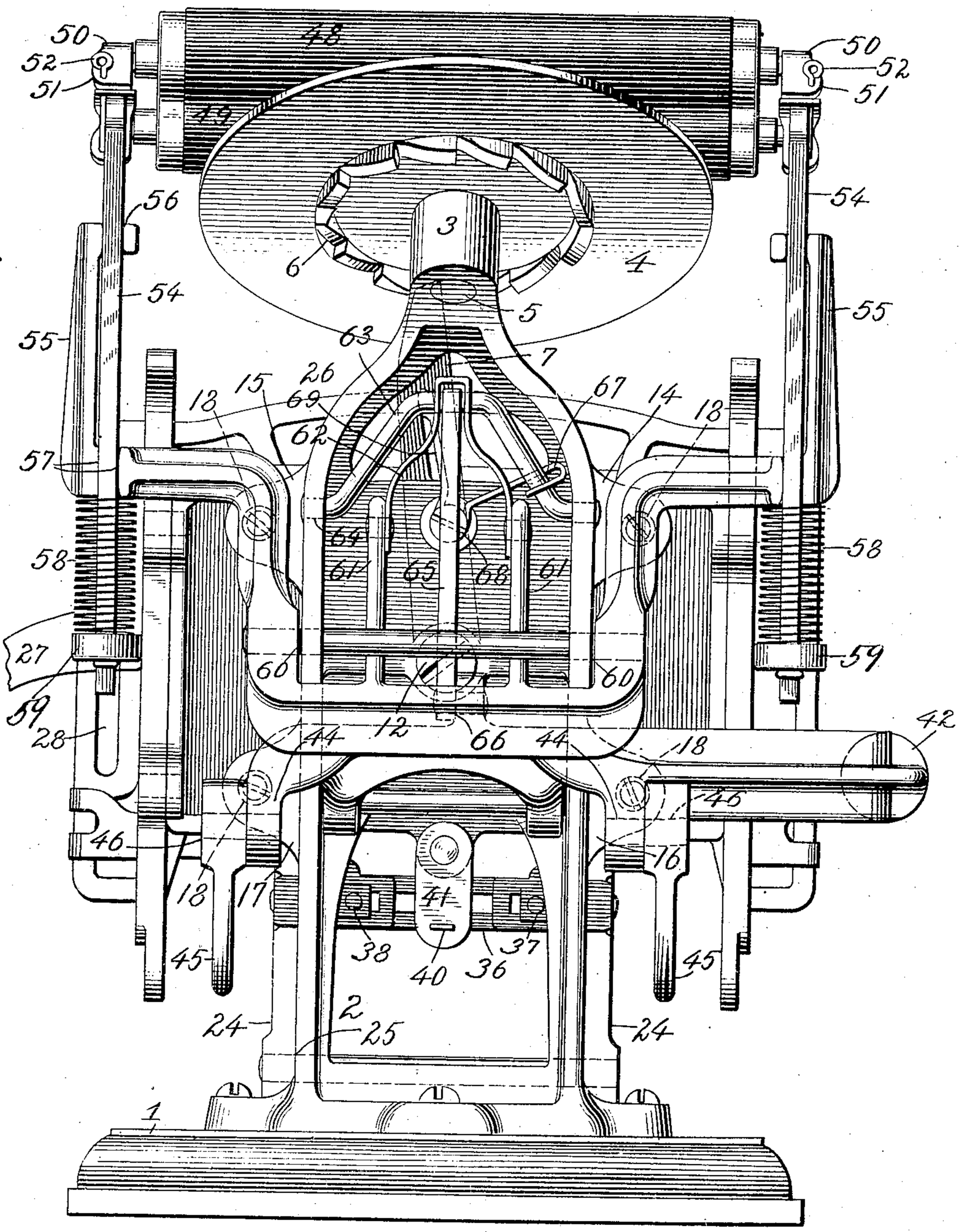

Fig. 3.

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No. 881,133. PATENTED MAR. 10, 1908.

H. T. KINGSBURY.

PRINTING PRESS.

APPLICATION FILED MAR. 26, 1907.

4 SHEETS—SHEET 4.

Fig. 4.

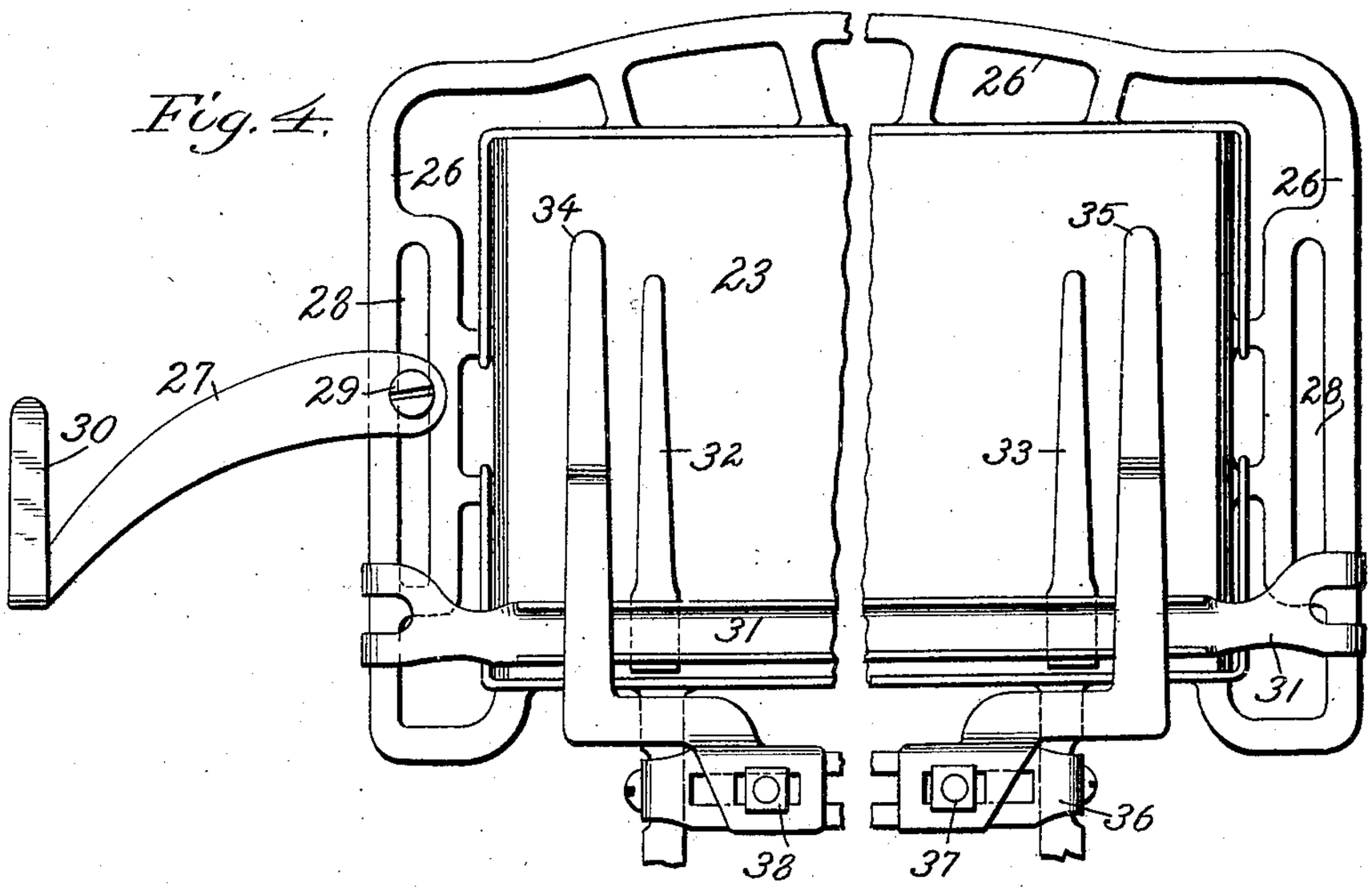


Fig. 8.

Fig. 9.

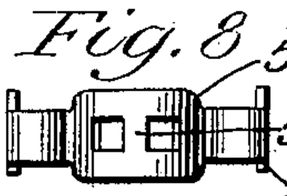


Fig. 7.

Fig. 5.

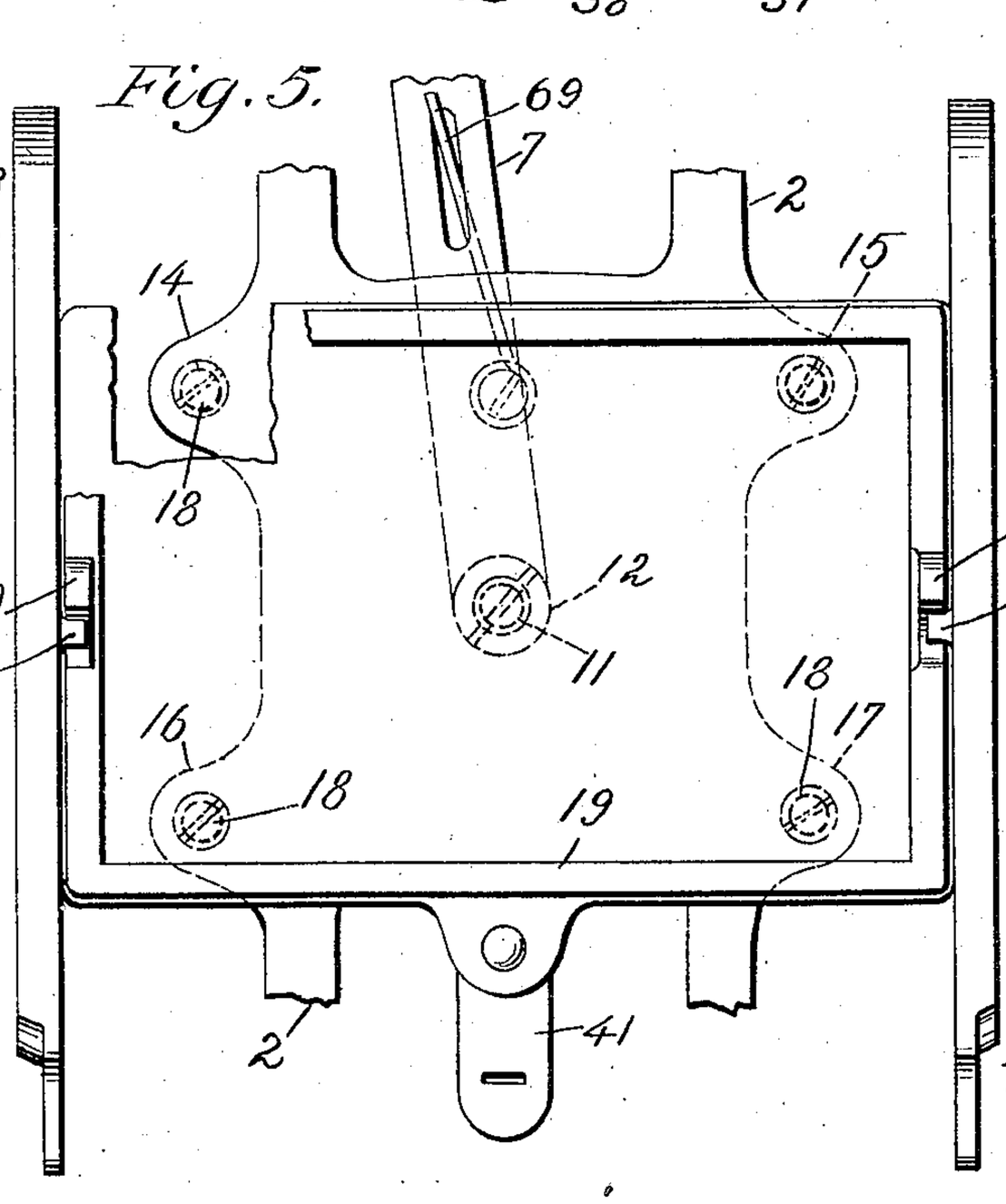
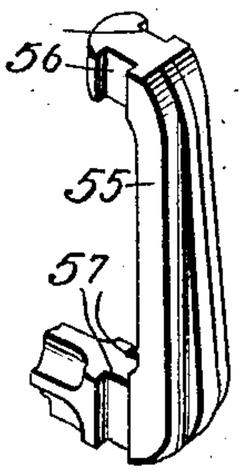


Fig. 6.



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UNITED STATES PATENT OFFICE.

HARRY T. KINGSBURY, OF KEENE, NEW HAMPSHIRE.

PRINTING-PRESS.

No. 881,133. Specification of Letters Patent. Patented March 10, 1908.

Application filed March 25, 1907. Serial No. 364,370.

To all whom it may concern:

Be it known that I, HARRY T. KINGSBURY, a citizen of the United States, residing at Keene, in the county of Cheshire, State of New Hampshire, have invented certain new and useful Improvements in Printing-Presses, of which the following is a description, reference being had to the accompanying drawing, and to the letters and figures of reference marked thereon.

My invention relates to new and useful improvements in printing presses and particularly to that class of presses provided with a platen which is mounted to rock toward and from a stationary bed over which an oscillating inking roller is moved.

The object of my invention is to render more efficient the arrangement of levers for operating the platen and ink roller and to improve certain details of structure hereinafter stated whereby small hand operated presses may be capable of a greater range of work.

The invention consists in certain improvements in the mechanism for rocking the platen and oscillating the inking roller.

The invention further consists in the mechanism for supporting the ink roller.

The invention still further consists in an improvement of the platen.

The invention also consists in certain improvements in the gages which support the article being printed.

The invention still further consists in the novel improvements, arrangements of parts hereinafter described, and claimed.

In the drawings which show one embodiment of my invention: Figure 1 is a side view partly in section of my improved press showing the platen in its extreme outer position. Fig. 2 is a side view partly in section with the platen in its closed position. Fig. 3 is a rear elevation of my improved press. Fig. 4 is a top plan view of the platen showing the arrangement of the gages. Fig. 5 is a plan view of the bed and the chase. Fig. 6 is a perspective view of one of the ink roller carrying arms. Fig. 7 is a side view of the sliding support for the ink roller. Fig. 8 is a top plan view of the yoke for supporting the ink rollers. Fig. 9 is a side view of the same.

My improved press consists of a supporting base 1 on which is rigidly supported a frame 2 carrying the various members of my improved press. Said frame extends vertically and carries at its upper end a bearing 3 in which is supported the ink distributing plate 4. Said ink distributing plate 4 is provided with an integral stem 5 which fits into and turns in said bearing 3. On the under side of the ink distributing plate is a ratchet 6 which is engaged by a suitable pawl 7 so that at each operation of the platen, the ink distributing plate is rotated the distance of one tooth of the ratchet.

The frame 2 is provided with an extending boss 8 which serves as a means for supporting the bed 9 of my press. Centrally of the rear side of the bed 9 is a threaded lug 10. Fitting in the threaded lug 10 is a bolt 11 which extends through the boss 8 in the frame 2 and has a slotted head 12. Between the slotted head 12 and the boss is a spring 13. Said spring 13 normally tends to crowd the bed of the press toward the framework 2. The framework 2 as shown in Figs. 3 and 5, is provided with outwardly extending side wings 14, 15, 16 and 17. Each of these side wings carries a screw 18. These screws 18 engage the rear side of the bed 9 and receive the strain of the printing operation of my press. The spring 13 engaging the slotted head of the bolt 11 holds the bed plate in contact with said screws.

The chase 19 as shown in Fig. 5, is provided with side lugs 20, 20 which engage suitably projecting studs 21, 21 on the ink roller guides 22, 22. These lugs 20 serve as a means to retain the chase on the bed of the press.

My improved platen 23 is carried by an arm 24 pivoted at 25 to the frame 2 of the press. It will be noted that the pivot 25 of the platen carrying arm is substantially in the plane of the face of the chase so that as the platen is moved into contact with the chase it will be moving substantially perpendicularly to the face of the type. In order that the plane of the face of the type or chase may be slightly adjusted in order to accommodate any inaccuracy of construction I have provided the four screws 18 above noted. By adjusting these screws the plane of the type faces may be properly positioned so that a clear and even impression will be obtained.

The platen proper is provided with an extension 26 which extends outward from each side thereof and across the top. The object of this extension on the platen is to form a rest for the article being printed, so that

articles of greater size than the face of the platen may be properly supported and printed. As a further means for supporting articles which are to be printed and which are of greater dimensions than the platen, I have provided a supporting arm 27. The extension 26 on the platen is provided with a slot 28 and said arm 27 is secured to the platen extension by a suitable clamping screw 29 passing through the slot 28 in the platen extension. It will be obvious however, that the supporting arm may be secured to the platen in any other desired manner. The outer end of the supporting arm 27 is provided with an up-turned finger 30. Said arm is properly located on the platen so that when a sheet of paper to be printed is properly placed upon the platen the extended portion of the sheet rests on the arm 27 between the finger 30 and the body portion of the arm. The platen 23 is also provided with an adjustable support 31 which extends across the platen and has its outer ends bent around the extension on the platen and grips the same with sufficient pressure to hold the support in different adjusted positions. This support 31 is provided with gage arms 32, 33 which extend underneath the support 31 and are bent to form a recess to receive said support. Mounted upon the platen supporting arm 24, are the retaining fingers 34 and 35. Said retaining fingers are adjustably connected to a cross bar 36 by suitable screws 37 and 38. Said cross bar 36 is pivoted at 39 to the arm 24. The cross bar 36 is also provided with a spring arm 40, see Fig. 2. Said arm 40 extends through an opening in a depending finger 41 carried by the bed of the press. It will be obvious that as the platen is swung to and from the bed of the press that the arm 40 will operate to swing the retaining fingers 34, 35 into contact with the article to be printed carried by the platen.

As a means for swinging the platen on its pivot toward and from the bed of the press, I have provided a hand operated lever 42. Said lever is pivoted to the supporting frame at 43 and carries an arm 44 to which is pivoted a link 45 by a pivot bolt 46. The other end of the link 45 is bent upward and pivoted at 47 to the arm 24 of the platen. The pivotal connection between the arm 44 and link 45 when the platen is in its extreme outward position is substantially in the vertical plane of the pivot point of the lever while the position of this pivotal connection when the platen is closed is in substantially horizontal line with the pivotal point of the lever. The result of this disposition of the parts is that as the lever is turning to close the platen upon the bed of the press the movement of the platen will be relatively slow as the same engages the bed and great leverage will be secured at this time.

The inking rollers 48 and 49 each have extended bearings which are carried by the yokes 50. Said yokes 50 as shown in Figs. 8 and 9 are stamped out of a single piece of metal and have their ends deflected and bent back upon themselves as at 51 to form a proper supporting bearing for the journals of the inking rollers. The outer ends of the yoke are provided with openings to receive a pin 52 which serves to retain the journals of the rollers in their bearings. The yoke 50 is provided intermediate its ends with openings forming a cross bar 53 (see Fig. 8). The member 54 is bent upon itself and surrounds the cross bar 53 and thus forms a means for supporting the inking rollers. The inking rollers are carried by an arm 55 shown in detail in Fig. 6. Said arm is provided with ways 56 and 57 in which slides the member 54. The spring 58 surrounding the member 54 and bearing at one end against the arm 55 and at its other end against a collar 59 carried by the member 54 serves normally to force the inking rollers into contact with the distributing plate 40 and also into contact with the bed of the press. The side pieces 22 on the bed of the press are properly curved so that as the inking roller-carrying arms are oscillated, the rollers will run across the face of the type and the distributing plate 4.

The arm 55 which supports the inking rollers receives its oscillation from the lever 42 through certain intermediate links and levers. The arm 55 is pivoted as at 60 to an outwardly extending lug carried by the supporting frame 2. This arm 55 has inwardly formed members 61, 61, see Fig. 3. Between said members 61, 61 is a yoke 62 which is pivoted to the outer ends of the members 61. A similar yoke 63 is pivoted to the frame 2, at 64 and at its outer end is pivotally connected to the yoke 62 by extending through an opening in the said yoke 62. A link 65 pivoted to the yoke 62 and the yoke 63 at their point of pivotal connection is also pivoted at 66 to a lug carried by the operating lever 42. It will thus be seen that as the operating lever is swung about its fulcrum the link 65 will cause the yoke 63 to swing about its pivotal support carrying with it the yoke 62 and as the yoke 62 is forced upward as shown in Fig. 2 the arms 55 will be moved carrying the inking rollers across the printing type on to the ink distributing plate. The disposition of the pivots of the said link and yoke is such that upon a uniform movement of the operating lever the inking rollers are moved rapidly across the bed of the press and then slowly upon the distributing plate thus giving sufficient time for the platen to move into contact with the type.

The pawl 7 for operating the distributing plate is pivoted on the bolt 11 and receives its oscillation from a spring finger 67 mount-

ed on a stud 68 carried by the supporting frame 2. Said spring finger 67 encircles the stud 68 and is connected to the yoke 63 as clearly shown in Fig. 3 of the drawing. As the yoke 63 swings about its pivotal support the finger 67 is oscillated, thus operating the pawl 7. The oscillating pawl 7 is held in contact with the ratchet by means of a spring 69 which bearing against the lower end of the pawl, holds the free end thereof, in contact with the teeth. As a suitable means for holding the articles to be printed, I have provided a supporting arm 70 carried by the base 1 which has mounted on its upper end a supporting shelf 71 for said articles.

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

1. A printing press comprising a supporting frame, a bed carried thereby, a rocking platen pivoted to said supporting frame and means for rocking said platen including a rocking lever pivoted to the frame and having a downwardly projecting arm, a link pivoted to said arm and having an upwardly turned end pivoted to said platen; substantially as described.

2. A printing press comprising a supporting frame, a bed carried by said supporting frame, a platen pivoted to said supporting frame and means for operating said platen including a rock shaft pivoted to said supporting frame and having a downwardly projecting arm, a link pivoted to said arm and extending underneath said platen, said link having an upwardly extending arm pivotally connected to said platen; substantially as described.

3. In a printing press, a supporting frame, an inking roller, swinging arms supporting the roller, a pair of yokes forming a toggle joint connection between the arms and the frame, a main operating lever, and means for operatively connecting the same to said toggle joint.

4. In a printing press, a supporting frame, a rocking platen, an operating lever, links connecting the lever to the platen, an inking roller, swinging arms carrying the roller, a pair of pivotally connected yokes, one connected to the arms and the other to the frame, a rocker arm carried by the operating lever, and a link extending from the rocker arm to the connecting pivot of the yokes.

5. A printing press comprising a supporting framework, a bed carried thereby, a rocking platen, inking rollers, swinging arms for carrying said inking rollers and means for operating said inking rollers and platen including rocker arms, links for connecting said rocker arms to said platen, a swinging yoke connected to the inking roller supporting arms, a link connecting said swinging yoke to said rocker arms and a second swinging yoke connected to said link and to the supporting frame; substantially as described.

6. A printing press including in combination a supporting frame, a bed carried thereby, an ink distributing plate carried by said supporting frame, inking rollers, swinging arms for supporting said inking rollers, endwise sliding members connected to said swinging arms and carrying said inking rollers, springs interposed between said swinging arms and collars carried by said sliding members, a pair of pivotally connected yokes extending between the swinging arms and the frame a rocker arm, link intermediate said rocker arm and said yokes.

7. A printing press comprising a supporting frame, a bed carried thereby, an ink distributing plate carried by said supporting frame, inking rollers, means for operating said inking rollers including swinging arms, slidable members having parallel arms and engaging opposite sides of said swinging arms, yokes having cross bars engaged by said members, the outer ends of each yoke being bent to form bearings for the journals of said inking rollers, and means for retaining said journals in said bearings.

8. A printing press comprising a supporting frame, a bed carried thereby, an ink distributing plate carried by said supporting frame, inking rollers, means for operating said inking rollers including swinging arms, a member bent upon itself and engaging opposite sides of said swinging arms, a yoke having a cross bar engaged by said member, the outer ends of said yoke being bent to form bearings for the journals of said inking rollers, and a pin passing through the outer end of said yoke for holding said journals in said bearings.

In testimony whereof I affix my signature, in presence of two witnesses.

HARRY T. KINGSBURY.

Witnesses:
A. O. SPEARE,
W. C. BURDETT.