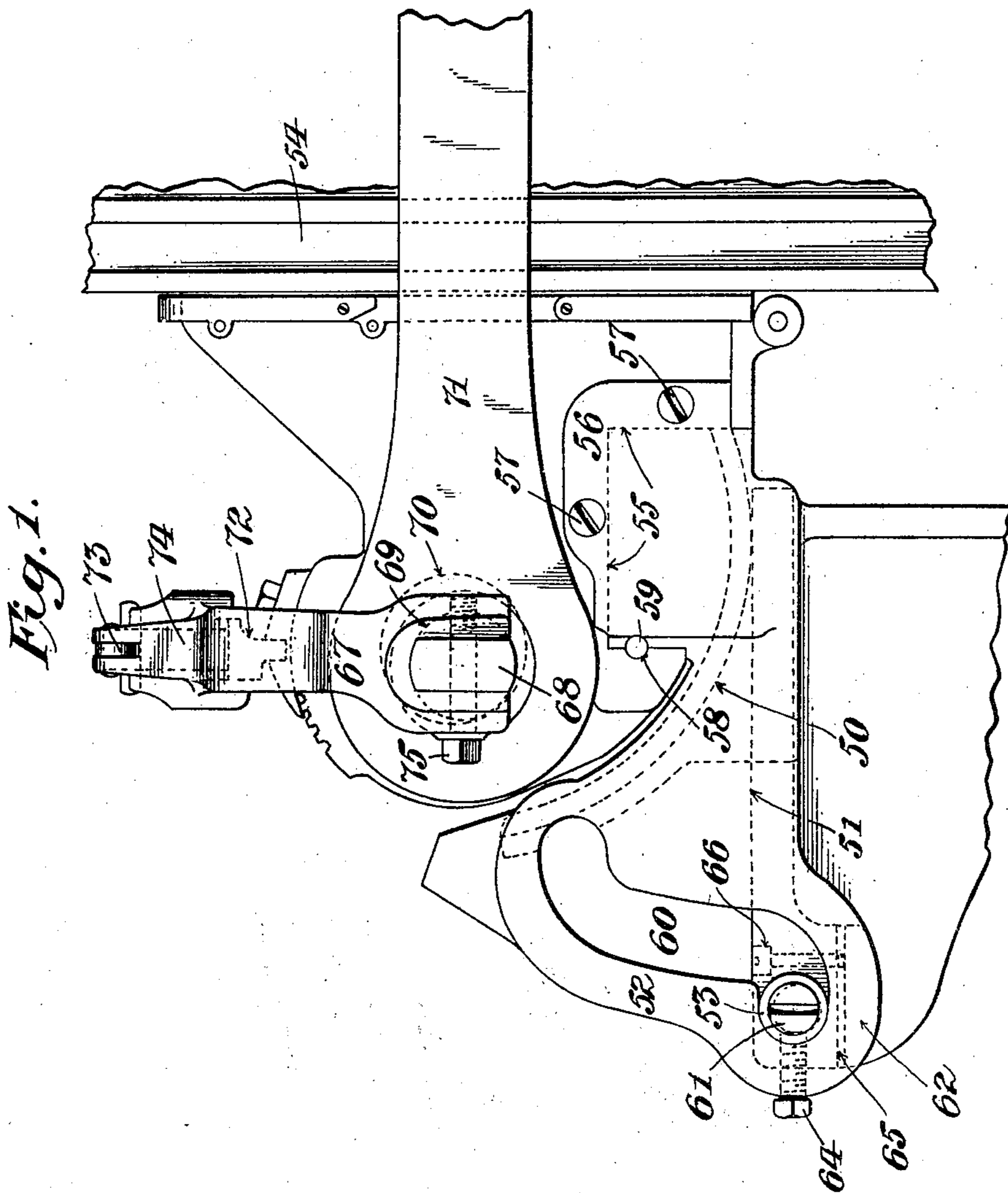


PLATEN PRESS.

Patented Mar. 9, 1909.

2 SHEETS—SHEET 1.

914,531.



Attest:

W. McGrinn
G. Mc Grann.

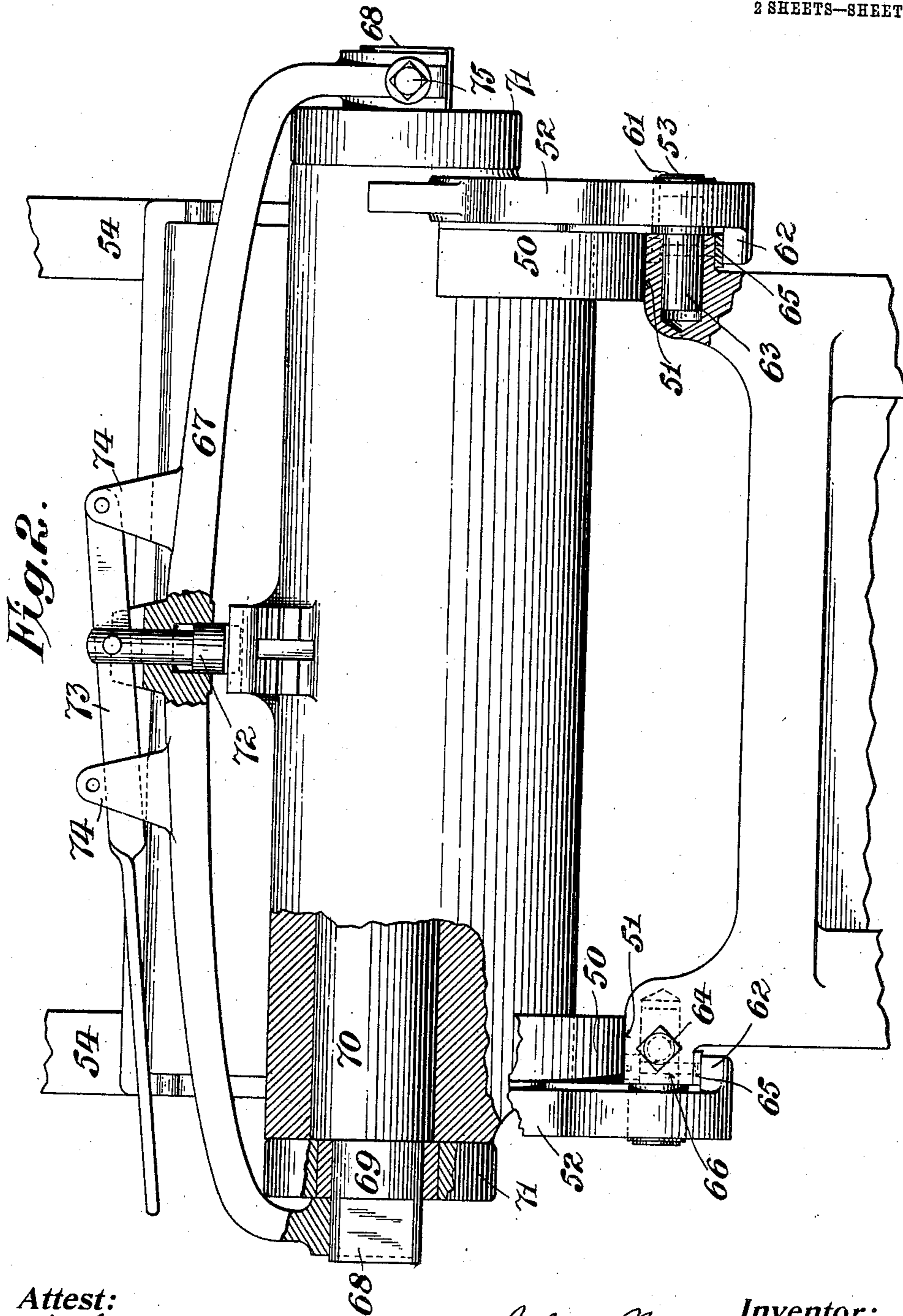
Inventor:

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Noble Wendell & Barnes Att'ys.

914,531.

J. THOMSON.
PLATEN PRESS.
APPLICATION FILED APR. 30, 1908.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN THOMSON, OF NEW YORK, N. Y., ASSIGNOR TO JOHN THOMSON PRESS COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PLATEN-PRESS.

No. 914,531.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed April 30, 1908. Serial No. 430,087.

To all whom it may concern:

Be it known that I, JOHN THOMSON, a citizen of the United States, and a resident of the borough of Manhattan, of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Platen-Presses, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

The invention relates to improvements in the construction of platen presses such as are shown and described in certain of my prior Letters Patent of the United States, to be referred to hereinafter, and more particularly to improvements in the parts of such presses immediately associated with the platen.

The object of the invention is to provide in these presses some additional features which are of considerable practical importance in the operation thereof and also to simplify the construction and assembling of the platen and its associated parts with a view toward reducing the difficulties and cost of manufacture.

The improvements may be embodied in stamping, die and other platen presses, but will find most general application in printing presses; and accordingly, for the purpose of illustrating and describing the said improvements, I have shown in the drawings such a portion of a printing press embodying the same as will enable me to explain the invention fully.

In said drawings:—Figure 1 is a view in side elevation of the platen and its adjacent parts broken away from the rest of the press. Fig. 2 is a front elevation of the same, with some of the parts shown in section.

In the type of press to which I have particular reference, I employ a pair of rockers 50 through which the platen rolls on seats or shelves 51 formed in the frame, and a cam plate and stud 52 and 53 which guide the platen as it moves to and from the bed 54. This is all particularly explained, for instance, in my Letters Patent No. 331,846 dated December 8, 1885. It is obviously desirable, in such cases as the present where the platen and its adjacent parts are relatively heavy bodies, to form all of these parts in one integral piece; as otherwise, under the continuous and considerable strains to which they are subjected, it is difficult to keep the cam plate or plates, the rockers and the

platen rigidly united,—and this, of course, is of first importance. Moreover, on the other hand, if I attempt to form all of these parts from a single piece, I find that the casting thereof not only presents great difficulties, but that the finishing,—particularly the machining of the surfaces of the rockers which is done by a lathe and which on account of the shape of the platen, requires the oscillation of the casting instead of the usual rotation,—involves large expense and special apparatus.

In accordance with my present improvements, I make the rockers 50 in pieces separate from the platen or the bridge of the platen and provide means for accurately positioning the same with respect to the platen and for securing the same rigidly thereto by keying; and I preferably employ two of the guide cams 52 which are formed in plates cast integral with the respective rocker pieces. In this way I find that I can overcome all of the difficulties mentioned above, for the casting and finishing may be easily and conveniently done and the parts thereafter may be rigidly and satisfactorily united to the platen.

The integral pieces in which the rockers and cam plates are formed are shown clearly in the drawings to embody each a square shoulder 55, which is very accurately cut after the casting has been effected and which fits into a correspondingly formed recess in the under-side of the bridge of the platen, and a flange 56 which abuts against the end of the platen. The provision of the shoulders and flanges enables the two castings to be readily assembled and absolutely accurately positioned at the same time, one at one end of the platen and the other at the other end of the platen; and when these castings are shoved in against the platen from either side they are held thereto by some such means as screws 57, and a key-way 58 is then drilled on each side between the corresponding casting and the bridge of the platen and keys 59 driven in, in order to secure the castings rigidly in position. Before these castings have been thus secured to the platen, they are of course formed with the cam slots 60, and the rockers 50 are machined down accurately by milling, it being obvious that the formation of the shoulders 55 and the slots 60 and the machining down of the rockers 50 can be done by perfectly simple operations

and with the apparatus and tools of the average machine shop.

The shape of the cam slots in the present case is the same and the function of the cam slots is the same, as is described and illustrated in Fig. 2 of my prior Letters Patent No. 427,448, dated May 6, 1890, and to this patent reference may be had for a more particular description of the function of the cam as the platen advances to and recedes from the bed. It suffices to point out here that the middle portion of each slot is curved so that the platen, as the stud 53 traverses this portion of the slot, will roll upon the seats 51 without sliding (this portion of the slot obviously being cycloidal provided the rockers are circular), and that the end portions of the slot are formed so as to effect a sliding of the platen for the purpose of having it move evenly against the bed and also for the purpose of producing a relatively slow movement thereof during its traverse of the feeding angle (as fully explained in the aforementioned Letters Patent). The lower portion of each slot, that is the portion in which the studs 53 are illustrated in Figs. 1 and 2, is the portion of the slots which controls the movement of the platen as it advances against the bed and recedes directly therefrom. As the platen advances against the bed, there is always a tendency, on account of there being no form upon that portion of the bed opposite the upper end thereof, for the platen to twist in a clock-wise direction as viewed in Fig. 1, and this tendency will soon serve to work the platen out of true with respect to the bed unless means are provided to counteract this tendency; and even then it becomes necessary to make an adjustment from time to time to keep the platen true. For this purpose I have provided a projection 62 upon each of the rocker castings directly underneath the cam slots which slides upon a corresponding projection provided upon each side of the frame directly underneath the respective studs 53. Furthermore I make the studs adjustable by mounting them eccentrically in the frame, the preferable construction being illustrated in Fig. 2 where the studs are provided with a shank 63 which is rotatable in the frame and which is rigidly held in any adjusted position by a screw 64, the head 61 of each stud being very slightly eccentric thereto and being provided with a friction roller. To turn either of these studs 53, their heads are formed like that of a screw so as to receive a screw driver or other suitable tool whereby, when the screws 64 are loosened, the proper adjustment may be made. As it is essential that the projections 62 shall bear hard against the respective portions of the frame above the same, I provide adjusting plates or some such means 65 held on to the frame by screws 66 so that when the studs are adjusted, each

plate may be adjusted correspondingly by loosening the screws 66 and inserting strips of paper between the plates 65 and the frame. It will be obvious that in this way, as the platen is moving against the bed, the projections 62, being held as they are by the studs 53 hard against the plates 65, will relieve the studs 53 and the cam plates 52 of the strain produced by the tendency of the platen to twist, and will therefore not only counteract this tendency but will prevent the said studs and cam plates from possible fracture. Moreover, such a construction offers a most convenient means for adjusting the parts from time to time to take up the wear produced between the rockers and their seats.

Another feature of the improvements concerns the adjuster bar 67, the particular object of the improvements in this respect being to enable the ready assembling and disassembling of these parts from the platen and a simplification of the construction thereof. In accordance with the latter, the ends of the adjuster bar are slotted to receive projections 68 upon reduced portions 69 of a shaft 70 extending from one end of the platen bridge to the other. The reduced portions 69 are eccentric to the shaft 70 and are embraced by the ends of the connecting rods 71. The ends of the adjuster bar are made fast to the projections 68 by some such means as screws 75. Such a construction is very simple and makes the assembling and disassembling of the parts very convenient. The adjuster bar is provided with a suitable latch 72 and latch lever 73. Sometimes it is more convenient for an operator to move the lever with his right hand, while another operator would prefer to use his left hand for this purpose. So that it shall be possible for the lever to be adjusted in a simple way to accommodate either of such operators, I provide upon the adjuster bar two pivoting brackets 74, one on either side of the latch whereby it is possible by the simplest kind of an operation to change the latch lever 73 from one of the brackets 74 to the other.

It will be understood that the several features of my invention may be employed alone or in combination with each other and that the specific embodiment thereof illustrated and described herein may be departed from without avoiding the spirit of the invention.

I claim as my invention:

1. In a platen press, the combination with the platen, of a rocker, and a seat therefor, the rocker being made and finished as a separate piece and formed with a square shoulder, and the platen having a corresponding recess into which the shoulder is fitted and keyed.

2. In a platen press, the combination with the platen, of a rocker, a seat therefor, and a

cam to guide the platen, the rocker and cam being formed as a separate integral piece with a square shoulder, and the platen having a corresponding recess into which the shoulder is fitted and keyed.

3. In a platen press, the combination with the platen, of a rocker at each end thereof, and a seat for each rocker, the rockers being made and finished as separate pieces and being formed each with a square shoulder and a flange, and the platen being formed at each end with a square recess into which the corresponding rocker piece is fitted and keyed.

4. In a platen press, the combination with the platen, of separate pieces at each end thereof, each of which pieces is provided with a positioning shoulder and flange, a rocker and a cam for guiding the platen as it moves, a seat for each rocker on the frame of the press, and means to secure the said separate pieces to the platen.

5. In a platen press, the combination with the platen, of a cam and stud for guiding the movements thereof, adjustable means for mounting the stud, and means for maintaining the stud rigidly in any adjusted position.

6. In a platen press, the combination with the platen, of a cam and stud for guiding the movements thereof, means for mounting the stud eccentrically, and means for maintaining the stud rigidly in any adjusted position.

7. In a platen press, the combination with the platen, of a cam secured thereto, a stud eccentrically mounted on the press frame and cooperating with the cam, and means for maintaining the stud immovable in any position in which it has been adjusted.

8. In a platen press, the combination with the platen, of a cam secured thereto one portion of which determines the sliding of the platen against the bed, an adjustable stud cooperating with the cam, and adjustable means to relieve the strain of the platen upon the stud and cam while the platen is slid against the bed.

9. In a platen press, the combination with the platen, of a cam plate thereon, a stud eccentrically mounted in the frame and engaging the cam plate, means upon the cam plate to engage a portion of the frame underneath the stud as the platen advances against the bed, and means to adjust said portion of the frame to compensate for any adjustment of the stud.

10. In a platen press, the combination with the platen, of a cam plate thereon, a stud eccentrically mounted in the frame of the press and engaging in the cam plate, a projection on the cam plate, and an adjustable bearing plate upon the frame underneath the stud and adapted to be engaged by the said projection as the plate is slid against the bed.

11. In a platen press, the combination with the platen, of a plate thereon having a cam slot, a stud eccentrically mounted in the frame and engaging in the said slot, the said slot being formed with a central portion for guiding the platen as it is rocked and with end portions for determining the sliding of the platen, a projection upon the cam plate, and an adjustable bearing plate upon the frame underneath the stud and adapted to be engaged by the said projection as the platen is slid against the bed, whereby the stud not only serves with the cam to guide the platen but also serves to hold the said projection hard against the said bearing plate during the sliding of the plate against the bed.

12. In a platen press, the combination with the platen, of an adjuster bar, a latch therefor, a latch lever, and means on each side of the latch for pivoting the lever so that it may be set for right-handed or left-handed manipulation.

This specification signed and witnessed this 25th day of April, A. D., 1908.

JOHN THOMSON.

Signed in the presence of—

G. A. RICHARD,

J. R. FRITH.