

(No Model.)

W. H. CHRISTIE.
BOOK BINDER'S PRESS.

No. 450,882.

Patented Apr. 21, 1891.

Fig. 1.

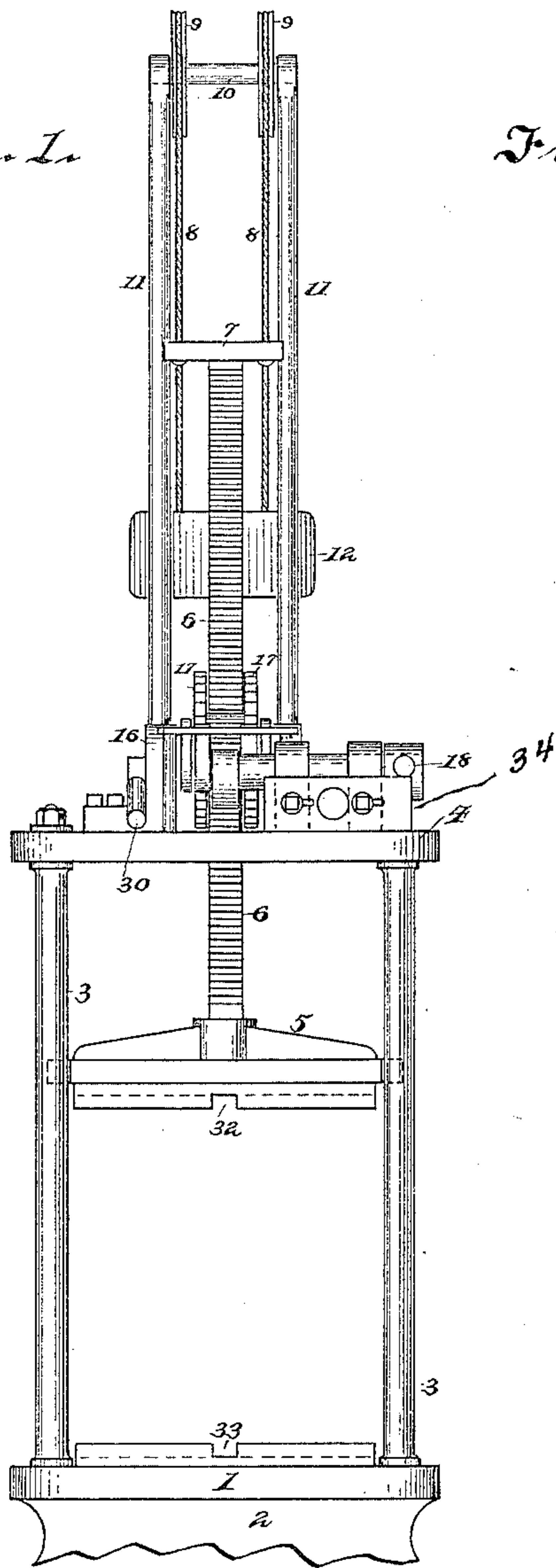


Fig. 2.

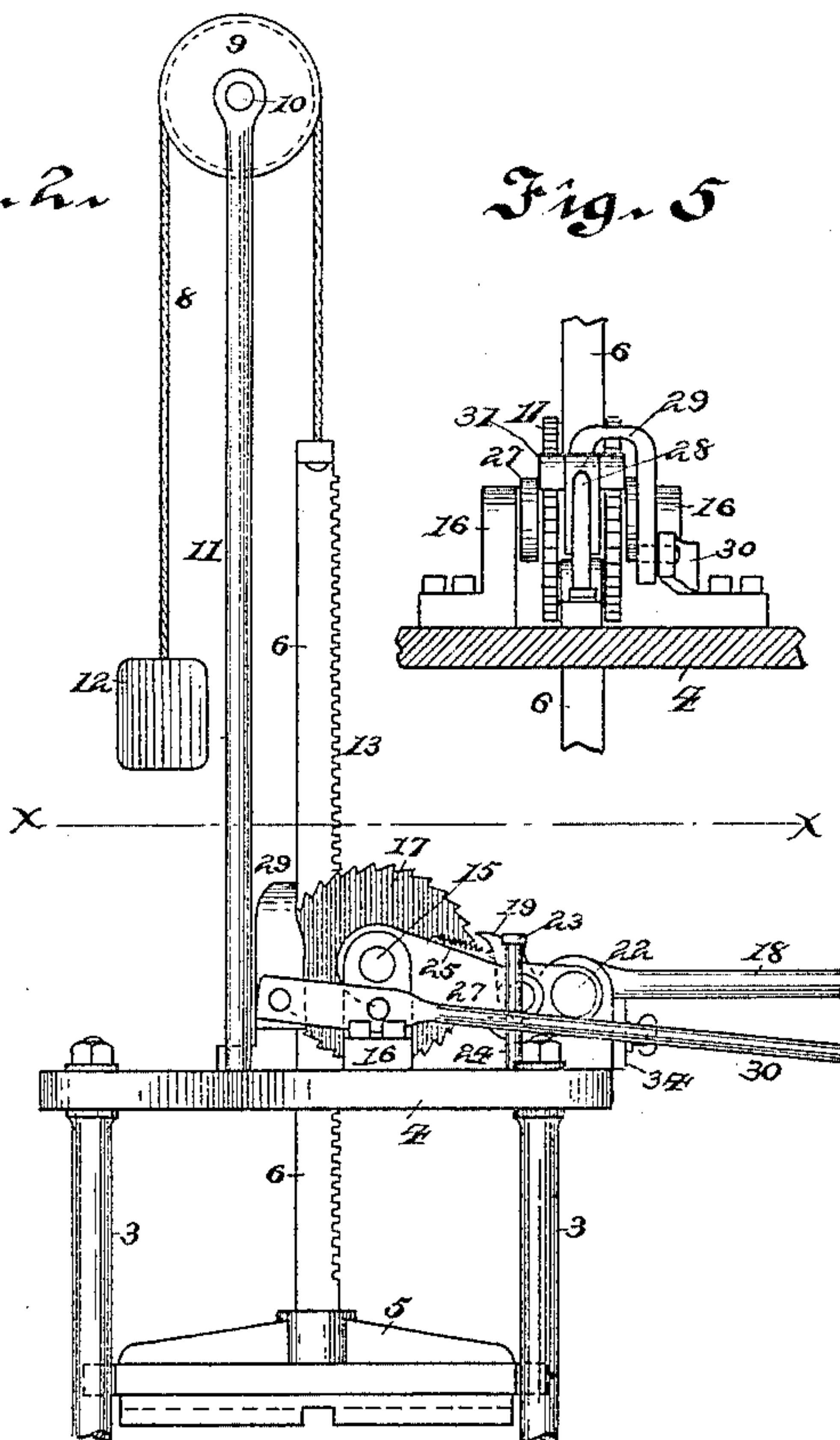


Fig. 5.

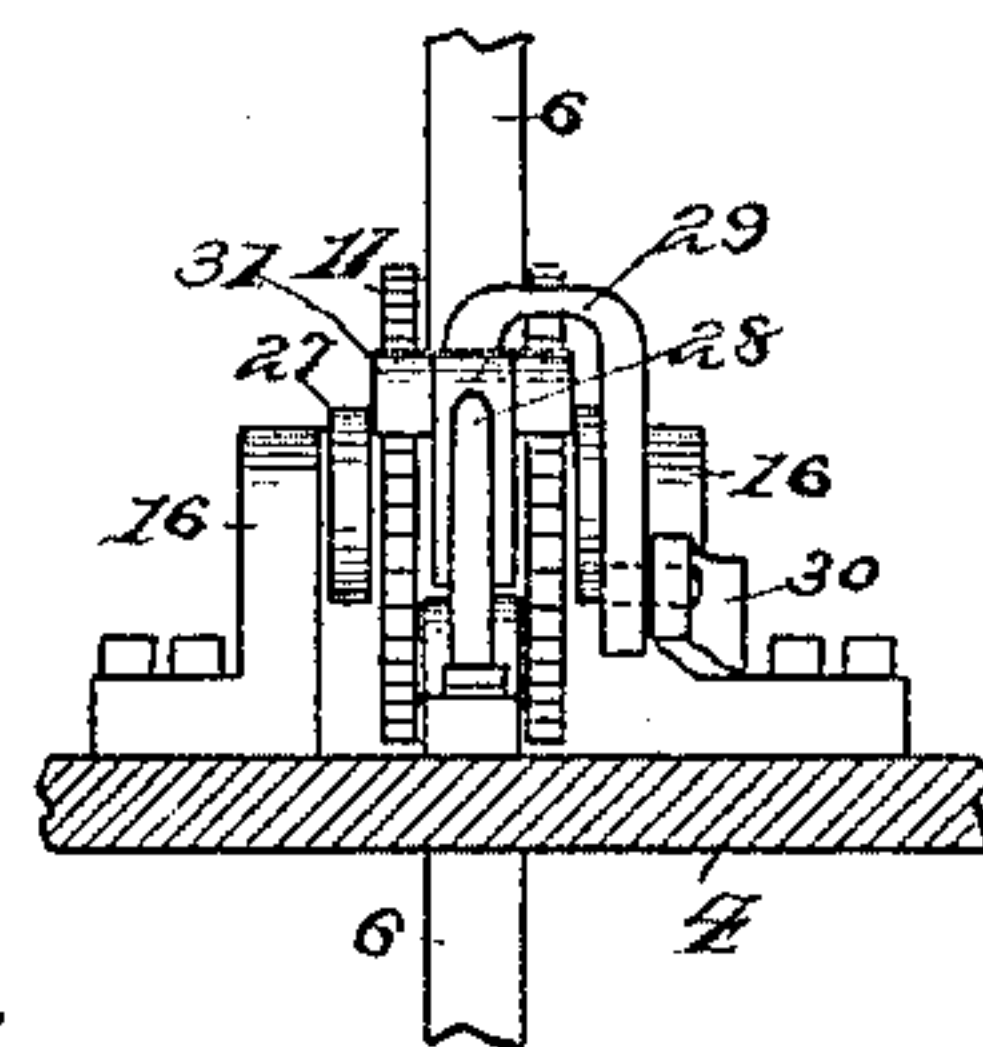


Fig. 3.

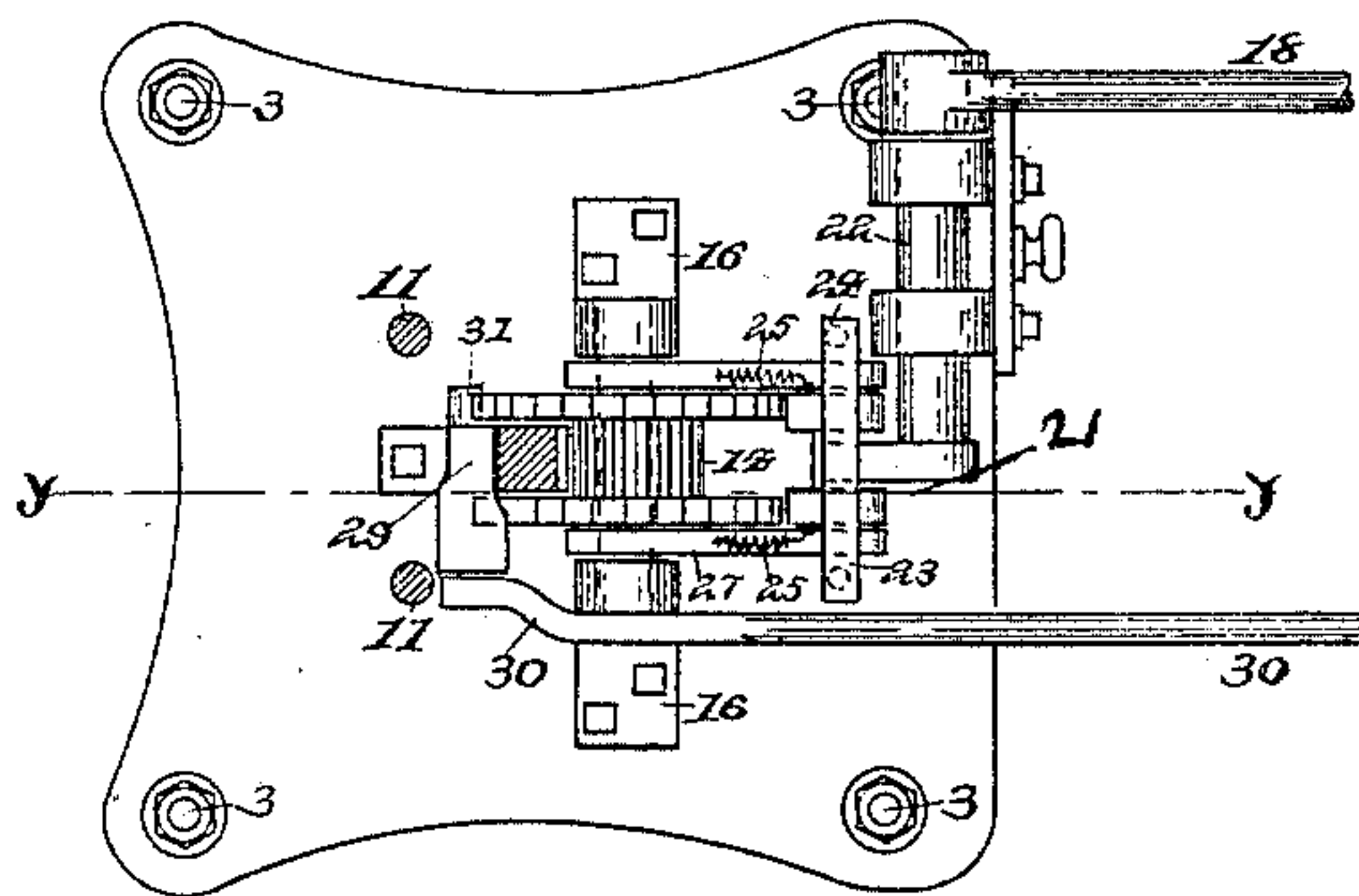
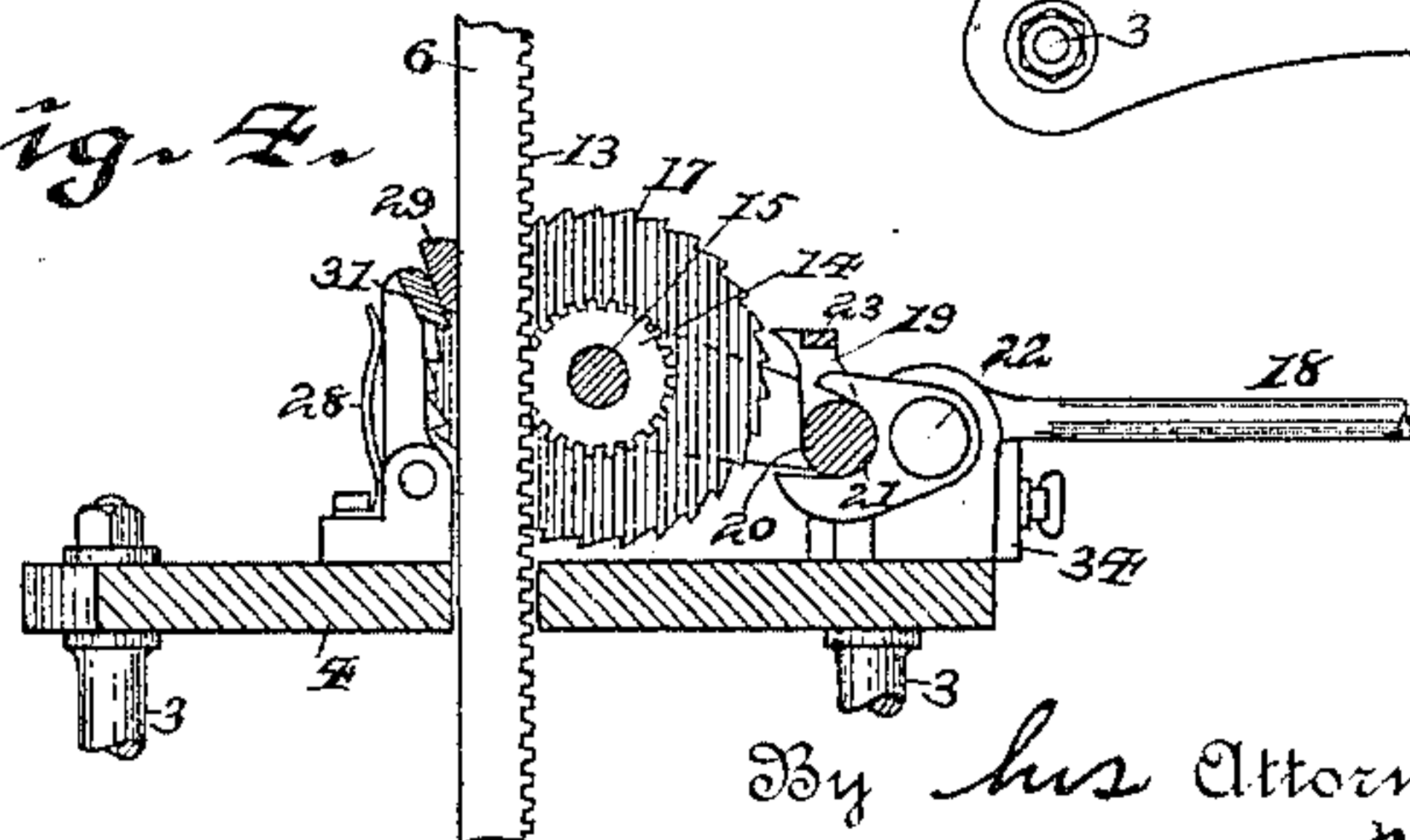


Fig. 4.



Witnesses

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WILLIAM H. CHRISTIE, OF CINCINNATI, OHIO.

BOOK-BINDER'S PRESS.

SPECIFICATION forming part of Letters Patent No. 450,882, dated April 21, 1891.

Application filed June 7, 1889. Serial No. 313,514. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. CHRISTIE, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Book-Binders' Presses, of which the following is a specification.

My invention refers to an improvement in a press especially adapted for book-binders. It relates more especially to a press-platen which is made detachable from the power-driving mechanism and suspended by the counterpoise-weight.

The object of my invention is to provide ready means for raising and lowering a press-platen by hand without having to manipulate the power-driving mechanism, the various features of which will be fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation of my improvement attached to a press. Fig. 2 is a side elevation of the same. Fig. 3 is a top sectional plan view on line *xx*, Fig. 2. Fig. 4 is a longitudinal section on line *yy*, Fig. 3. Fig. 5 is a rear elevation of the holding-pawl and wedge mechanism.

1 represents the bed of the press; 2, the base; 3 3, the posts. 4 represents top plates sustained upon the posts 3.

5 represents the platen.

6 is a rack-bar attached to the platen 5. The latter is suspended preferably by attaching the weights to the cross-head 7 on the rack-bar.

8 represents cords passing over the pulleys 9, which are mounted on shaft 10, journaled in the upright posts 11, which posts are supported by the plate 4.

12 represents a counter-balance, the weight of which is equal to the weight of the platen, and when the platen is attached to the rack-bar and platen, so that the latter may be moved up and down by hand and the friction of the parts sustain it in any adjusted position.

I preferably employ a rack-bar and pinion driven by a ratchet-lever to obtain power for compressing the platen, as it is rapidly and easily manipulated.

The power is conveyed as follows: 13 represents the teeth of the rack-bar, which engage with pinion 14, mounted upon shaft 15, which is journaled in ears of brackets 16. 55

17 represents ratchet-wheels keyed to said shaft 15, preferably upon either side of the pinion 14. Said pinion is driven by means of the ratchet-lever 18, which drives the pawls 19. Pawls 19 are pivoted and supported by 60 their axis 20, which journals in the links 27 and rests in the fork 21, which is keyed to the stud-shaft 22, to which the ratchet-lever 18 is also keyed.

23 represents a cross-bar rigidly connected 65 to the pawls 19.

24 represents pins which project up preferably outside of the pawls 19, and when the ratchet-lever stands in its normal position, as shown in Fig. 2, the said pawls are thrown 70 and held out of engagement with the ratchet-wheels 17 by means of the cross-bar 23, resting upon the pins 24.

25 represents springs attached to the pawls 19 and links 27, so as to pull the pawls into 75 engagement with the ratchet-wheel when the lever 18 is depressed, lifting the cross-bar 23 off of the pins or keepers. The pawls are operated by depressing the lever 18, which lifts the axial shaft 20, bringing the pawls into en- 80 gagement with the ratchet-wheels. The links 27 move the pawls in the arc described by the teeth of the ratchet-wheel. When the lever is raised, the links 27, carrying the pawls 19, drop down, and spring 25, yielding, 85 allows the pawls to pass over the teeth of ratchet-wheel.

On the opposite side of the ratchet-wheels I provide a duplex holding-pawl 31, which engages with the respective ratchet-wheels. 90 This pawl is normally held in engagement with the ratchet-teeth by means of the spring 28, which presses them up, and they are held out of engagement by the wedge 29, which is operated by the lever 30. When lever 30 is 95 depressed, the wedge 29 is raised up and the spring 28 presses the pawl 31 into engagement with the teeth of the ratchet-wheel. When said lever is raised up, it pulls the wedge 29 down in between the holding-pawl 31 and the 100 rear edge of the rack-bar 6, which prevents the engagement of the holding-pawl 31 with

the teeth of the ratchet-wheels. When lever 18 stands in its normal position, (shown in Figs. 2 and 4,) the pawls are also in disengagement with the ratchet-driving wheels.

5 The pressed platen 5 is therefore free to move up and down by extraneous means, so as to be adjusted to any desired height.

34 represents a slide which is moved longitudinally under the lever 18, as shown in Fig. 1, to hold the lever up and the pawls 19 out of engagement with the teeth of the ratchet-wheels 17. The lever 30 may be counterbalanced so as to hold the wedge in either position.

15 The above driving mechanism, with the shipping and unshipping connections, is the preferred form of construction; but I do not limit myself to said means, except where they are made special features of claims herein; 20 but the importance of sustaining the platen by counterbalance-weight and having it readily detachable from the driving mechanism, so as to be raised independent thereof, is the special feature of invention.

25 33 represents grooves in the bed and platen of the press, through which is passed cordage for tying a bale when retention of the pressure is desired.

The principal object to be accomplished by 30 the above-described invention is the ready arrangement of the press-platen by hand without manipulating the same by the power-lifting and depressing mechanism, as, for instance, in a book-binding or other similar use 35 the rapid operation of the press is a very important feature, and is accomplished by means to disengage the press-platen from the power-driving mechanism and suspending it by a counterpoise-weight, allowing it to be 40 readily raised or lowered, as the case may be, and the within-described mechanism I be-

lieve to be the best, and is claimed herein as of my invention.

My invention is especially adapted for book-binders' presses; but it may be used for 45 other analogous purposes.

Having described my invention, what I claim is—

1. In a power-press, the platen 5, detachably connected to the power-driving mechanism 50 and counterbalanced by the weight 12 to hold the same in any adjusted position, substantially as specified.

2. In combination with the press-counterbalanced platen 5 and rack-bar 6, the power 55 mechanism consisting of the ratchet-wheel driving-pawls and ratchet-lever operating said pawls to drive a pinion engaging with the rack-bar, substantially as herein specified.

3. In combination with the adjustable press- 60 platen 5 and the rack-bar 6, operated by pawl-driving mechanism, the holding-pawls 31, and the unshipping mechanism for holding said pawls normally out of engagement with the ratchet-wheel, substantially as specified. 65

4. In combination with the press-counterbalanced platen 5, the rack-bar 6, and driving-pawls 19 and means for holding the same 70 normally out of engagement with the rack-wheel operated by the lever 18, and the holding-pawl and unshipping mechanism operated by the lever 30, whereby said holding and driving pawls are unshipped to allow the rack-bar 6 to be elevated or depressed, substantially as herein specified. 75

In testimony whereof I have hereunto set my hand.

WILLIAM H. CHRISTIE.

Witnesses:

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