No. 775,257. PATENTED NOV. 15, 1904.

F. A. STEELE & M. KALABA.

BOOK FINISHING MACHINE.

APPLICATION FILED JAN. 13, 1904.

NO MODEL. 3 SHEETS—SHEET 1.

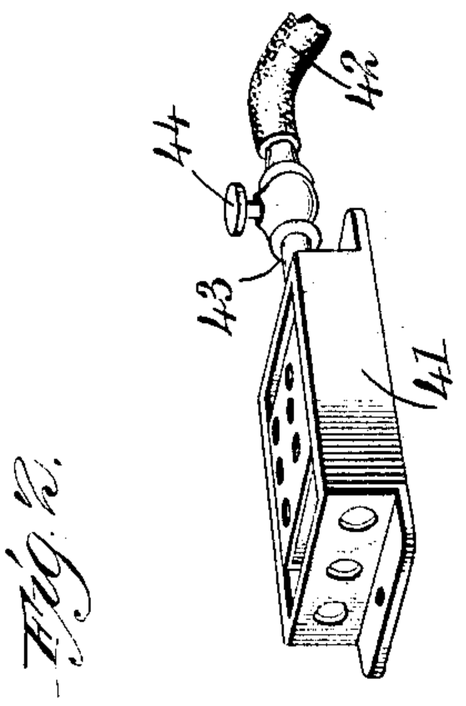


Fig. 2.

Fig. 1.

WITNESSES:

G. P. Kingsbury

Isaac B. Owens.

INVENTORS

Frederick A. Steele

Morris Kalaba

BY

Munn & Co

ATTORNEYS

No. 775,257. PATENTED NOV. 15, 1904.

F. A. STEELE & M. KALABA.

BOOK FINISHING MACHINE.

APPLICATION FILED JAN. 13, 1904.

NO MODEL. 3 SHEETS—SHEET 2.

Fig. 3.

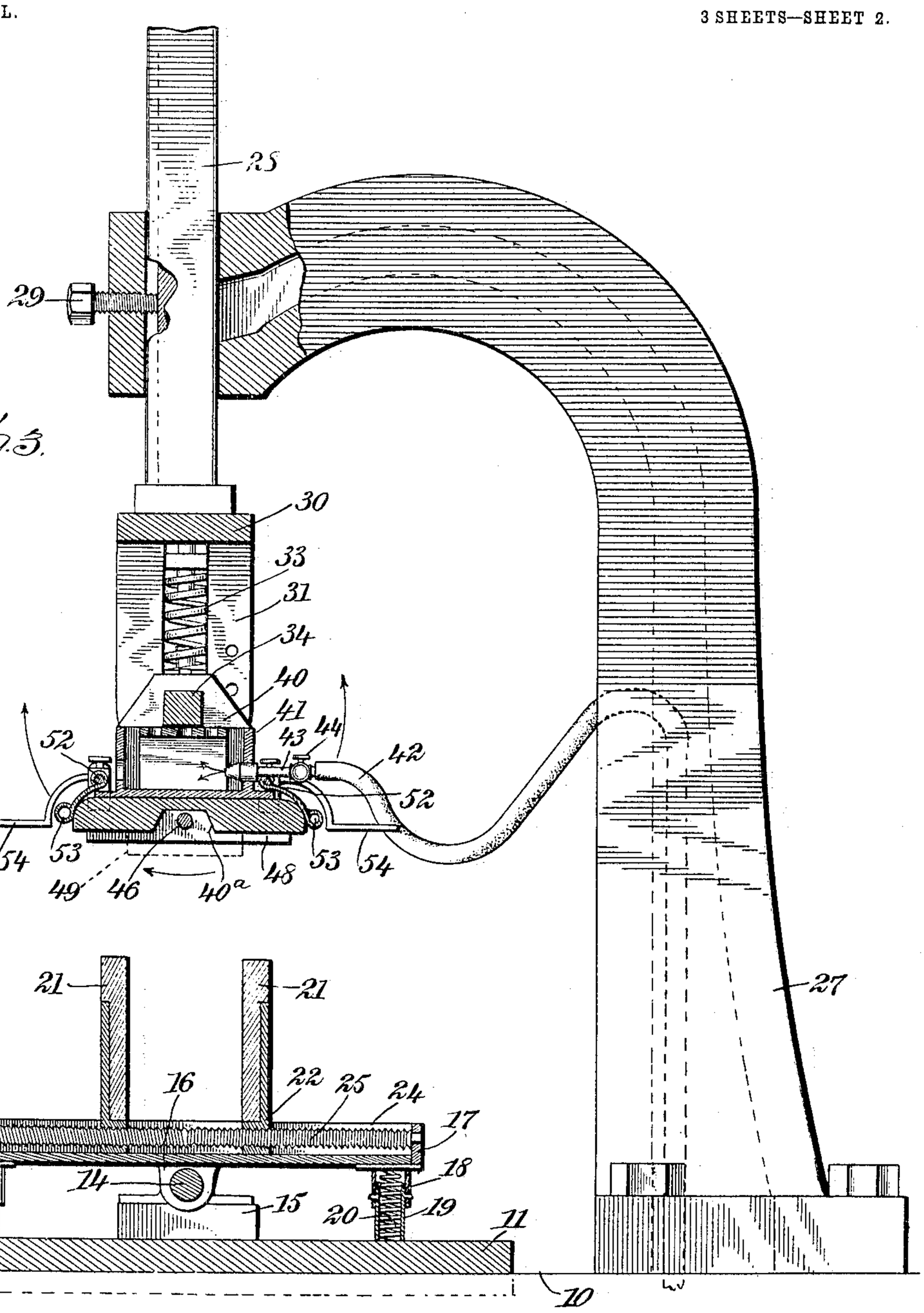


Fig. 4.

WITNESSES:

G. P. Kingsbury

Isaac B. Owens.

INVENTORS

Frederick A. Steele

Morris Kalaba

BY

Munn & Co

ATTORNEYS

No. 775.257. PATENTED NOV. 15, 1904.

F. A. STEELE & M. KALABA.

BOOK FINISHING MACHINE.

APPLICATION FILED JAN. 13, 1904.

NO MODEL. 3 SHEETS—SHEET 3.

Fig. 5.

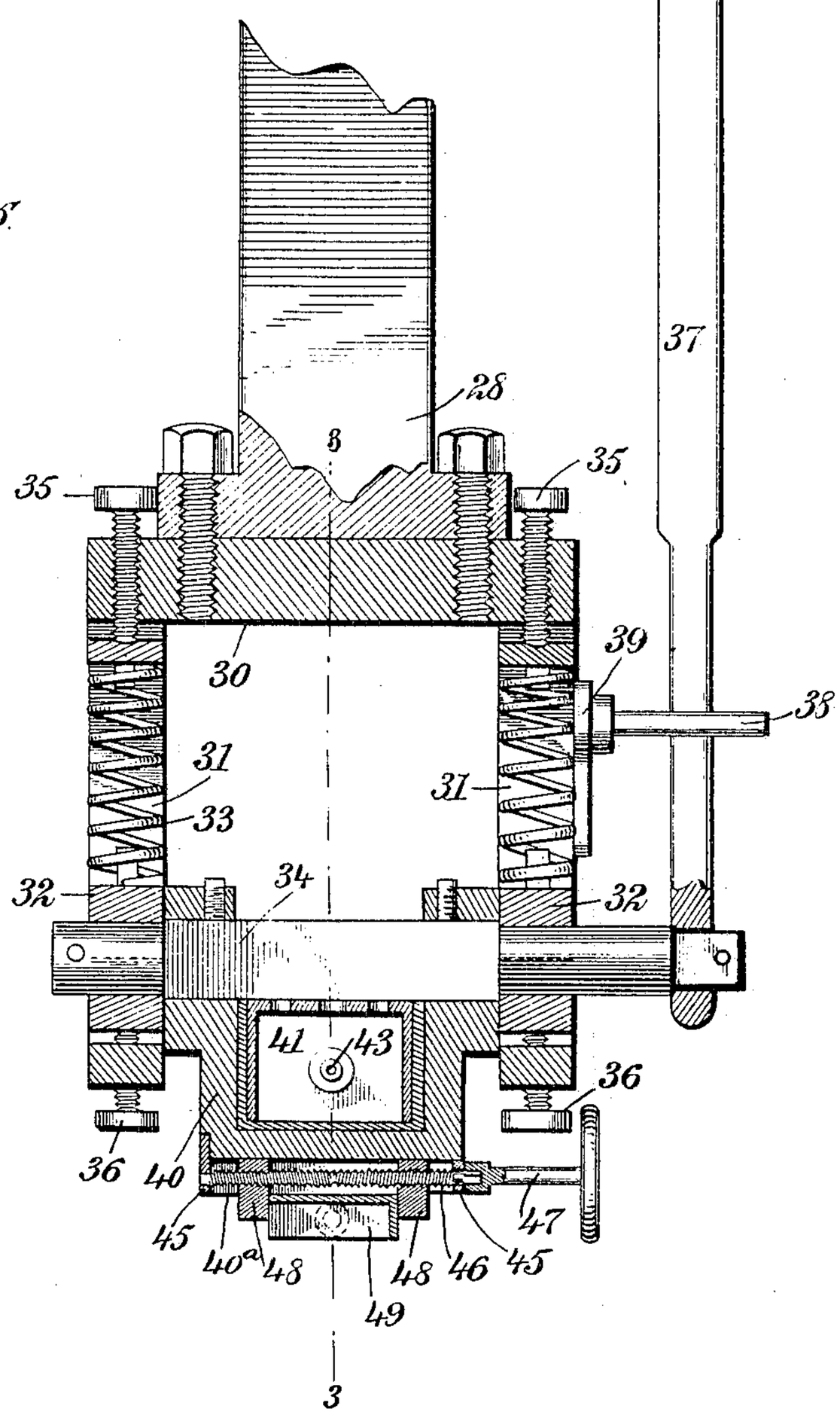


Fig. 6.

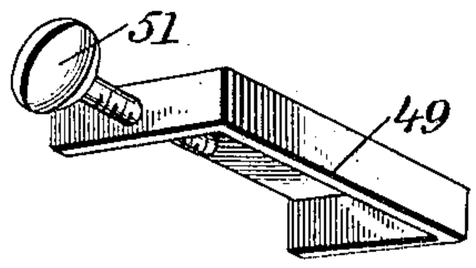
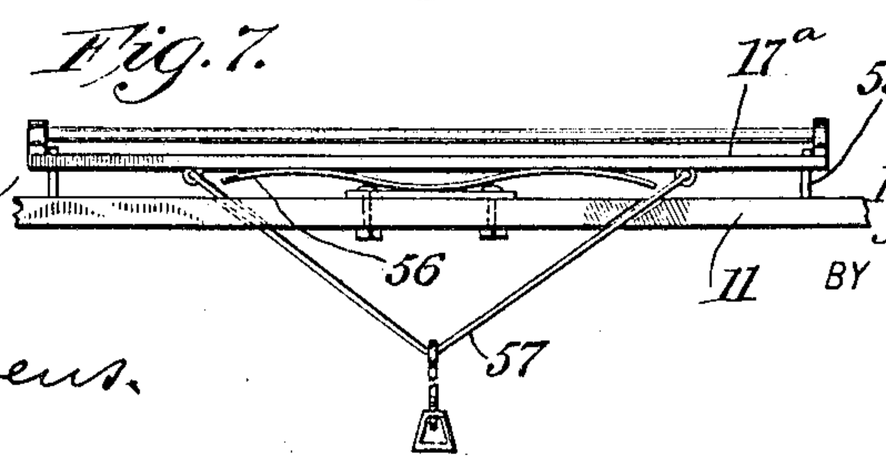


Fig. 7.



WITNESSES:

G. F. Kingsbury

Isaac B. Owens.

INVENTORS

Frederick A. Steele

Morris Kalaba

BY

Munn & Co

ATTORNEYS

No. 775,257. Patented November 15, 1904.

UNITED STATES PATENT OFFICE.

FREDERICK ALBERT STEELE AND MORRIS KALABA, OF NEW ROCHELLE, NEW YORK.

BOOK-FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 775,257, dated November 15, 1904.

Application filed January 13, 1904. Serial No. 188,884. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK ALBERT STEELE and MORRIS KALABA, citizens of the United States, and both residents of New Rochelle, in the county of Westchester and State of New York, have invented a new and Improved Book-Finishing Machine, of which the following is a full, clear, and exact description.

This invention relates to a machine for marking the back of books with gilt and other inscriptions, whereby the marking or finishing is done with mechanical accuracy and much more rapidly than could be done by hand.

This specification is an exact description of two examples of our invention, while the claims define the actual scope thereof.

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

Figure 1 is a perspective view of the invention in use. Fig. 2 is a detail perspective view of the burner. Fig. 3 is an enlarged vertical section of the machine on the line 3 3 in Fig. 5. Fig. 4 is a detail view of one of the dies. Fig. 5 is an enlarged section of the die-holder, burner, and appurtenant parts. Fig. 6 is a detail perspective view of a clamping-frame for holding type, and Fig. 7 is a reduced elevation of a slightly-modified form of the invention.

As best shown in Fig. 1, 10 indicates the base or support of the machine, which is in the form of a table and has a bed 11 mounted to slide transversely thereon through dovetail connections 12. On said bed 11 a shaft 14 is mounted in suitable bearings 15, and the shaft carries loosely boxes 16, which are attached to the holder-base 17. The holder-base is provided with legs formed of telescopic members 18 and 19, having springs 20 interposed between the sections to hold them yieldingly extended. The said legs of the holder-base bear on the bed 11 of the machine, so as yieldingly to sustain the holder-base in horizontal position, at the same time allowing the holder to rock around the axis of the shaft 14, for a purpose which will be hereinafter fully described. On the base 17 of the holder are two clamping-jaws 21, having dovetail guides 22 loosely arranged in guideways 24. In this manner the jaws 21 are mounted to move on the base 17 toward and from each other, and this movement is effected by a right and left hand screw 25, revolubly mounted on the base 17 and engaged with one of the guide-brackets 23 of each clamping-jaw.

26 indicates a suitable hand-wheel attached to or formed on the screw 25 to facilitate its operation.

An arm 27 is mounted on the support 10 and overhangs the book-holder, as shown in Fig. 1. Adjustably fitted in the end of the said arm is a vertically-extending bar 28, held by a screw 29 or its equivalent. At its lower end the bar 28 is attached to a cross-head 30, from which two lugs 31 depend, said parts 30 and 31 forming the burner-carrier of the machine. The lugs or hangers 31 are vertically slotted and carry loosely boxes 32, said boxes being pressed down by springs 33, as shown, and carrying revolubly a shaft 34. The tension of the springs 33 may be regulated at will by means of screws 35, operating in the cross-head 30, and the downward movement of the boxes 32 may be limited by screws 36, operating in the lower ends of the hangers 31. Attached to the shaft 34 is a handle 37, and the swinging movement of said handle is limited by pins 38, adjustably mounted in arms 39, extending out from the opposite sides of the hanger 31, which is adjacent to the handle 37.

Fastened to the shaft 34 between the boxes 32 is the body 40 of the burner. Said body is of essentially stirrup shape and carries the burner-box or burner proper, 41. To said burner 41 a gas-supply pipe 42 passes, said pipe being flexible and leading to a nipple 43, suitably mounted in one end of the box.

44 indicates a cock for controlling the flow of gas.

A flange 45 projects downward from the body 40 of the burner and carries revolubly a right and left hand screw 46, said flange being recessed, as shown at 40^a.

47 indicates a suitable wrench adapted to engage with the screw 46, as shown in Fig. 5,

whereby to turn the screw. Said screw operates two jaws 48, which are fitted below the body of the burner within the flange 45, and by operating the screw 46 the jaws 48 may be made to clamp the type-holder or stick 49 or a die such as the die 50. (Shown in Fig. 4.) The stick or type-holder 49 may be of any desired construction and is adapted to carry the type which are used in marking the type and legends on the back of books.

51 indicates a screw for clamping up the type, as will be understood.

As best shown in Figs. 1 and 3, transverse rods 52 are held horizontally at each side of the burner-body. The said rods respectively carry thermometers 53 and adjustable indicators 54. The thermometers show the degree of heat applied to the die and enable the temperature thereof to be kept uniform, while the indicator-fingers 54 are adapted to show when the book and die are in the proper relative position.

In the use of the invention the die or type is fastened in the burner by the jaws 48 and the operation of the burner started. The heat generated therein will soon give the tool the necessary temperature, and then by adjusting the book-holder under the burner and die the impress of the letter may be made on the book by imparting to the burner-body 41 and the attached parts a rocking movement, this being effected by properly operating the handle 37. During this rocking movement the book-holder rocks around the axis of the shaft 14, thus accommodating the book to the rocking movement of the tool, making an absolutely clear figure and avoiding all blurring thereof.

As a modification of the rock-shaft 14 and the extension-legs of the holder-base 17 the construction shown in Fig. 7 may be employed. In this form of the invention the holder-base 17^a is loosely guided at its sides by pins 55, attached to the bed 11. A double leaf-spring 56 bears under the holder-base, and in this manner the base is sustained, it being allowed meanwhile a rocking movement on the bed of the machine, as will be understood. 57 indicates a suitable pedal mechanism enabling the holder-body 17^a to be raised or lowered at will.

Various changes in the form, proportions, and minor details of our invention may be resorted to at will without departing from the spirit and scope thereof. Hence we consider ourselves entitled to all such variations as may lie within the intent of our claims.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A book-finishing machine, comprising a rocking book-holder, a rocking tool-holder mounted juxtaposed to the book-holder, and manually-operated means connected directly with the tool-holder for rocking the same.

2. A book-finishing machine, comprising a book-holder mounted to rock the book around an axis parallel to the back thereof, a rocking tool-holder having a flat working face and mounted juxtaposed to the book-holder, and manually-operated means connected directly with the tool-holder for rocking the same.

3. A book-finishing machine, comprising a book-holder, means for mounting the same to rock, a tool-holder, a hand-lever rigidly connected therewith for rocking the same, and means for mounting the tool-holder, said means being adjustable toward and from the book-holder.

4. A book-finishing machine, comprising a book-holder mounted to rock on an axis located below the book to be carried by the holder, to leave the curved edge of the book free to be swung in the arc of a circle having said axis for its center, a rocking tool-holder mounted to rock on an axis above its working face, leaving said face free to also be rocked to describe the arc of a circle, the free edge of the book-holder and free face of the tool-holder extending in direction of each other and juxtaposed to each other.

5. A book-finishing machine, comprising a tool-holder having a flat working face and mounted to rock on an axis above said face, a book-holder mounted to swing on an axis parallel to the axis of the tool-holder, the free sides of said holders extending in direction of each other, means for moving said holders toward each other to bring the face of the tool-holder into frictional engagement with the curved back of a book held in the book-holder, means for rotating the tool-holder to make an impression upon said curved back of the book, and through the frictional engagement between said parts for rotating the book-holder upon its axis to cause said curved back to properly present itself to the face of the tool-holder in receiving an impression therefrom.

6. A book-finishing machine, comprising a book-holder, a tool-holder, means for mounting the same adjustably and yieldingly one with respect to the other, and a gage carried by one of said parts.

7. A book-finishing machine, comprising a tool-holder having a printing-face, a book-holder movable laterally underneath the tool-holder, means for mounting the said book and tool holders juxtaposed to each other, and a gage carried by the tool-holder flush with the printing-face thereof and adapted to coact with the book, substantially as described.

8. A book-finishing machine, comprising a tool-holder, a book-holder adjacent thereto mounted to rock on an axis located beneath the book, and yielding supports on opposite sides of the axis of the book-holder for resisting the rocking of the book-holder on its axis.

9. A book-finishing machine, comprising a tool-holder, a shaft, a book-holder arranged to rock around the shaft, the shaft being be-

neath the book-holder, whereby to swing the top thereof through the arc of a circle, and a leg carried by the book-holder and adapted to yieldingly sustain the same in normal position, said leg comprising two telescopic parts and a spring interposed between the two.

10. A book-finishing machine, comprising a supporting member, a bar adjustably held therein, hangers sustained by the supporting member, a shaft, boxes in which the shaft is mounted, said boxes being slidable in the hangers, springs pressing the boxes, means for rocking the shaft, and a tool-holder carried by the shaft.

11. A book-finishing machine, comprising a supporting member, a bar adjustably held therein, hangers sustained by the supporting member, a shaft, boxes in which the shaft is mounted, said boxes being slidable in the hangers, springs pressing the boxes, means for rocking the shaft, a tool-holder carried by the shaft, and a burner also carried by the shaft and juxtaposed to the tool-holder.

12. In a book-finishing machine, a book-holder, a shaft around which said book-holder rocks, and a leg carried by the book-holder and adapted to yieldingly sustain the same in normal position, said leg comprising two telescopic parts with a spring interposed between the two.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FREDERICK ALBERT STEELE.
MORRIS KALABA.

Witnesses:
ERMINIE D. KEERS,
ALEXANDER WILLOX.