

No. 617,787.

Patented Jan. 17, 1899.

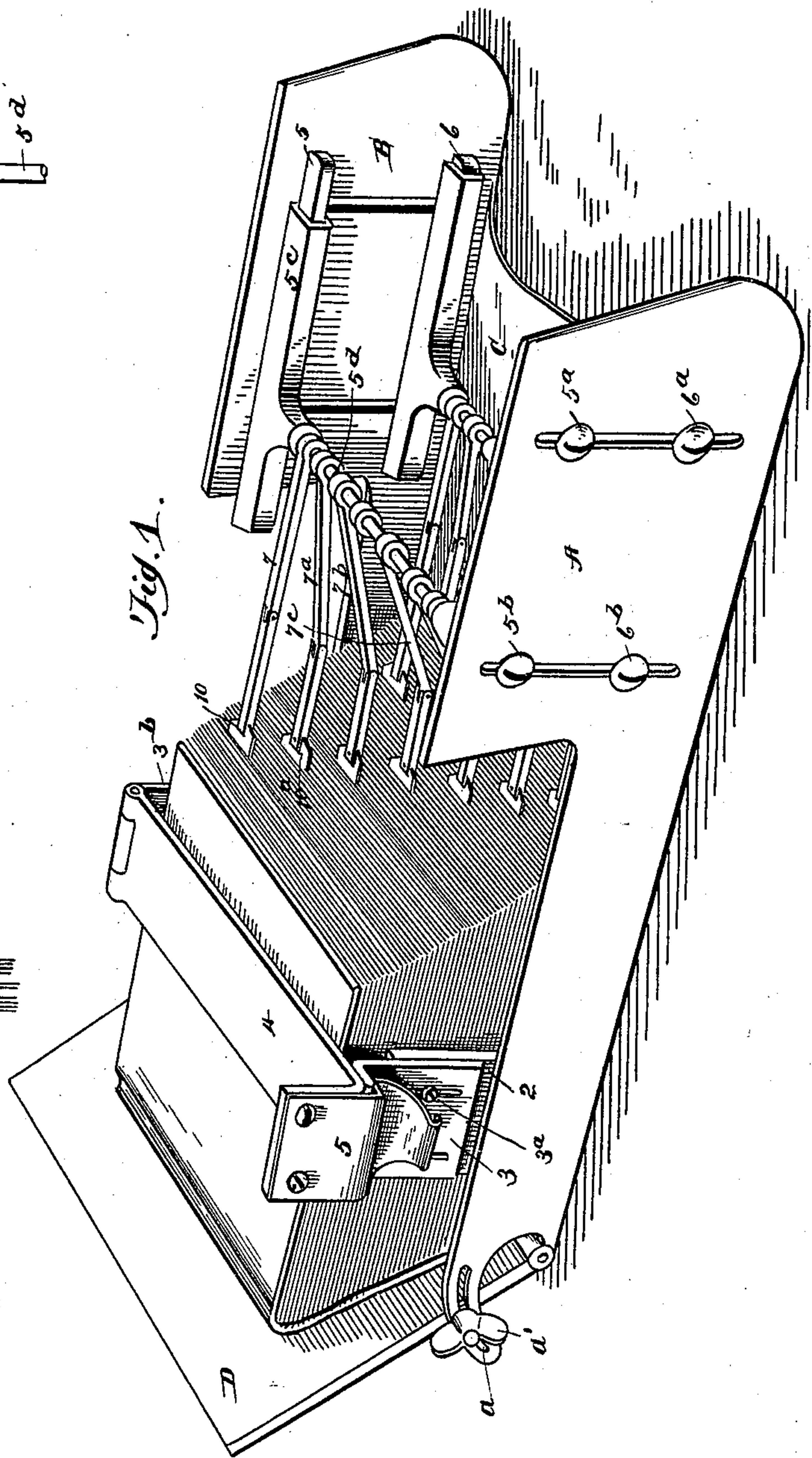
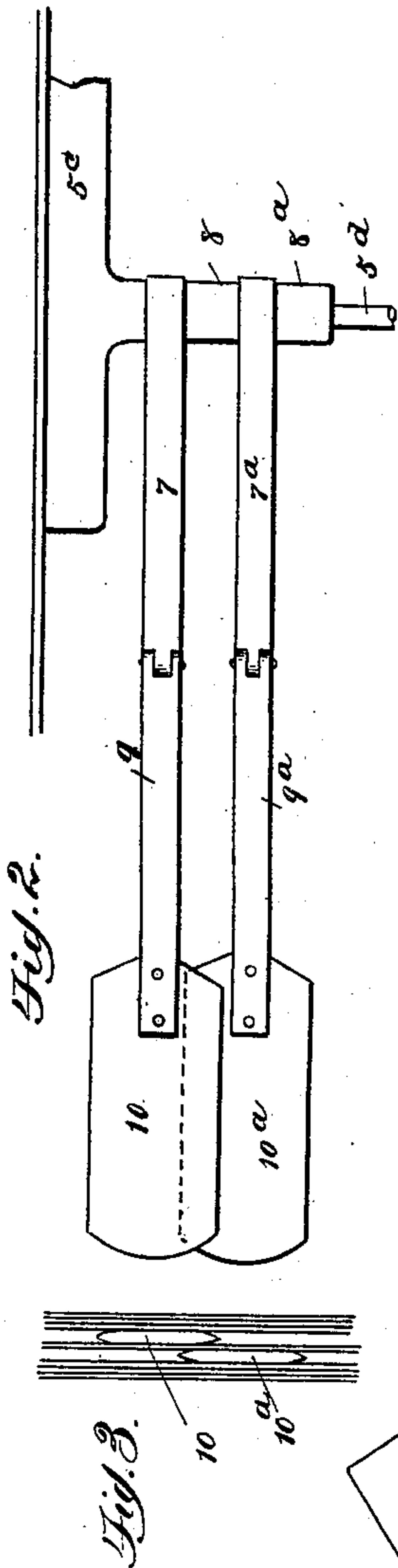
S. N. WEBB.

BOOK HOLDING CLAMP FOR INDEXING PURPOSES.

(Application filed May 10, 1897.)

(No Model.)

2 Sheets—Sheet 1.



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L. M. Bradford
Virginia M. Clough

INVENTOR
Smith N. Webb
By Parker & Burton
Attorneys.

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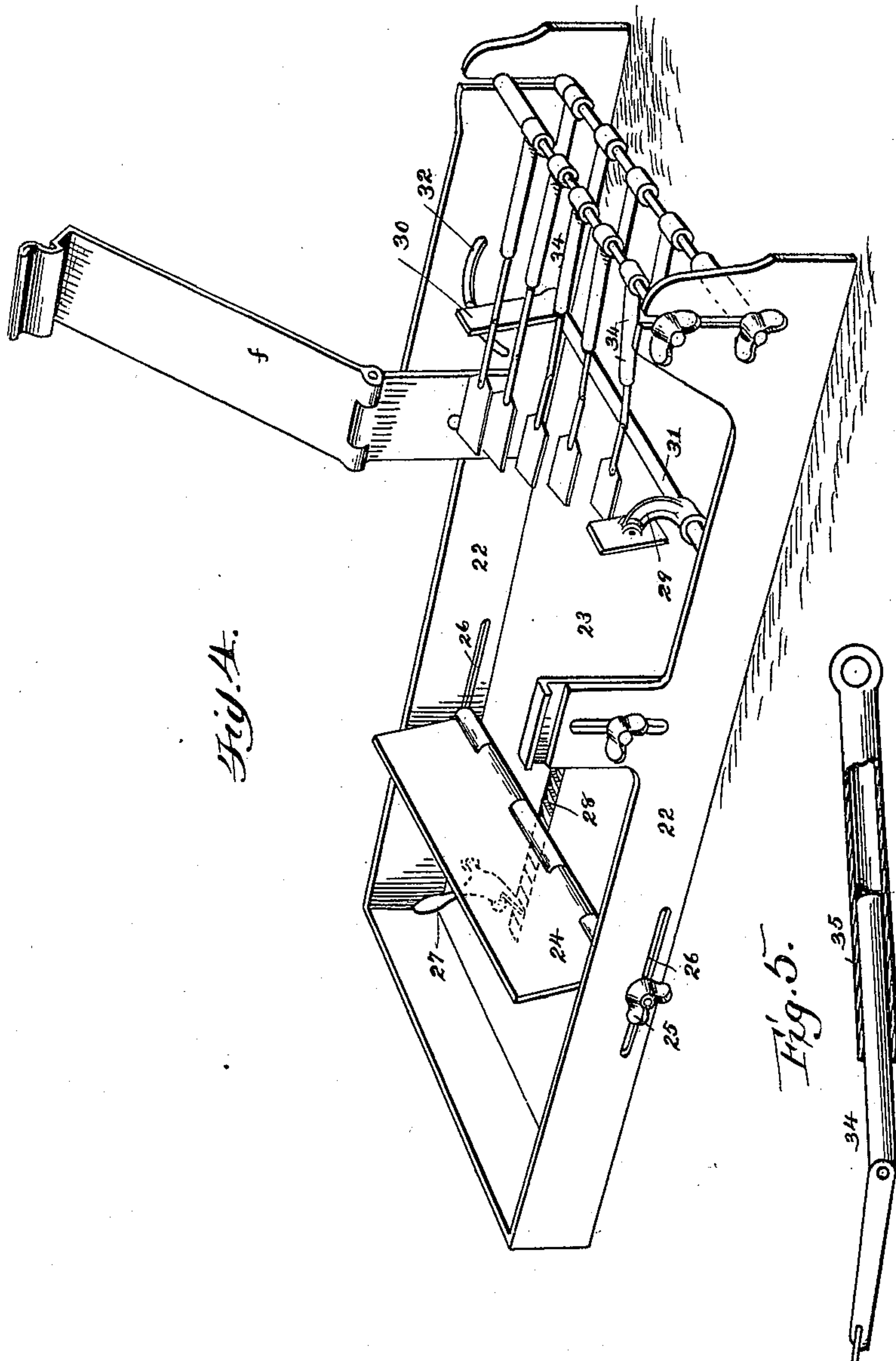
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WITNESSES

D. H. Bradford
Virginia M. Clough

By

INVENTOR

Smith N. Webb
Parker & Burton
Attorneys.

UNITED STATES PATENT OFFICE.

SMITH N. WEBB, OF DETROIT, MICHIGAN.

BOOK-HOLDING CLAMP FOR INDEXING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 617,787, dated January 17, 1899.

Application filed May 10, 1897. Serial No. 635,855. (No model.)

To all whom it may concern:

Be it known that I, SMITH N. WEBB, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have
5 invented a certain new and useful Improvement in Book-Holding Clamps for Indexing Purposes; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in
10 the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to book-indexing,
15 and has for its object a machine adapted to facilitate the cutting of notches in the leaves of books, so that an index character can be printed or placed on the leaf which forms the bottom of the notch when the book is
20 closed. The machine is intended to be used in connection with an indexing-machine patented to me on the 23d of March, 1897, No. 579,202. It can also be used disconnected from any machine and the cutting done by
25 hand.

The object of the invention is to provide a holder in which the book to be indexed is prepared and held closely and securely and notched and indexed while so held.

30 The holder consists, essentially, of a box of peculiar shape and with peculiar adjustments. There are in the box a number of fingers, each of which carries a cutting block or blocks adapted to be placed under the
35 leaves to receive the edge of the cutting-knife and stop it at the proper place. These fingers are arranged to be adjusted and moved in several directions, and are also arranged to take special positions with reference to
40 each other in order that the uncut leaves of the book may not be injured and that the portions cut from the leaves may be cleanly and neatly cut away.

In the drawings, Figure 1 shows the holder
45 or box in perspective. Fig. 2 is a plan view of two of the fingers and the cutting-blocks attached to them. Fig. 3 is a section through two of the cutting-blocks and shows the leaves of the book between them and above
50 and below them. Fig. 4 is a perspective showing additional attachments to the box.

Fig. 5 shows an extensible finger in which the cutting-block can be rotated.

A and B indicate the sides of the box, which rise from the bottom C.

D indicates the back of the clamp. This is hinged to the bottom C and rests at an angle with respect to the bottom. The angle between the bottom and the back can be varied to suit the book to be indexed by means of
60 an arched slot *a* in the side A of the box and the winged nut *a'*, that engages a bolt projecting from the end of the back D.

Each of the sides A and B is provided with an arched slot similar to the slot *a*, so that
65 both ends of the book may be firmly held in the desired position. On each of the sides A and B, near the end to which the back D is attached, is a vertical post 2, and on the vertical post 2 engages a vertical extension-slide
70 3. One of these parts (as the extension-slide) is provided with a slot or slots vertically arranged, through which passes a holding-screw or holding-screws 3^a, and the holding-screws engage the other parts, so that together the
75 post 2 and the slide 3 furnish a side standard, the height of which is adjustable. To the sliding pieces 3^b is hinged a bar 4, and the top of the other slide 3 is turned at right angles to furnish a rest and a catch. Against the rest
80 the end of the bar engages, and under the catch a spring-hook 5 on the end of the bar 4 engages.

The book to be indexed is placed in the box between the standards, the standards
85 adjusted to the proper height, and the bar turned down over the top of the book after the cutting-blocks have been placed in position. If the indexing is done before the book is bound, a broad bearing-plate is preferably
90 used under the bar.

In each side of the box, at that end which is farthest from the back D, is a vertical slot or two or more vertical slots, and on the inside of each side A and B is a track-bar, held
95 by screws passing through the slots. In the box shown in the drawings there are on each side two track-bars. The number of them would depend on the number of banks of knives that are used in the indexing-machine,
100 as some machines may be used with one bank of knives and others with two or more banks

of knives. The box shown would properly be used with a machine having two banks of knives.

The track-bars 5 and 6 are arranged in pairs. The track-bar 5 is paired with a corresponding track-bar that is on the inner face of the side A and is held up in position by the screws 5^a and 5^b. The track-bar 6 would be one of a pair the other member of which is held up by the screws 6^a 6^b. On each pair of track-bars engage loosely the runners of a frame that carries the fingers and cutter-blocks. 5^c indicates one of these runners, and its companion runner is concealed behind the side A. The runners are joined by a cross-bar 5^d, that serves as an axle for the fingers. On the bar 5^d are hung a number of fingers 7 7^a 7^b 7^c, and these fingers are properly spaced along the bar 5^d between suitable sleeves 8 8^a. To each finger is jointed an extension. For example, to the finger 7 is connected by a hinge-joint an extension 9, and to the finger 7^a is connected by a hinge-joint an extension 9^a. At the free end of the extension 9 is secured by pins or in any suitable way a broad plate of some material suitable to act as a cutting-block. Such material may be brass, copper, or preferably vulcanized fiber; but any material similar to these may be employed.

Each cutting-block 10 10^a, &c., is somewhat wider than the space from center to center between adjacent fingers, and the two contiguous edges of adjacent cutting-blocks overlap, and each cutting-block preferably has its edges beveled both on the upper and lower side, so that the extreme edge of each block is quite thin and knife-like. The object of this form of construction is to prevent the cutting or tearing of leaves that may be between adjacent blocks, especially when it is necessary to use the blocks so disposed in the book that there is only a single or very few leaves between them. Unless the edges of the blocks overlap they would be apt to shear the leaves, and unless the edges were beveled the gouge might sometimes shear the leaves at improper places; but with these overlapping and beveled blocks the leaves will not shear under any pressure which can be brought to bear in cutting the notches.

The adjustable track-bars enable me to change or adjust the relative height of the two ends of the bar or axle 5^d to conform to the size of the book to be indexed, and the hinged finger, with its two parts 7 and 9, permits the cutting-block 10 to assume a horizontal position, or such position that the leaves and the pressure on the leaves may render necessary, whether the block be inserted on a level with the bar 5^d or above or below it. The several fingers shown in Fig. 1 indicate the position that will be assumed by the several cutting-blocks when placed in the book.

To use the box, the book is placed in position, and the cutting-blocks are also placed

in the box, with the runners on their tracks, but with the end joints 9 9^a, &c., thrown back. The book is opened to the last one of the pages that the index character is to be printed on and the first or lowermost of the cutting-blocks dropped into position. The leaves of the book are closed over this bar until the page of the next to the last index character is reached and the second cutter-block is dropped into position, and so on until all the cutting-blocks have been dropped into position. If more than a single bank of cutting-blocks is used, the operation of placing the second one is precisely similar to that of placing the first. After all the cutting-blocks have been placed in position the cover of the book is closed down (or if not yet bound a bearing-plate is placed over the book) and the bar 4 swung over and caught, and as this bar 4 is so adjusted that it bears with considerable pressure on the top of the book when it is closed down the parts are held in position with sufficient pressure to cause them to stay securely in place. The box, with its prepared book, is now ready for the cutter and printer.

In Figs. 4 and 5 are shown other attachments which are sometimes used to hold the book in the clamping-box. These consist of a movable back in place of the hinged back and of adjustable front fingers or clamps that rest against the front edge of the book. The sides 22 22 and the bottom 23 of the box are made longer toward the rear than are the sides and bottom of Fig. 1, and the back-support 24 is adjusted to any angle and arranged to slide along the bottom of the box and to be held in its finally-adjusted position by means of the thumb-nuts 25, which engage on the ends of bolts that reach from the back-support 24 through slots 26. The back-support 24 is held firmly in its adjusted position by a brace 27, that drops from near its upper side and the lower end of which engages with the rack 28 on the bottom of the box. Fingers 29 30 rise from a rock-shaft 31 in front of the book, and the obliquity of the fingers is adjusted by a pin that extends from the finger 30 through the curved slot 32 in the side of the box and engages a thumb-nut on the outer side of the box. The finger 29 is adjustable along the axis of the rock-shaft 31, so that it may be used with a book that is shorter from top to bottom than the width of the box. The cutting-blocks are mounted on round stems 34, and the round stems engage in tubular joints 35 of the hinged fingers, thus enabling the cutting-block to assume its proper position irrespective of the angle at which the hinge-bar is set, and also enables the workman to adjust the cutting-block independently of the hinge-bar, so as to vary the length of the entire finger somewhat, if he desires to make that adjustment.

As most books will be indexed before the stiff boards of the cover are placed upon them, it is advisable generally to have the surface

of the clamp-bar *f* broad enough to cover most of the upper or first leaf of the book; or the same result may be attained by using with each book that is indexed a stiff plate 5 above the book and under the clamp-bar.

What I claim is—

1. A book-holding clamp for indexing-machines having in combination, a box with sides thereto, an adjustable back, a clamp, 10 and cutting-blocks adapted to be inserted between the leaves of the book, substantially as described.

2. In a book-holding clamp adapted to be used in connection with an indexing-machine, 15 a frame with vertically-adjustable sides, an adjustable back, and cutting-blocks adapted to be inserted between the leaves of the book, substantially as described.

3. In a book-holding clamp adapted to be used in connection with an indexing-machine, 20 a frame with vertically-adjustable sides, a clamp adjustable vertically in unison with the sides, and cutting-blocks adapted to be inserted between the leaves of the book, substantially as described.

4. In combination, a series of cutting-blocks and adjustable supporting means therefor to permit the independent insertion and adjustment of the blocks between the leaves, sub- 25 stantially as described.

5. In combination, a series of cutting-blocks capable of independent insertion between the leaves of a book, said blocks being adjustable relatively to each other, and means for hold- 30 ing the blocks in place, substantially as described.

6. A series of cutting-blocks arranged out of vertical line with respect to the edge of the book and in different horizontal planes, with 35 means for holding the blocks substantially as described.

7. A series of cutting-blocks arranged out of line with respect to the edge of the book, out of vertical plane and at different depths 40 relative to the book, with means for holding the blocks substantially as described.

8. In combination with a support, a series of cutting-blocks connected thereto and adjustable vertically and horizontally in rela- 45 tion to each other, substantially as described.

9. In combination with a support, a series

of cutting-blocks connected thereto, and adjustable longitudinally vertically and in a transverse direction in relation to the support, substantially as described. 55

10. In a book-holding clamp, a frame adapted to hold the book, a bar for supporting cutting-blocks, means of adjusting the ends of the bar whereby its angle to the horizontal may be adjusted, and cutting-blocks supported by 60 said bar, substantially as described.

11. In combination with a supporting-bar, a plurality of cutting-blocks arranged to overlap, substantially as described.

12. In combination with a supporting-bar, 65 a plurality of fingers hinged to the bar and each finger terminating with a cutting-block and being hinged between the bar and the cutting-block, substantially as described.

13. In combination with supporting means, 70 a series of cutting-blocks arranged to overlap and having beveled edges, substantially as described.

14. In combination, cutting-blocks suitably attached to a common support out of line and out of plane, and suitable means for fasten- 75 ing said support to the book to be indexed, substantially as described.

15. In a book-holding clamp, a frame adapted to hold the book, and cutting-blocks suit- 80 ably supported out of line and out of plane, substantially as described.

16. In combination with the supporting means, a series of cutting-blocks and the jointed arms for connecting the blocks with 85 the said support, substantially as described.

17. In combination, the plurality of series of cutting-blocks and adjustable holding means therefor, substantially as described.

18. In combination, a series of overlapping 90 cutting-blocks, and means for holding them adjustably, said blocks being adapted for independent insertion between and withdrawal from the leaves of a book, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses. 95

SMITH N. WEBB.

Witnesses:

A. O. CROZIER,
HENRY L. ADZIT.