

No. 679,386.

Patented July 30, 1901.

G. B. LAWTON.
LINE INDICATOR.

(Application filed Nov. 27, 1899.)

(No Model.)

2 Sheets—Sheet 1.

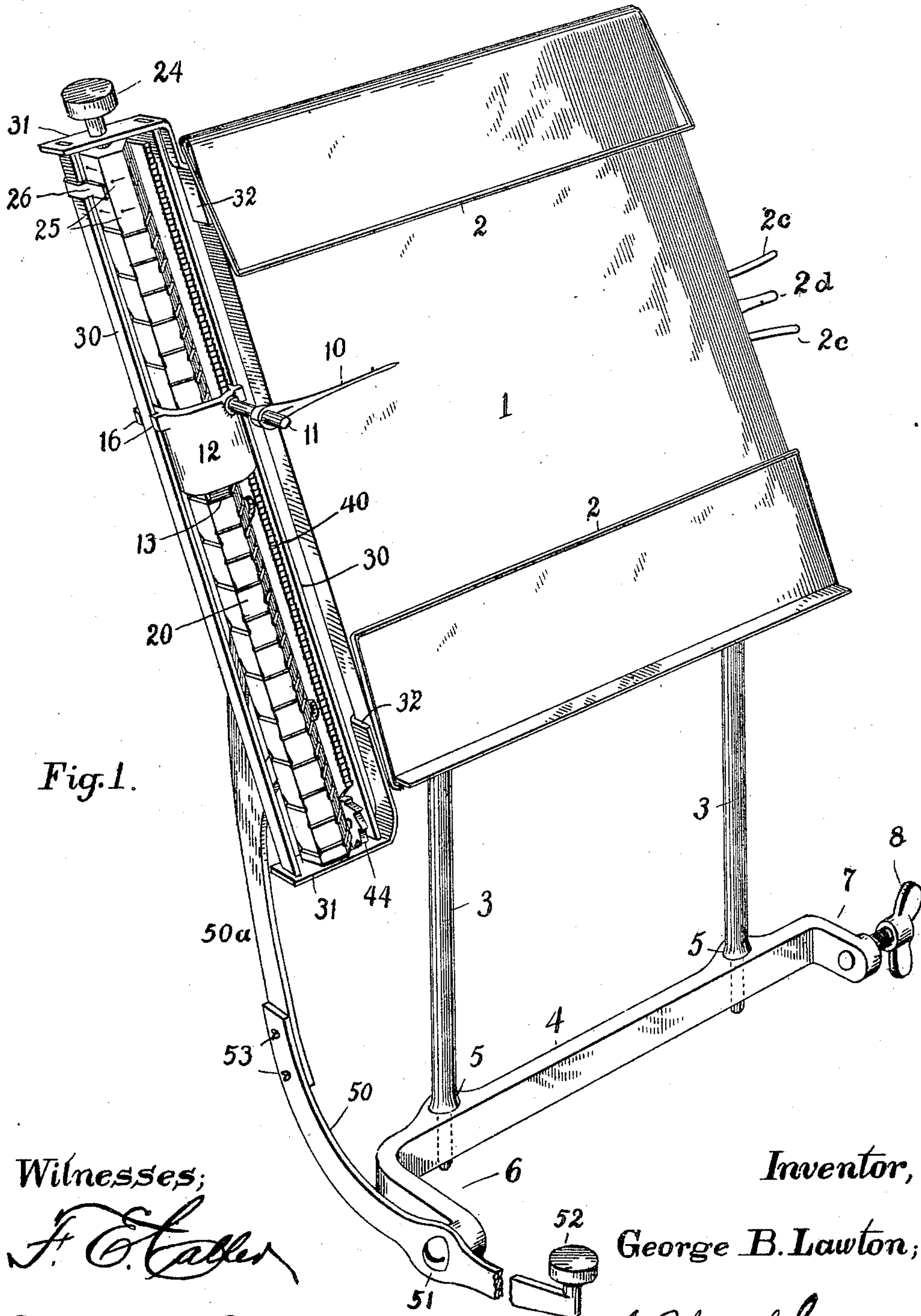


Fig. 1.

Witnesses;

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His Attorney.

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2 Sheets—Sheet 2.

Fig. 5

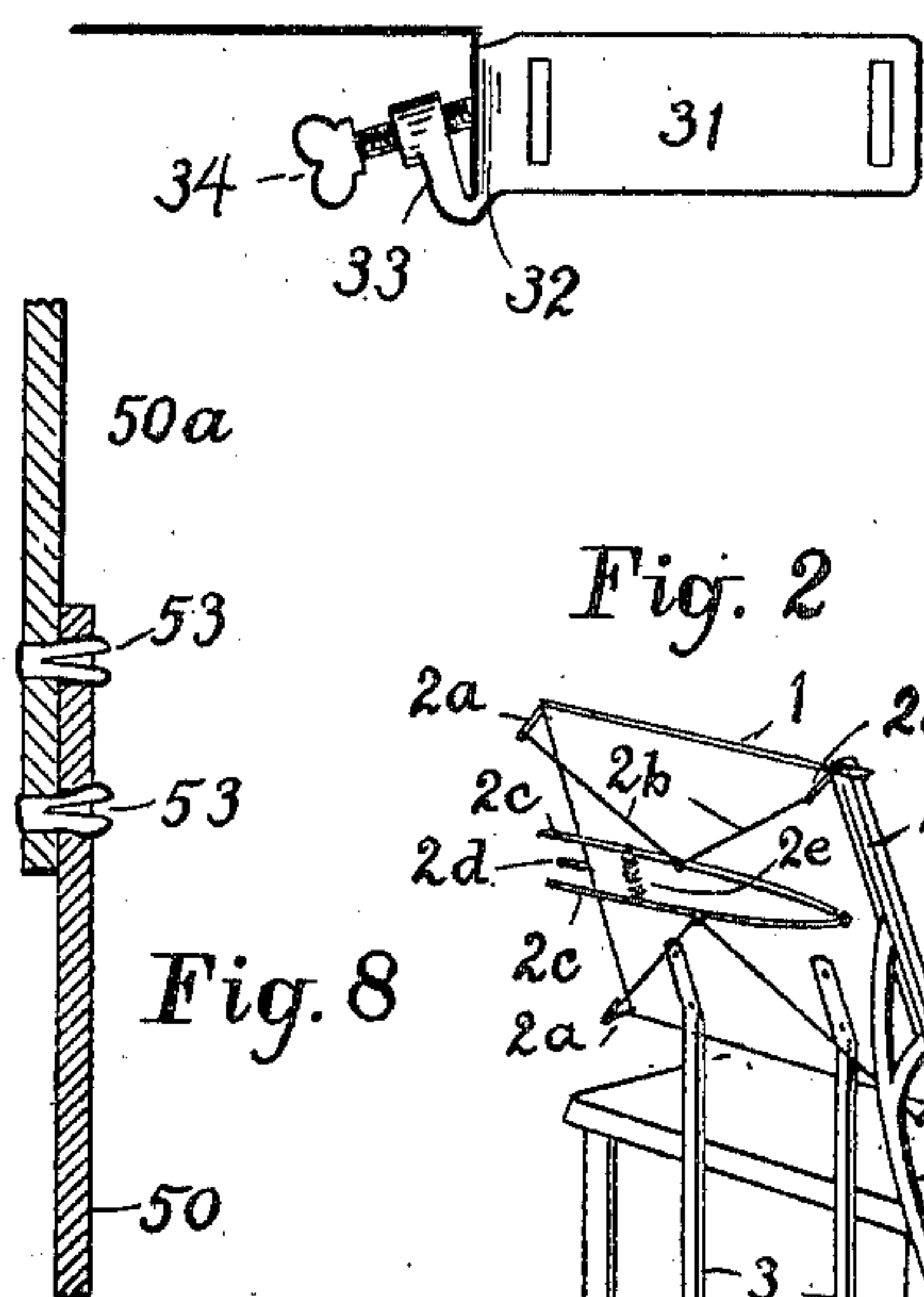


Fig. 7

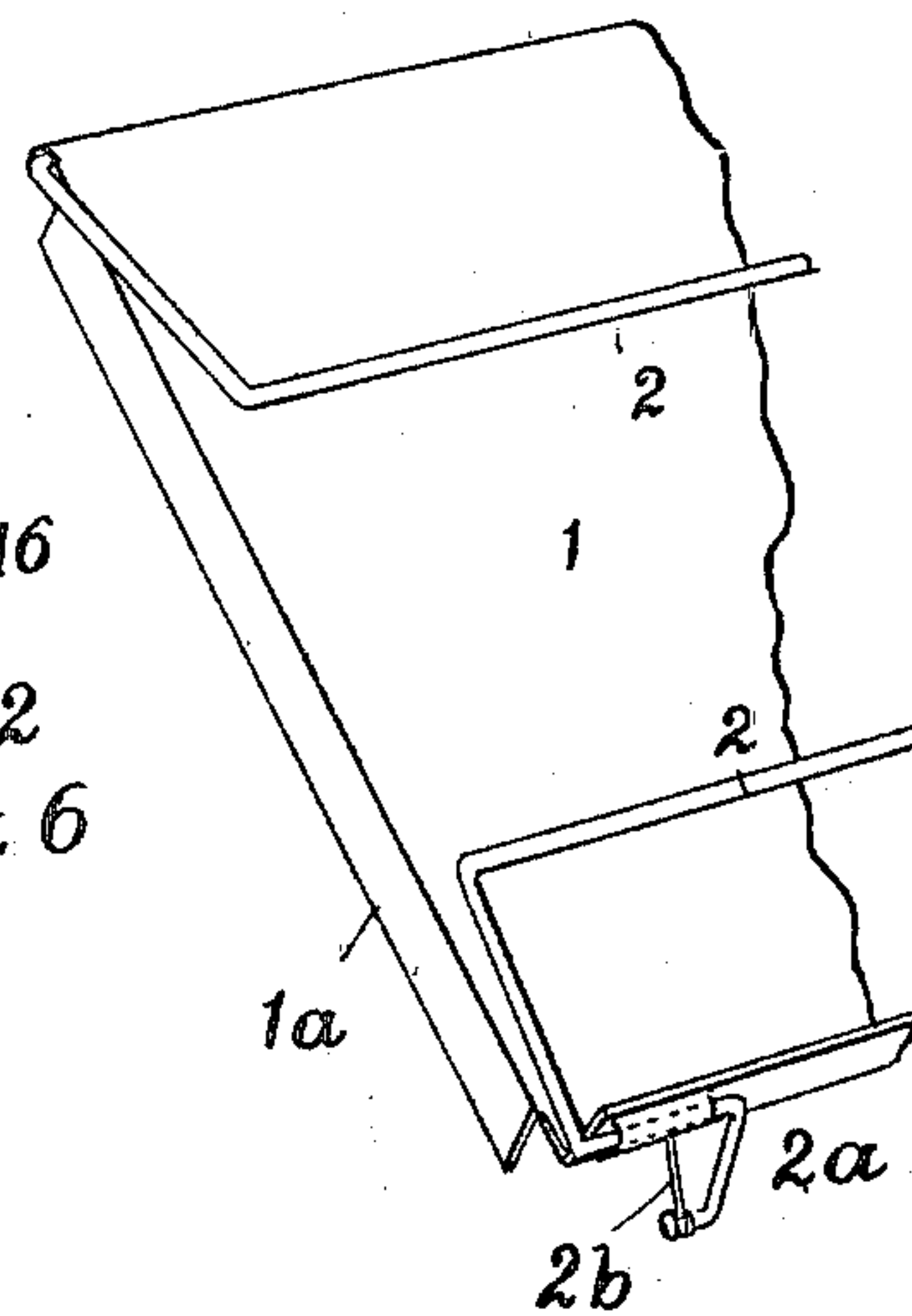


Fig. 2

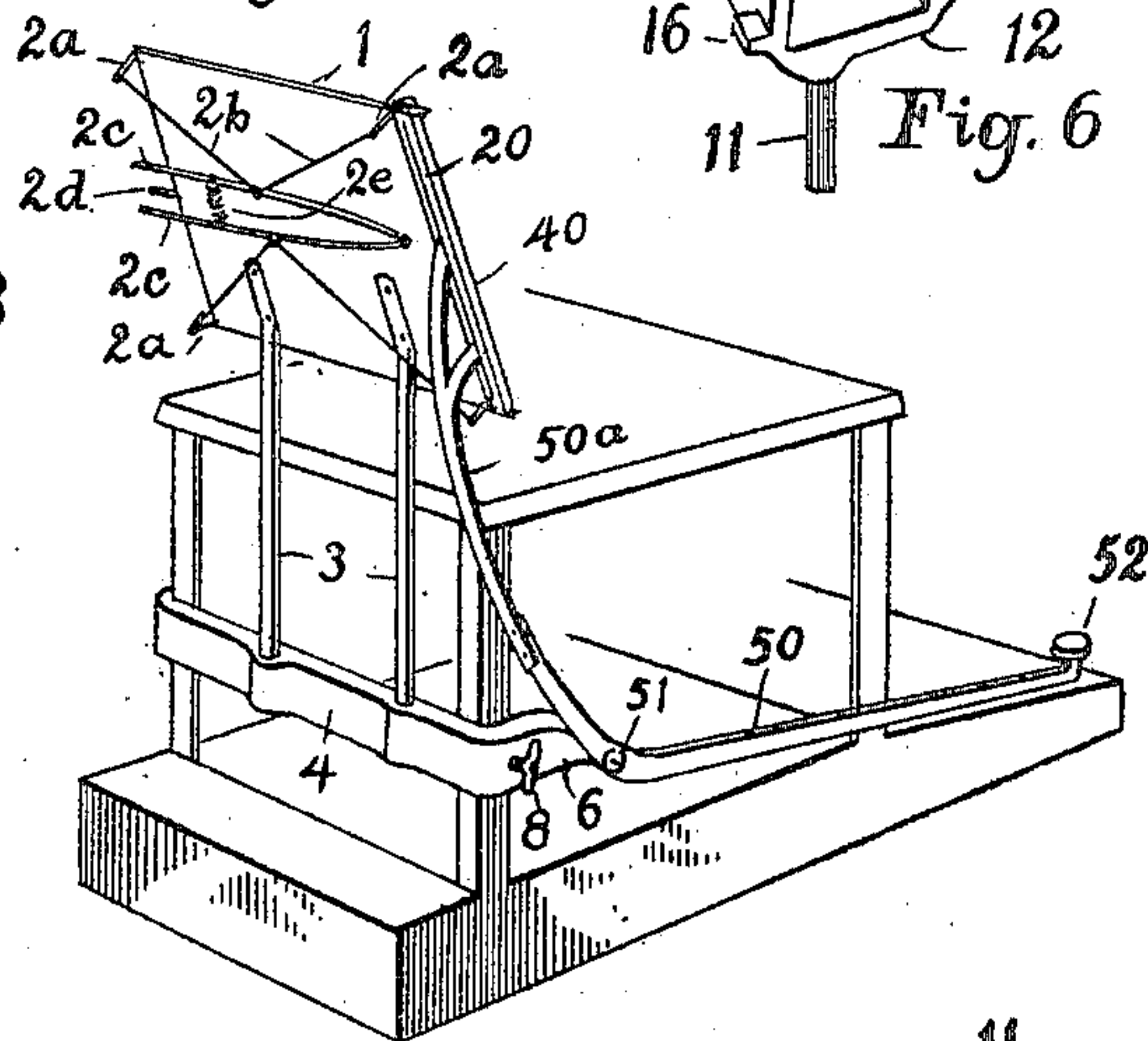


Fig. 6

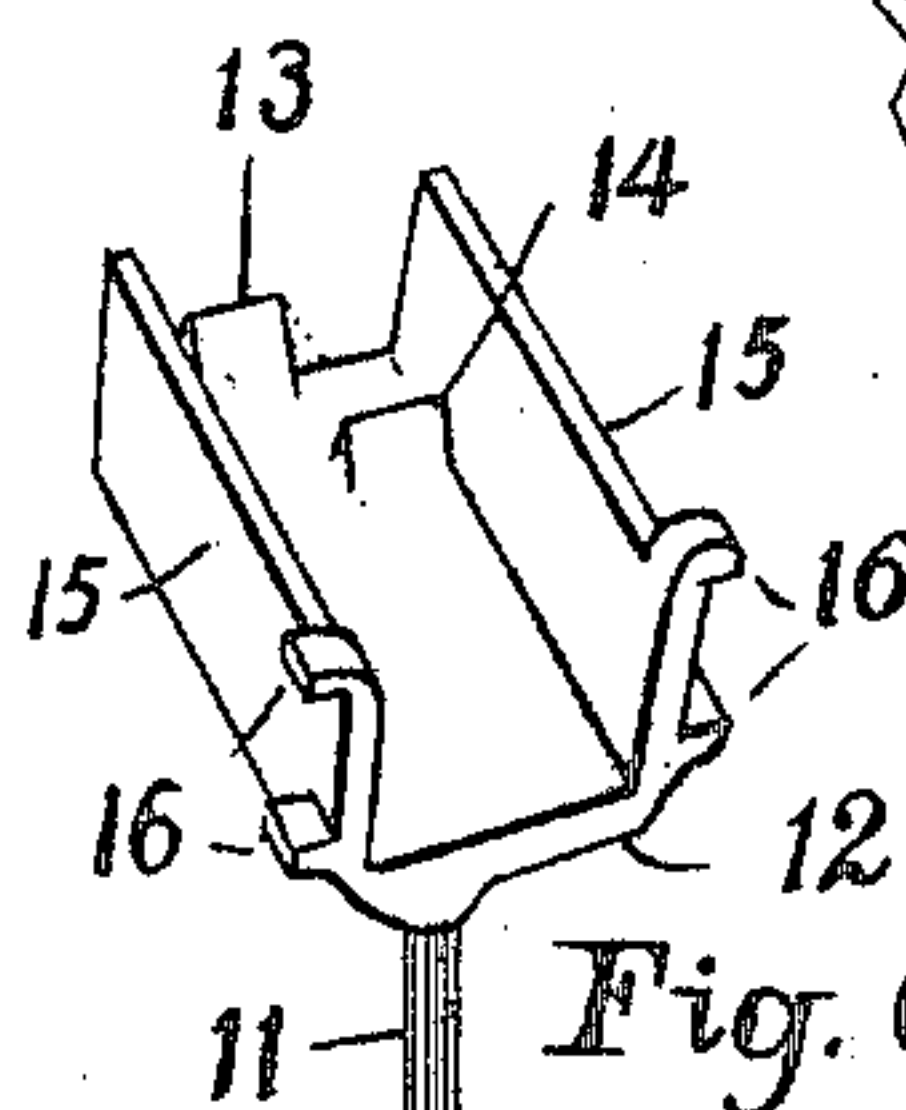


Fig. 8

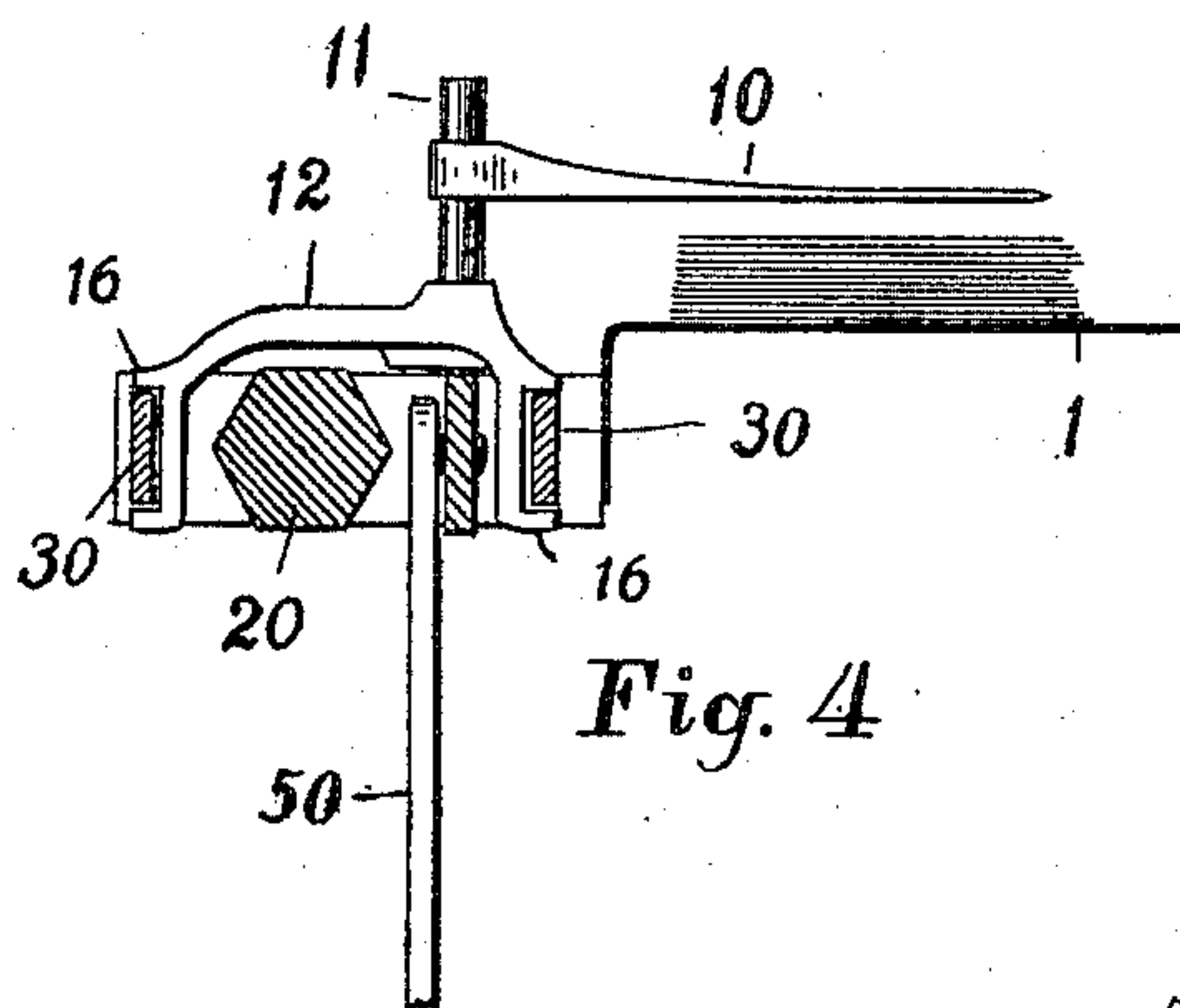


Fig. 4

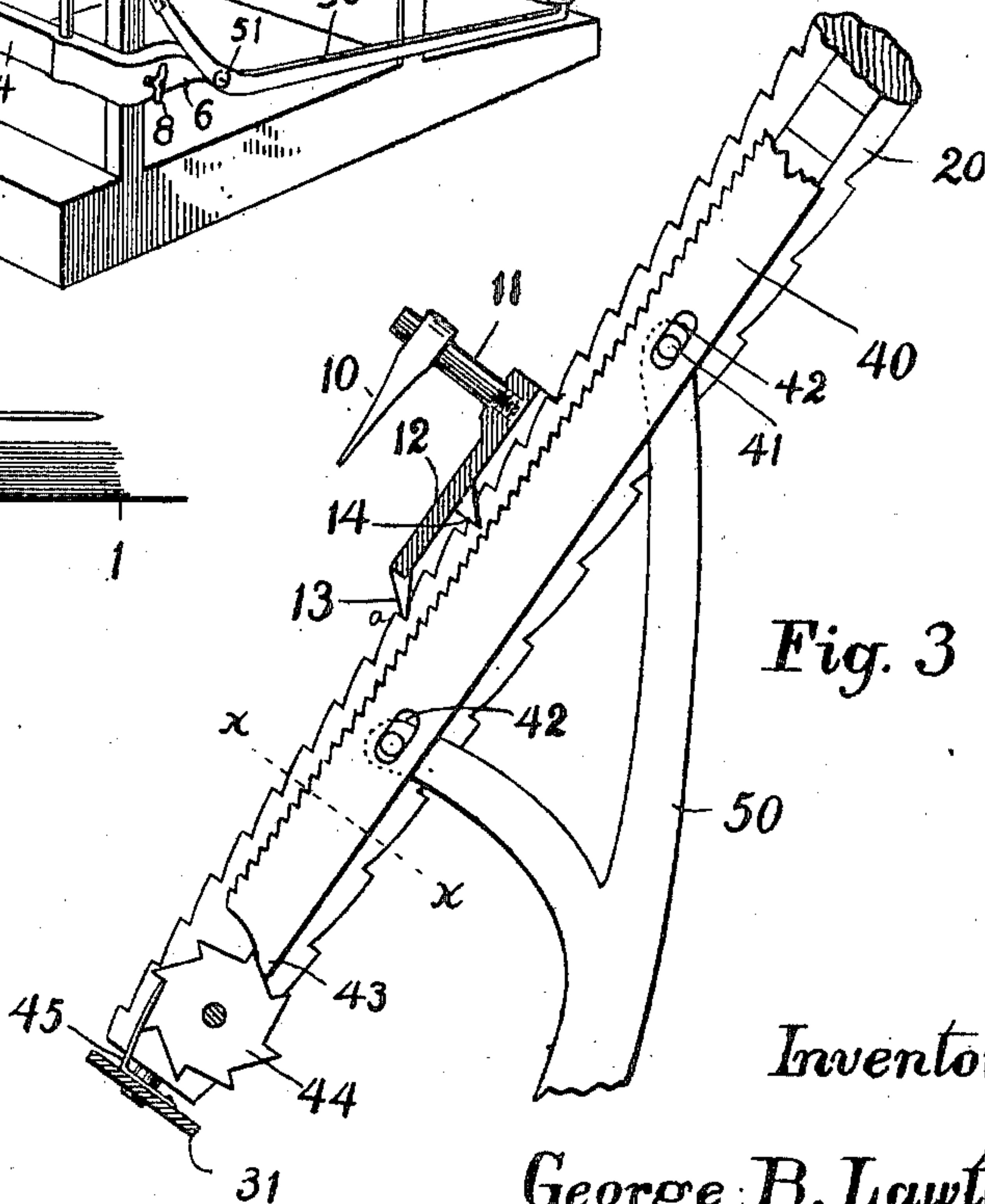


Fig. 3

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UNITED STATES PATENT OFFICE.

GEORGE B. LAWTON, OF BOSTON, MASSACHUSETTS.

LINE-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 679,386, dated July 30, 1901.

Application filed November 27, 1899. Serial No. 738,324. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. LAWTON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Line-Indicator, of which the following is a full, clear, and exact description.

When a type-writer operator is working from copy, there is always much loss of time, and frequently serious errors, arising from the difficulty of finding the place upon looking back from the type-writer to the copy. There have been several devices contrived for aiding the operator in instantly finding his place by means of a pointer or indicator movable down the face of the copy. These have been found of little value, however, either on account of complication of parts or because they were incapable of adjustment to accommodate the various widths of lines comprised in the different kinds of matter to be copied. To overcome such defects and provide a line-indicator capable of being quickly changed to suit the work to be copied, no matter how wide or narrow the lines thereof may be, and to produce an indicator embracing other valuable improvements is the object of this invention.

Referring to the drawings forming part of this specification, Figure 1 is a perspective view of my line-indicator complete, but unattached to a type-writer. Fig. 2 is a perspective view, upon a much smaller scale, showing the indicator attached to a type-writer. Fig. 3 is a detail view of the indicator-shifting mechanism. Fig. 4 is a transverse section of the same on the line xx in Fig. 3. Fig. 5 is a view of one of the base-pieces of said mechanism, showing its means of attachment to the copy-holder. Fig. 6 is a perspective view from beneath of the indicator-carrier. Fig. 7 is a perspective view of a portion of the copy-holder, and Fig. 8 is a sectional view showing the means for uniting the two parts of the actuating-lever.

Referring to Fig. 1, the numeral 1 indicates the copy-holder; 2, the clips for clamping the copy in place; 3, the standards supporting the copy-holder, and 4 the socket-piece, having sockets 5 for the reception of the ends of the standards 3 and provided with means for clamping it to a type-writer. Such means

comprise the elbows 6 7 and the set-screw 8, said screw being tapped either through the elbow 7, as here shown, or through the elbow 6, as indicated in Fig. 2.

The indicator or pointer 10 is held friction-tight by the post 11, rising from the indicator-carrier 12, the latter being slidably supported by the guide-bars 30, whose terminals are held by the base-pieces 31, secured to the copy-holder. The upper end of said carrier is formed with the lugs 16, adapted to loosely embrace said guide-bars for its proper retention in place, and yet so retained as to permit the lower end of the carrier to be swung upward and forward to a limited extent. The pointer 10 is mounted friction-tight upon the post 11 for the purpose of permitting said pointer to be angularly adjusted to bring it into exact correspondence with any set of lines and also to remove it from over the face of the copy-holder or of a clip 2 when the matter to be copied is being applied to the holder. The pointer is made slidable upon the post 11, and the latter made somewhat lengthy for the purpose of advancing said pointer toward or from the copy-holder, and thereby adapting it for a single sheet of paper or a thick copy-book.

My means for causing the pointer and carrier to descend step by step comprises, essentially, a notched bar engaged by the free end of said carrier and a lever-actuated device for lifting the carrier out of such engagement and permitting it to slide down to the next lower notch, such notches being spaced to correspond with the lines of the copy. To adapt such means for differently-spaced lines, I make this notched bar polygonal in cross-section, with differently-spaced notches for the several faces, rotating the same until it presents the set of notches most closely corresponding with the lines of the work to be copied. This prismatic bar 20 is rotatably held by the base-pieces 31, a suitable means, as the spring 26, bearing against the faces of said bar, being provided for retaining it in any desired position and the knob 24 serving for its rotation.

As illustrated in Fig. 6, the carrier 12 comprises the top or post-containing portion, the side flanges 15, fitting loosely between the guides 30, the guide-engaging lugs 16, the.

tooth 13 for engaging the notched bar 20, and a second tooth 14, the purpose of which is to prevent the carrier from sliding too far when released from a notch in said bar 20. The way in which this is done is this: Immediately below said tooth 14 and located between one of the guides 30 and the bar 20 is a finely-serrated strip 40, loosely held by the bifurcated ends of the lever 50, which is pivotally supported at 51 and actuated through the medium of the key 52 at its lower end. Said loose connection between the serrated strip and bifurcated ends of the lever 50 consists of the short longitudinal slots 42 in said strip and the pins 41 entering said slots from said ends. This allows said strip a limited play in the direction of its length. At the lower end of said strip and supporting the same is a ratchet-wheel 44, prevented from turning in one direction by the light leaf-spring 45. By this means when the strip is pressed forward and upward through action on the key 52 the end 43 of said strip slides along one of the teeth of the ratchet-wheel 44, thereby forcing said strip a short distance toward the upper end of the machine. As this strip thus moves its serrated edge engages the tooth 14 of the carrier 12 and raises the latter until its tooth 13 is free of the notches of the bar 20. At this instant the strip reaches the end of the tooth of the wheel 44 and at once slides to the base of the next tooth in said wheel, said carrier accompanying said strip in its limited downward movement, and thereby traveling just far enough to bring its tooth 13 well past the notch which formerly held it. The operator now releases his finger from the key 52, and the lever 50 and strip 40 drop back, the end 43 of the bar or strip 40 moving the ratchet-wheel 44 and turning the same the distance of a single tooth. The serrations of the strip 40 being thus removed from engagement with the carrier-tooth 14, the carrier slides downward until its tooth 13 reaches the next lower notch. In this manner each depression of the key 52 causes the carrier to descend the distance of a single notch and no farther.

I prefer to have the indicator portion of the arrangement separable from the copy-holder in order that the latter can be used unaccompanied by the other, if desired. To do this, I form the base-pieces 31 with the elbows 32, adapted to rest against the flanged edge of the copy-holder, forming said elbows each with a hand 33, reaching behind the opposite side of the flange. A set-screw 34, tapped through said hand and setting against said flange, rigidly retains each base-piece in place, and hence the indicator attachment connected therewith.

By having the line-indicator held directly behind the type-writer the copy is thereby brought directly into the view of the operator. The means for thus holding the device consists of the socket-piece 4, adapted to be se-

cured to almost any type-writer by means of the elbows 6 and 7 and set-screw 8, as before described. Into its sockets 5 the lower ends of the standards 3 are adapted to be inserted, and thereby retain the line-indicator at the proper point. The object in thus making the indicator removable is to adapt the type-writer to be returned to its case or whenever there is a desire of reducing its dimensions.

By having the standards removable from the socket-piece it becomes necessary to have the lever 50 separable also at a point between its pivot 51 and the bifurcated end. I render it thus separable by having the disconnected ends of the two sections overlap for a short distance and uniting them by the split spring-pins 53, rigidly held by one section, as 50^a, and capable of being forcibly entered into suitable holes in the other section, as shown in Fig. 8.

To render the work of inserting the copy beneath the clips 2, I form the latter with rigidly-projecting arms 2^a, joined by the links 2^b to the levers 2^c, pivoted to the under side of the copy-holder. By pressing the free ends of these levers together the clips 2 are raised far enough above the surface of the copy-holder to permit of the ready insertion of the copy. If it is wished to raise but one of the clips, one finger is placed against the fixed tongue 2^d, projecting from the copy-holder, and the other finger against the proper lever and said parts pressed together. Some resilient means, as the coiled spring 2^e, must of course be provided for pressing the clips against the face of the copy-supporting plate 1.

On each face of the bar 20 I provide at its upper portion two marks 25, spaced to equal the notchings below, the purpose of which is to enable the operator to select the side fitting the copy.

What I claim as my invention, and desire to secure by Letters Patent, is as follows, to wit:

1. In a line-indicator, the combination of a pointer, a slidable carrier therefor adapted to descend by gravity, a notched bar engaged by said carrier, and means for temporarily raising said carrier out of engagement with said notched bar and permitting it to descend to the next lower notch of said bar, substantially as set forth.

2. In a line-indicator, the combination of a pointer, a slidable carrier therefor adapted to descend by gravity, a prismatic bar variously notched on its different faces and capable of turning, and means for temporarily raising said carrier out of engagement with said bar and permitting it to descend to the next lower notch, substantially as set forth.

3. In a line-indicator, the combination of a pointer, a slidable carrier therefor adapted to descend by gravity, a notched bar engaged by said carrier, and a serrated strip adapted to be moved into engagement with said carrier

and to disengage it from said notched bar and to descend a short distance, substantially as set forth.

4. In a line-indicator, the combination of a pointer, a slidable carrier therefor adapted to descend by gravity, a notched bar engaged by said carrier, a serrated strip normally located close beneath said carrier, means for advancing said strip against said carrier, and the ratchet-wheel supporting the lower end of said strip, substantially as set forth.

5. In a line-indicator, the combination of a pointer, a slidable carrier therefor adapted to descend by gravity, a notched bar engaged by said carrier, a serrated strip normally located close beneath said carrier, means for advancing said strip against said carrier, the ratchet-wheel supporting the lower end of said strip, and the spring acting against said wheel, as set forth.

6. In a line-indicator, the combination of a paper-holding means, a carrier adapted to be moved parallel with the face of the paper held thereby, a post projecting from said carrier perpendicular to the face of said paper, and a pointer both slidable and rotative on said post, substantially as set forth.

7. In a line-indicator, the combination with the copy-holder and the indicator mechanism, of means for detachably securing said mechanism to said copy-holder, such means comprising the base-pieces having the elbows, the hands, and the set-screws, substantially as set forth.

8. In a line-indicator, the combination with the copy-holder and the indicator mechanism, of the means for detachably securing said parts together, such means comprising the base-pieces having the elbows, the hands, and the set-screws, said copy-holder being formed with the flanged edge with which said means engages, substantially as set forth.

9. The combination of the copy-holder

having the standards, the socket-piece adapted to receive said standards and provided with means for its attachment to a suitable support, of the line-indicator held by said copy-holder, the actuating-lever therefor pivoted to said socket-piece and formed in two separable sections, substantially as set forth.

10. In a line-indicator, the combination with the guide-bars, of the notched bar located between the same, the pointer, the carrier for said pointer adapted to be slidably held by said guide-bars but to be moved out of engagement with said notched bar, and means for thus disengaging said carrier from said notched bar.

11. In a copy-holder, the combination with the copy-supporting plate, of the clips pivotally held thereby and having the arms rigidly projecting therefrom, and the levers pivoted to said plate and linked at an intermediate point to said arms, whereby a pressure of said levers one toward the other is adapted to raise said clips, substantially as set forth.

12. The combination with the copy-holding plate, of the clips pivoted thereto and having the rigidly-projecting arms, the levers pivoted at one end to said plate and projecting beyond the edge of the same at their free ends, links joining the median point of said levers to said arms, resilient means for closing said clips, and the fixed tongue located between the free ends of said levers, substantially as set forth.

In testimony that I claim the foregoing invention I have hereunto set my hand this 18th day of November, 1899.

GEORGE B. LAWTON.

Witnesses:

EDWARD C. BATES,
A. B. UPHAM.