

No. 661,896.

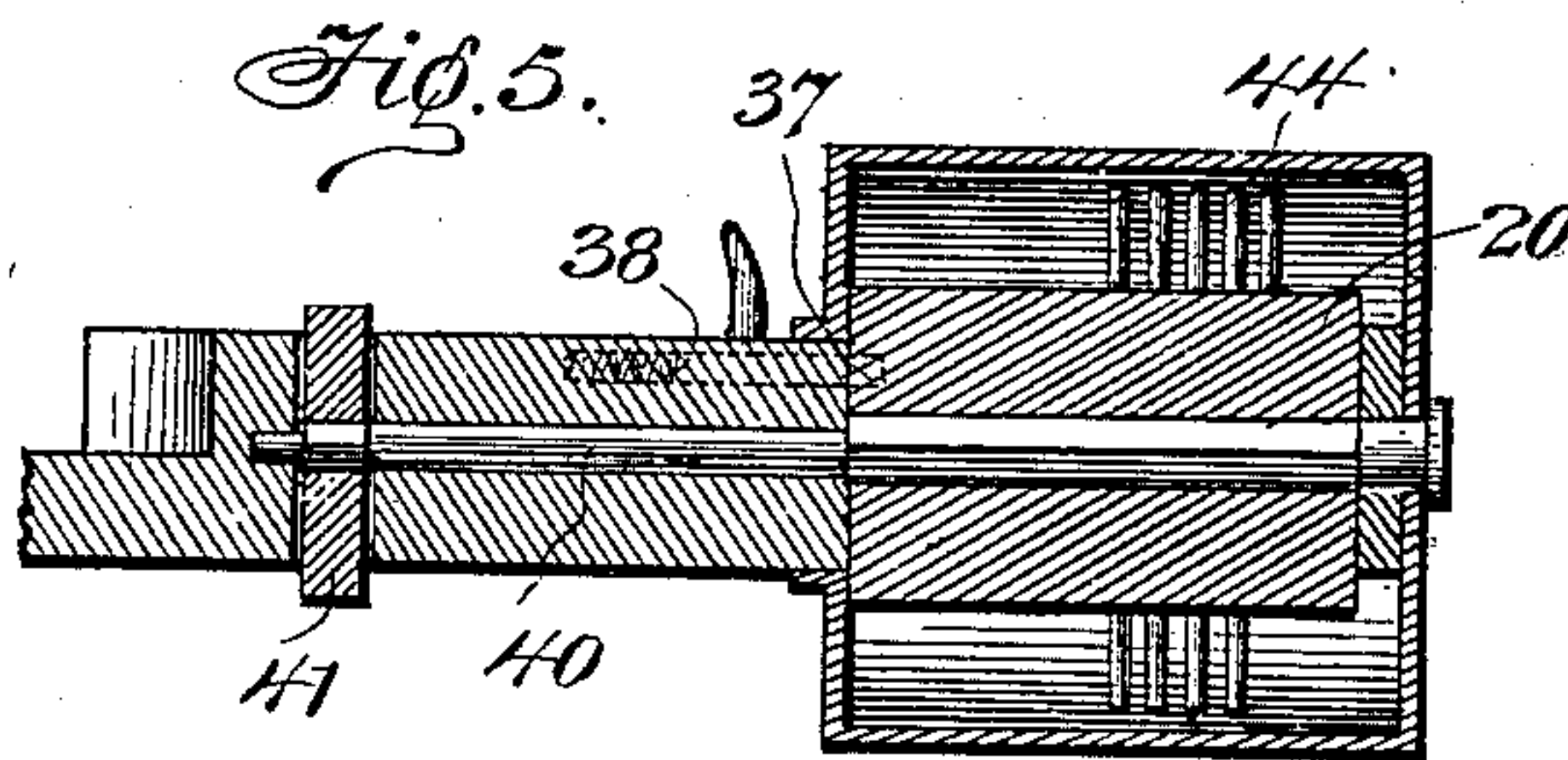
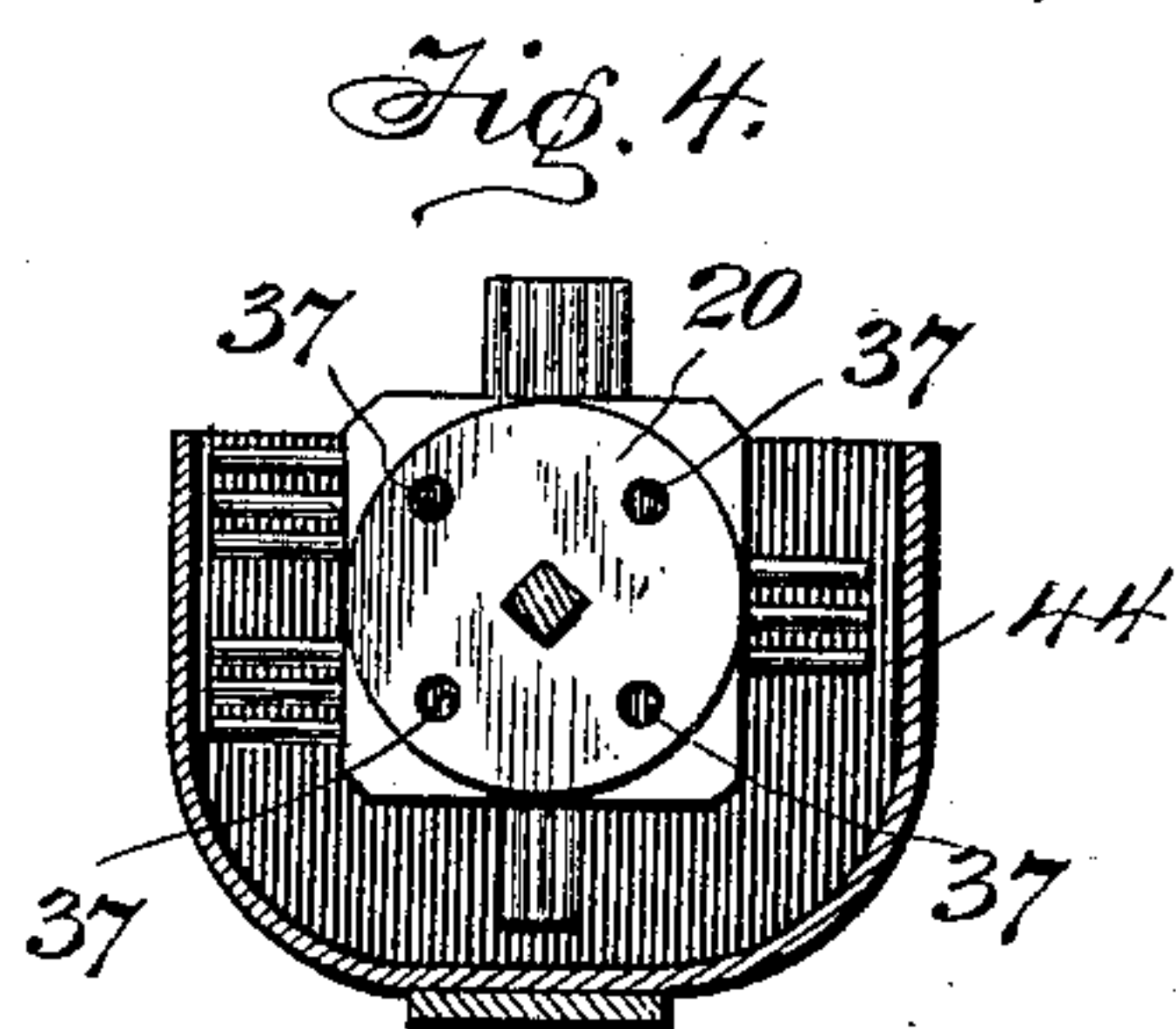
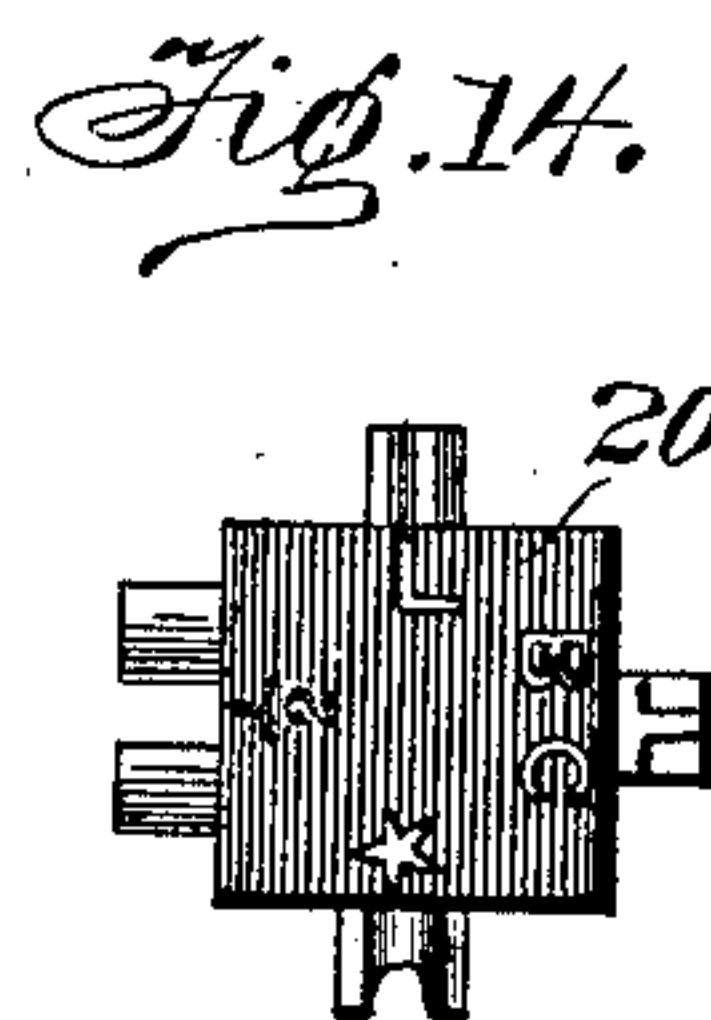
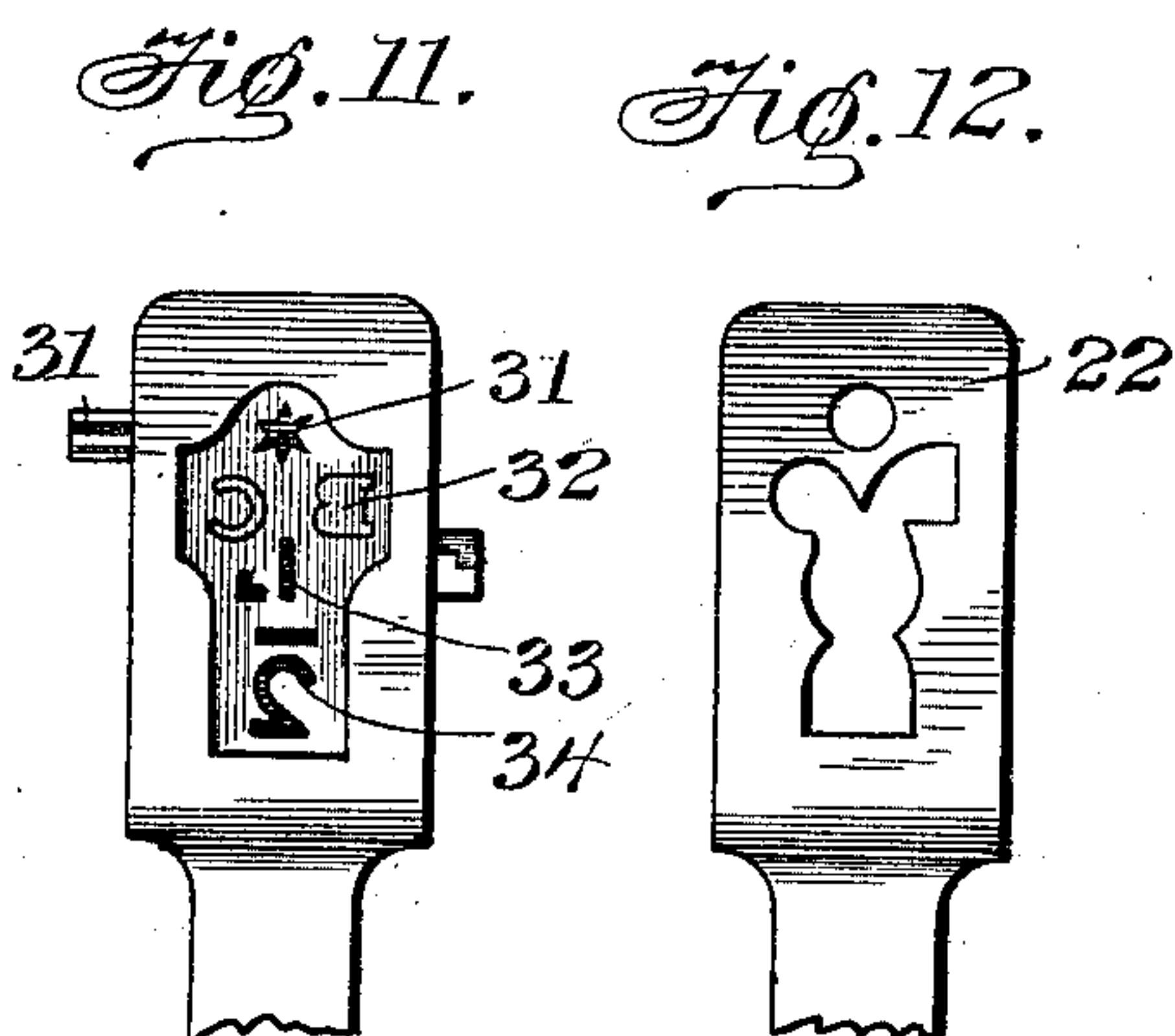
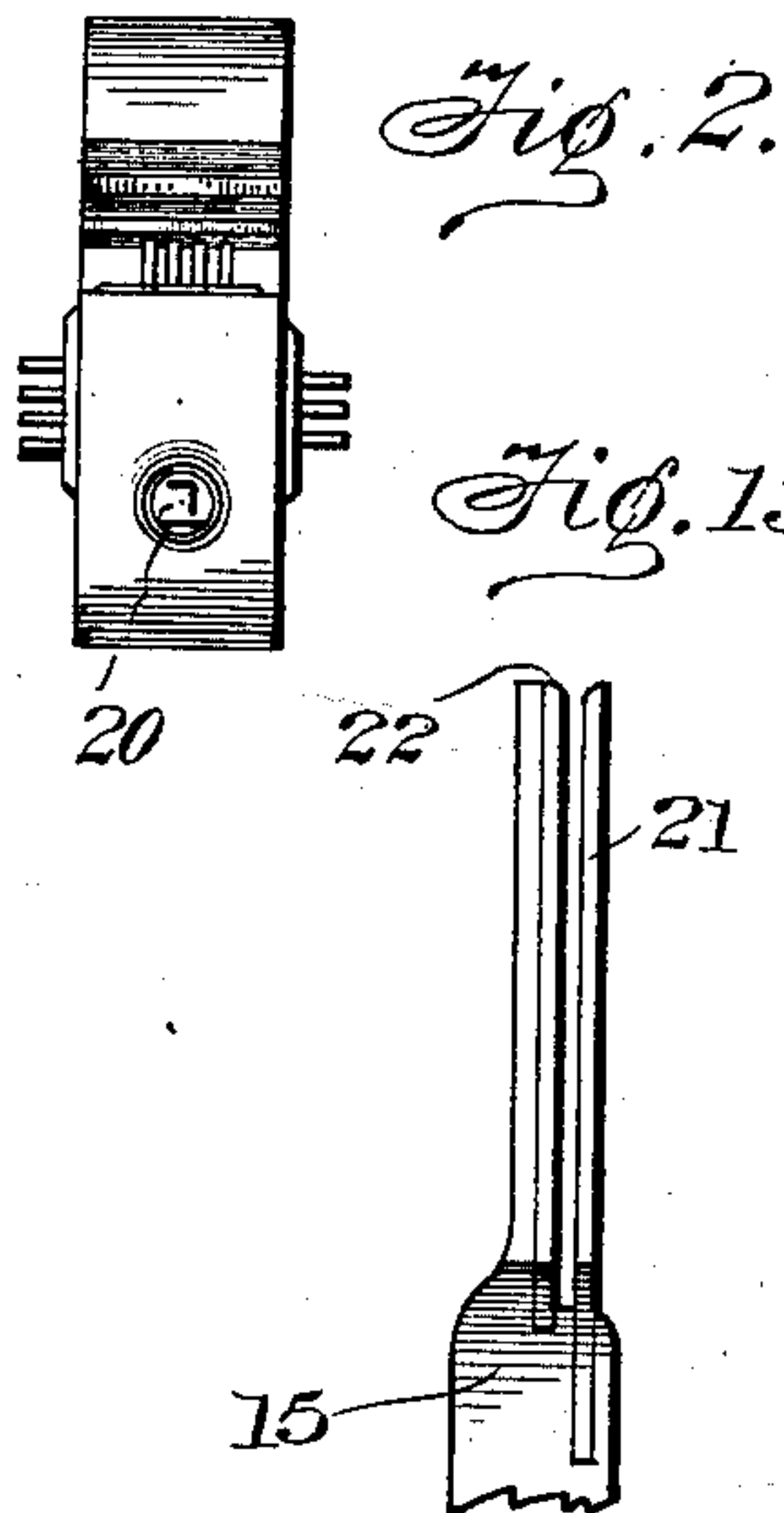
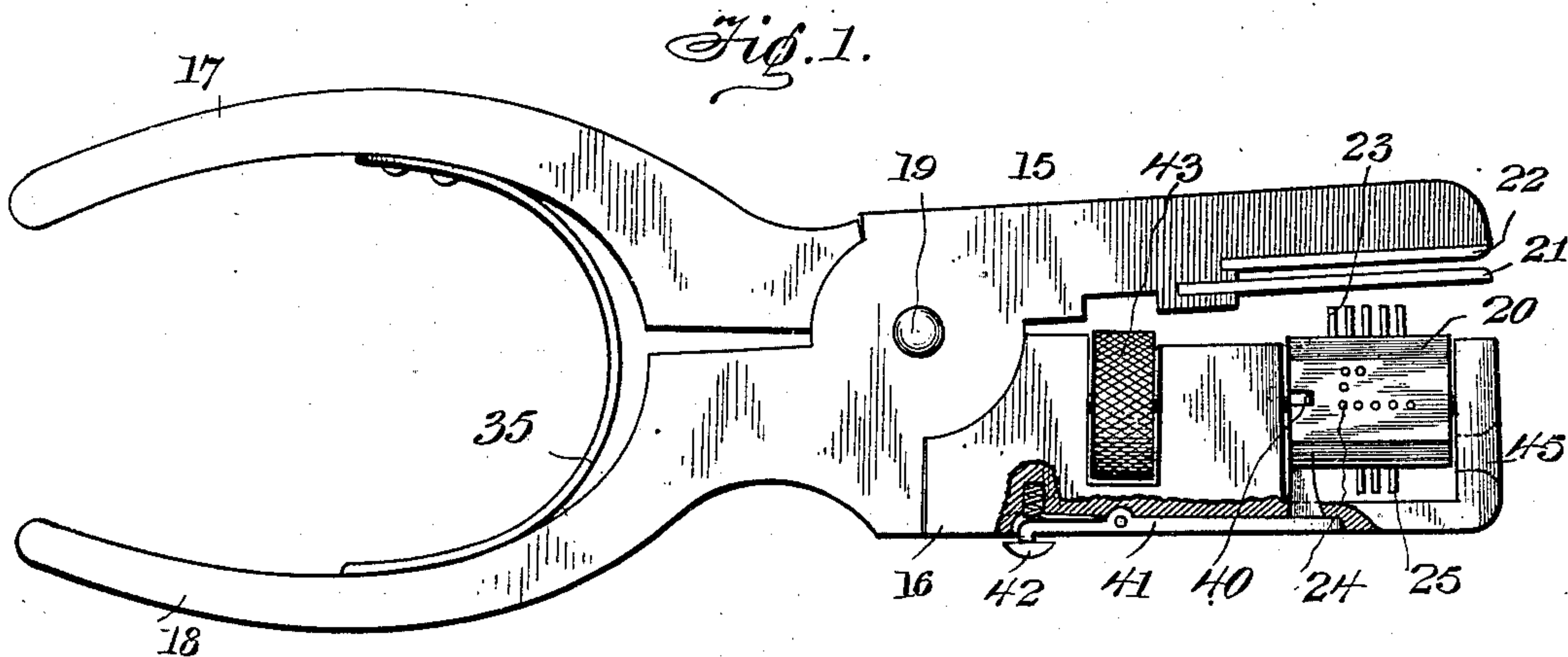
Patented Nov. 13, 1900.

W. H. SHANDS.
TICKET PUNCH.

(Application filed July 31, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Inventor:

W Hale Shands

Nelson Fenwick Lawrence.

Attorneys,

Witnesses
Fenton S. Bell,
Clyde D. Williams.

No. 661,896.

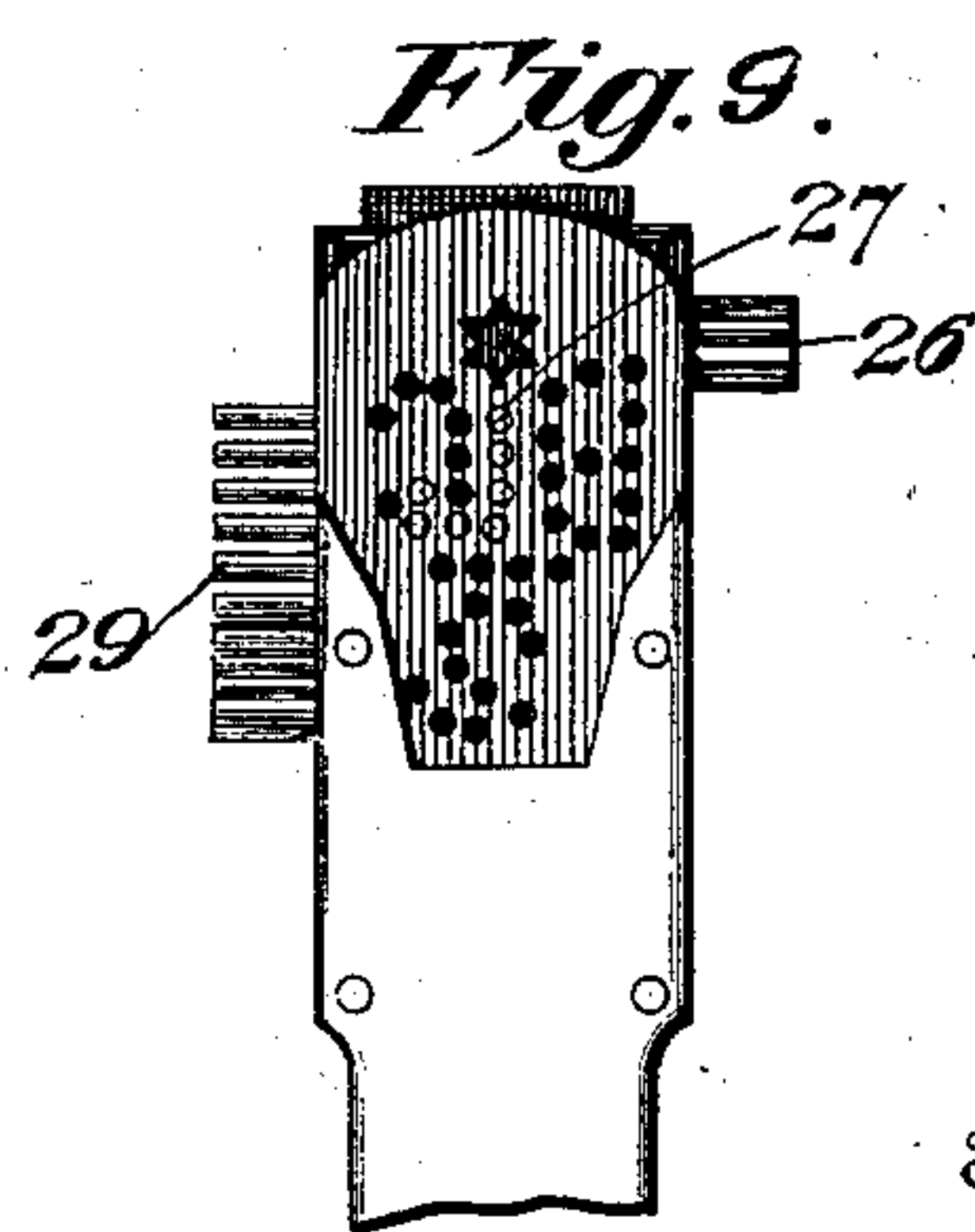
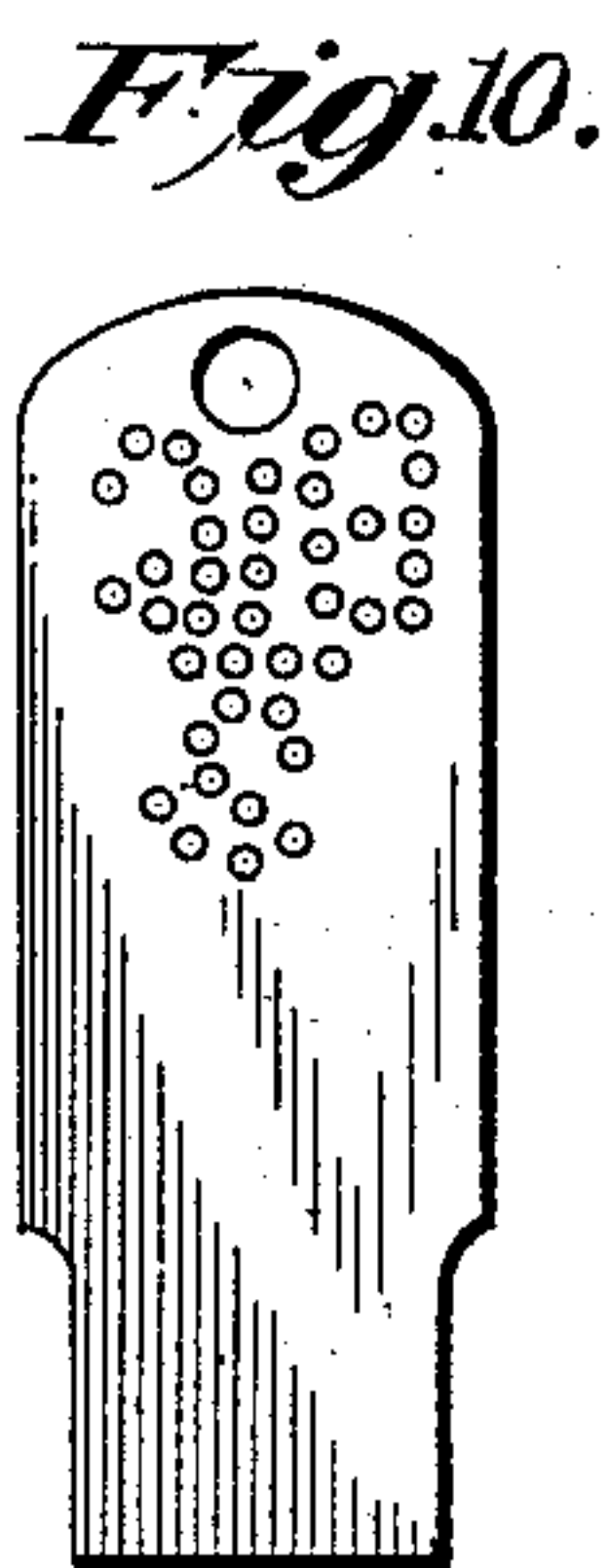
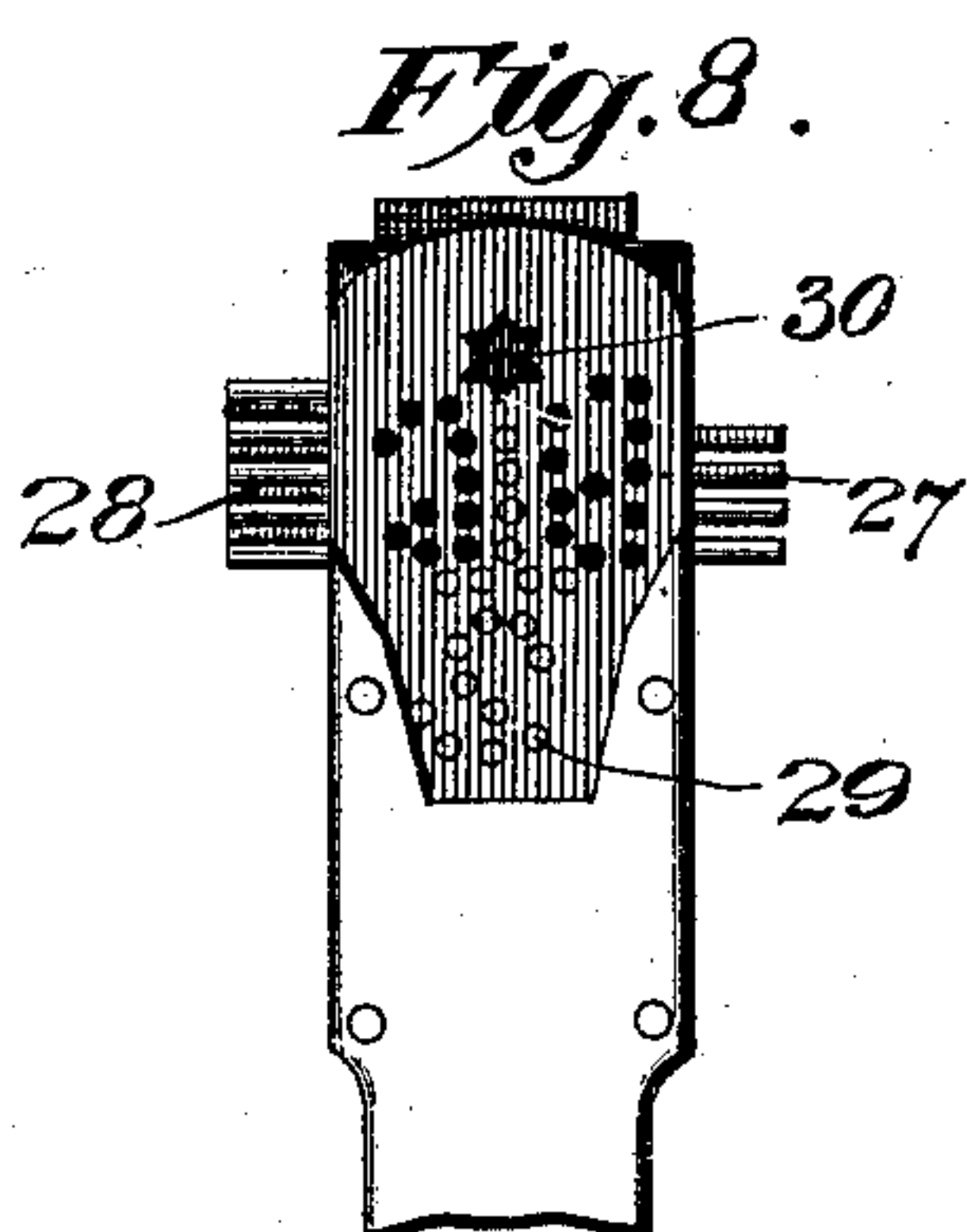
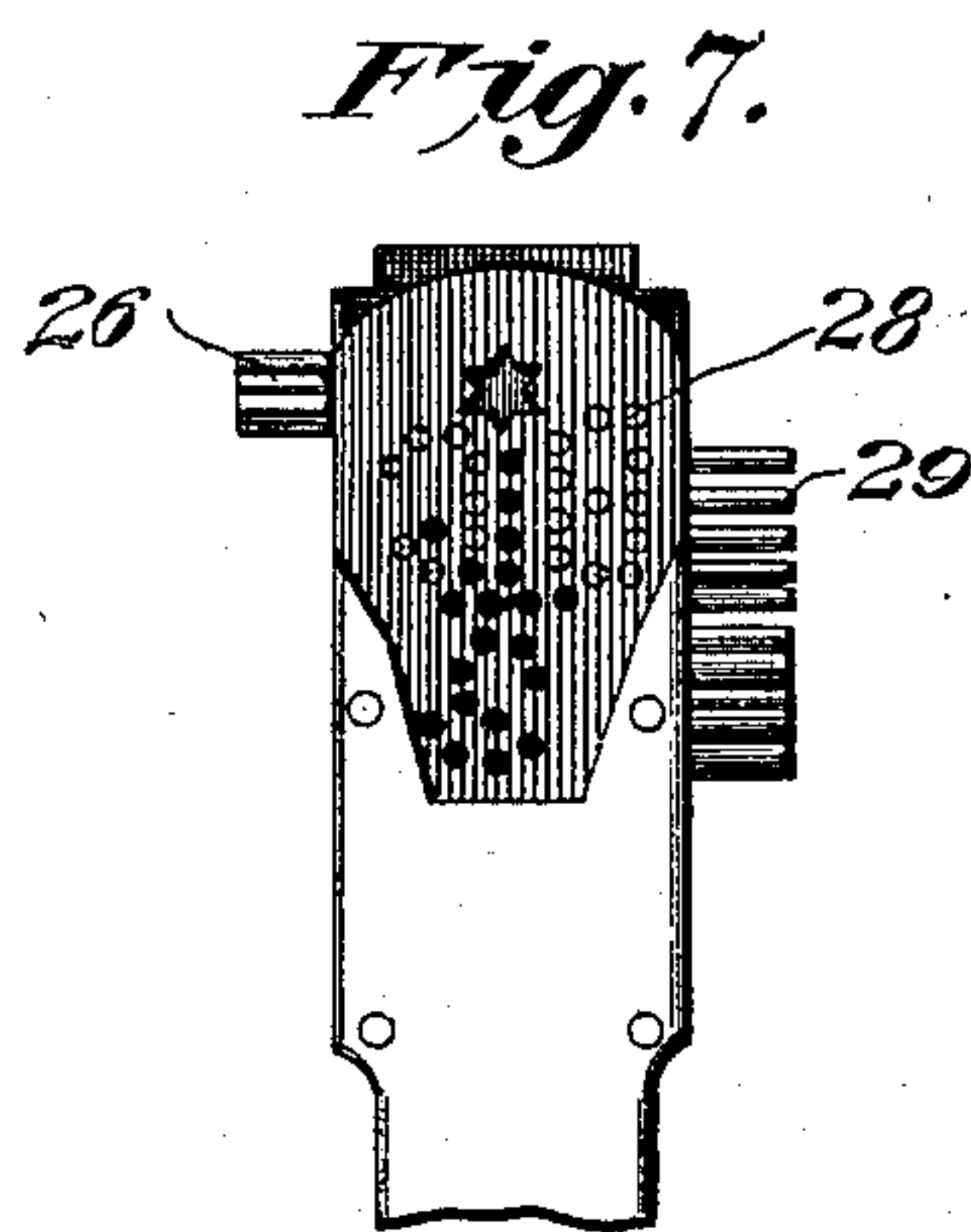
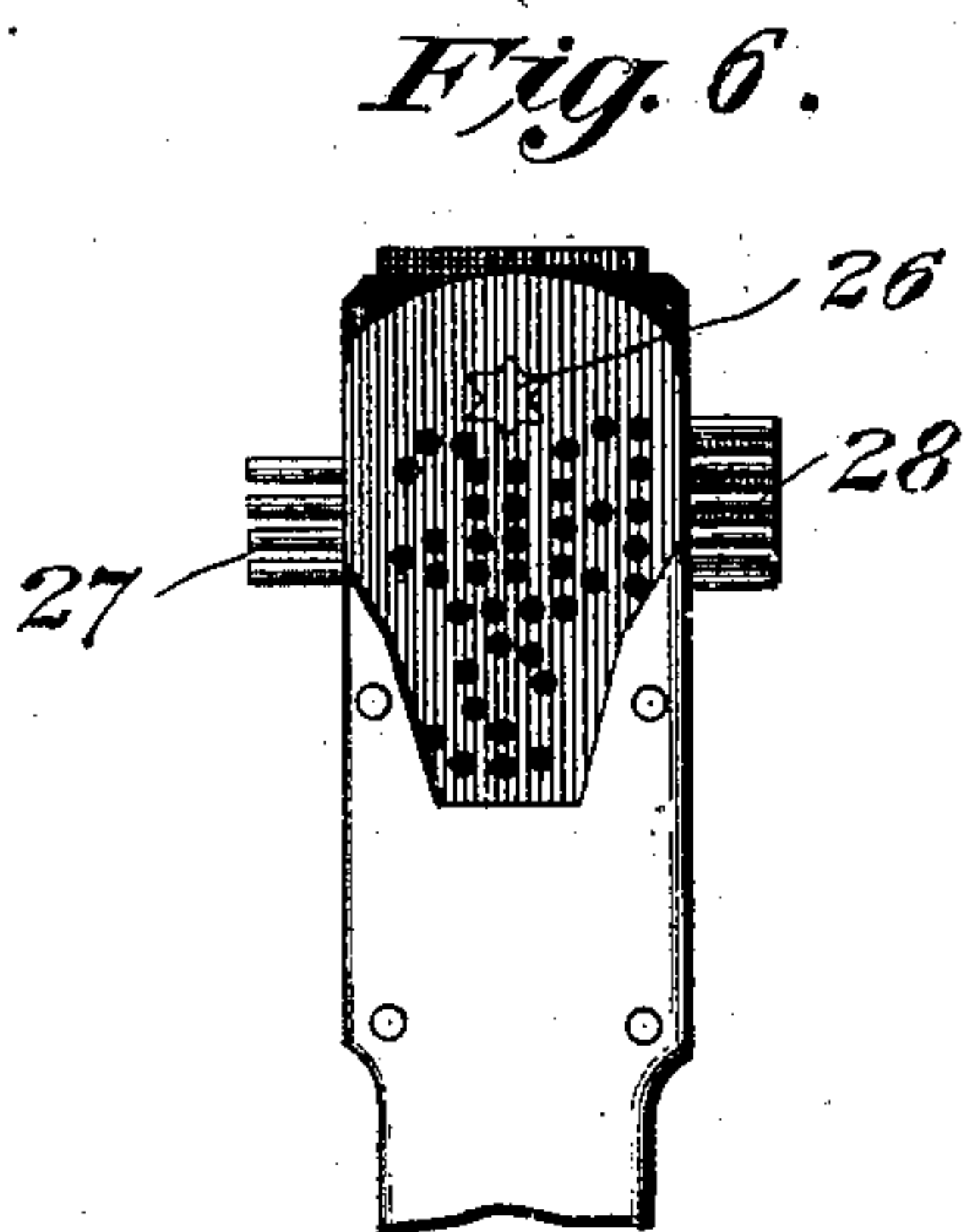
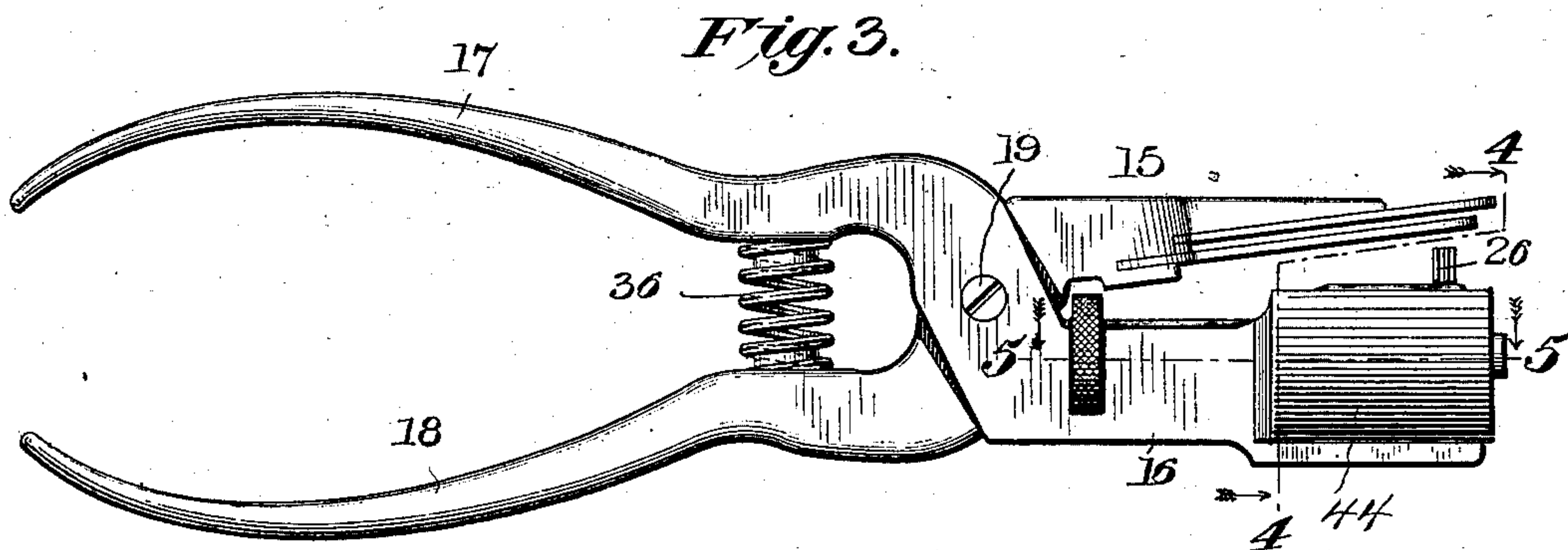
Patented Nov. 13, 1900.

W. H. SHANDS.
TICKET PUNCH.

(Application filed July 31, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Inventor:

W. Hale Shands

Witnesses

Fenton S. Belt,
Clyde D. Williams.

Mason F. Wick Lawrence.

By

Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM HALE SHANDS, OF CLINTON, SOUTH CAROLINA.

TICKET-PUNCH.

SPECIFICATION forming part of Letters Patent No. 661,896, dated November 13, 1900.

Application filed July 31, 1900. Serial No. 25,419. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HALE SHANDS, a citizen of the United States, residing at Clinton, in the county of Laurens and State of South Carolina, have invented certain new and useful Improvements in Ticket-Punches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to punches for punching tickets, and more especially to such devices of this class as are intended for use by railway ticket or station agents.

The special object of my invention is to provide a ticket-punch of improved construction whereby with a single punch a number of holes of different contour may be punched in a ticket or tickets, rendering it possible for an agent to dispense with the numerous punches now required to perform this work.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically claimed.

In the accompanying drawings, Figure 1 illustrates in side elevation a punch constructed in accordance with my invention, a portion being broken away to expose the interior construction. Fig. 2 is an end view of the same. Fig. 3 is a view in side elevation of a punch of a slightly-modified construction. Fig. 4 is a transverse sectional view on the line 4 4 of Fig. 3. Fig. 5 is a longitudinal sectional view on the line 5 5 of Fig. 3. Figs. 6, 7, 8, and 9 are views in elevation of one of the jaws of the punch, illustrating the die-plate and showing, respectively, in the several views the different perforating-punches in position in their corresponding openings in the die-plate. Fig. 10 is a view in elevation of the clearer-plate to be used with the die-plate illustrated in Figs. 6 to 9. Fig. 11 is a view in elevation of one of the jaws of the punch, showing a die-plate with different form of openings. Fig. 12 is a view in elevation of a clearer-plate for operation with the die-plate shown in Fig. 11. Fig. 13 is a view in side elevation of the jaw illustrated in Figs. 11 and 12,

showing the relative positions of the die-plate and clearer-plate. Fig. 14 is an end elevation of the die block or head of the punch provided with the dies suitable for engaging the plates shown in Figs. 11 and 12.

Referring to the drawings by numerals, 15 and 16 indicate the jaws of the punch, and 17 and 18 the corresponding handles, formed integral therewith, each jaw and handle of a single piece crossing each other and pivoted together by a screw or pin 19 in the well-known manner. In the jaw 16 are formed suitable recesses to receive a punching head or block 20, which is longitudinally pivoted therein and provided with a plurality of faces, from which project a corresponding number of punches, the punches being intended to pierce the ticket and remove a portion of its material by being forced through the ticket and other suitable apertures in a clearer-plate 21 and die-plate 22, the ticket to be punched to be inserted between the clearer-plate and die-plate and the punches to pass first through the opening in the clearer-plate, then through the ticket, and finally into the die-plate. In this class of punches and die-plates—that is to say, where the punch operates through a corresponding opening in the die-plate—it has been usual to furnish the instrument with but a single punch and a single die-plate, with the opening to correspond to the punch, and in order to dispense with a plurality of punches I have, as before stated, provided a rotatable head, with different forms of punches projecting from each of its faces, and a single die-plate having openings to correspond with and receive each of said punches. In order to permit of this construction of die-plate, I have placed the punches on the respective sides of the head in different planes or zones of the head—as, for instance, in Fig. 1 I show perforating-punches 23, 24, and 25, in Fig. 3 punches 26, in Fig. 6 punches 27 and 28, and in Fig. 7 punches 26 and 29—all of said punches, except the punch 26, being of the class known as “perforators,” in which the outline of the letter or figure is punched through the ticket by a series of small punches or perforators passing through the corresponding series of holes in the die-plate.

The punch 26 in the zone or plane nearest

to the end of the head or block operates in conjunction with a hole 30 in the die-plate, and in Fig. 6 I have shown the die-plate with said punch 26 in its cooperating opening.

5 This punch 26 is star-shaped, as shown, while the punch 29, which is shown in position in the holes of the die-plate in Fig. 8, is in the form of the fraction " $\frac{1}{2}$," the punch 28 in the form of the letters "B C" in the openings of the die-plate in Fig. 7, and the punch 27 in the form of the letter "L" and shown in position in the die-plate in Fig. 9.

In Figs. 11, 12, 13, and 14 I have illustrated this point of my invention as embodied in an instrument in which the punches and the corresponding holes in the die-plate are not of the perforating forms hereinbefore described, but are intended to be each composed of a solid punch operating in conjunction with a corresponding hole in the die—as, for instance, as shown in Fig. 11, these punches and dies are respectively of the form of a star, as at 31, the letters "B C" at 32, the letter "L" at 33, and the fraction " $\frac{1}{2}$ " at 34, said Fig. 11 illustrating the holes in the die-plate, except that at "B C" the punches are illustrated in the holes of the die-plate. It will be noted that the holes 31, 32, 33, and 34 of the die-plate are likewise in different planes to correspond with the dies which operate in them in the same manner as with the punch and holes in the die-plate hereinbefore described. By this arrangement of punches and dies it is possible to use a single die-plate with a number of punches without having the punches interfere in any wise with the action of each other.

In Fig. 10 I have illustrated the clearer-plate used in connection with the dies 26, 27, 28, and 29 removed from the jaw 15, and in Fig. 12 I have illustrated the clearer-plate used in connection with the punches and dies illustrated in Figs. 11 and 14. I have also shown in Figs. 1, 3, and 13 both the die-plate and clearer-plate inserted in slots in the jaw 15, in which position they are suitably secured by rivets or screws, if desired, and from which they may be removed for the purpose of repair or replacement, thereby obviating the necessity of the renewal of the whole when the die-plate or clearer-plate is injured or broken. In Fig. 1 I have shown the ordinary flat spring, as at 35, for normally pressing the handles 17 18 apart, and in Fig. 3 I have shown a spiral spring 36 arranged for the same purpose. I have also shown in Figs. 4 and 5 the head 20 provided with openings 37 in its inner end to receive a normally spring-pressed pin or latch 38 to secure the head in position, said pin being provided with a handle 39 and the head being mounted upon a pivot 40, provided with a milled nut 41 for turning it. A modification of this construction is shown in Fig. 1, in which the notches 40 in the sides of the head take the place of the holes 37 in the ends, and a piv-

oted spring-pressed pawl 41 is normally engaged in said notches, said pawl being provided with a button 42 for disengaging it and the head being turned by a milled nut 43 in the manner before described.

In Figs. 3, 4, and 5 I have shown the head as inclosed in a casing or box 44 to protect it from injury or dust. In the construction shown in Figs. 1, 2, and 14 the head 20 is provided with letters or characters corresponding with the holes to be cut by the punches, said letters or characters being located upon the outer end of the head and observable through an opening 45 in the end of the punch-jaw 16, whereby the position of the various punches may be ascertained by observation through said hole.

The clearer-plates shown in Figs. 10 and 12 are not provided with snugly-fitting apertures, as are necessary in the die-plates, it being only required of these plates to strip the ticket off the punches after the holes have been pierced.

The construction and operation of the invention will be readily understood from the foregoing, and it will be obvious to those skilled in the art that changes and variations in the form of the parts might be made without departing from the spirit of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination in a ticket-punch, of a rotatable head provided upon each of its faces with a piercing-punch for cutting a hole of a different outline, and a single die-plate provided with a number of die holes or openings of proper form to permit of the passage therethrough of all of the several respective punches, substantially as described.

2. The combination in a ticket-punch of two jaws adapted to be forced toward each other, a punch block or head mounted upon and pivoted so as to extend longitudinally of one of the said jaws, a series of punches of different forms projecting from the several sides of the head, a clearer-plate secured to the opposite jaw and provided with openings to permit of the passage of all of the punches, and a single die-plate provided with openings corresponding in size, form and position to the various punches, whereby one die-plate may be used with all the punches, substantially as described.

3. The combination in a ticket-punch of two jaws adapted to be forced toward each other, a punch block or head mounted upon and longitudinally pivoted in one of the said jaws, a series of punches of different forms projecting from the several sides of the head, a clearer-plate secured to the opposite jaw and provided with openings to fit and permit of the passage of all of the punches, a die-plate provided with openings corresponding in size, form and position to the various

punches, and means for rotating the head and securing it in position, substantially as described.

5 4. The combination with the two jaws of a ticket-punch, of a head rotatable upon a longitudinal axis in one jaw, and a die-plate fixed in the other jaw, punches of different forms projecting from the several sides of the head in different planes or zones, the die-plate being provided with correspondingly shaped and located openings so as to be capable of use with any of the punches, and means for adjusting the head on its axis, substantially as described.

15 5. The combination with the two jaws of a ticket-punch, of a head rotatable in a longi-

tudinal axis in one jaw, a die-plate fixed to the other jaw, punches of different forms projecting from the several side faces of the head, and letters or characters of the form 20 of the punches located upon the outer end of the head, the jaw being provided with an aperture through which said letters are observable to indicate the position of the various punches, substantially as described. 25

In testimony whereof I hereunto affix my signature in presence of two witnesses.

WILLIAM HALE SHANDS.

Witnesses:

B. L. KING,
DAVID DUNCAN.