

No. 667,325.

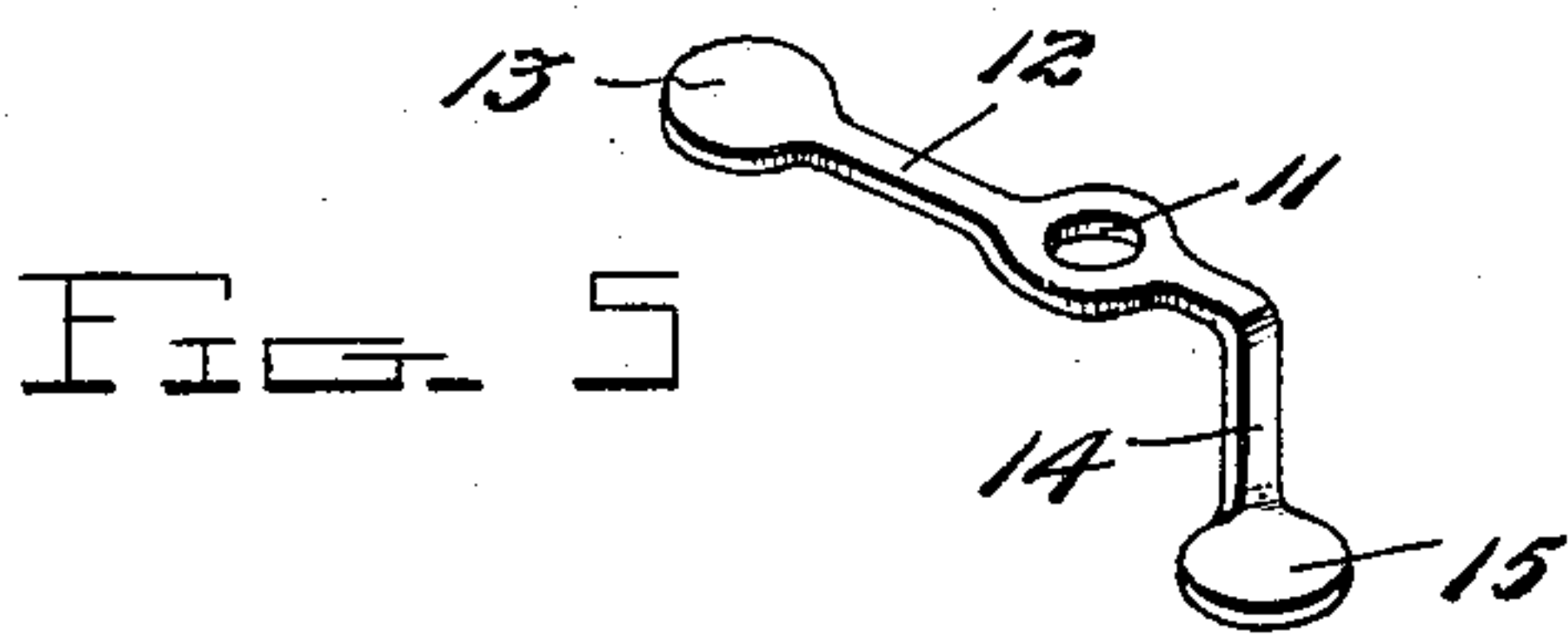
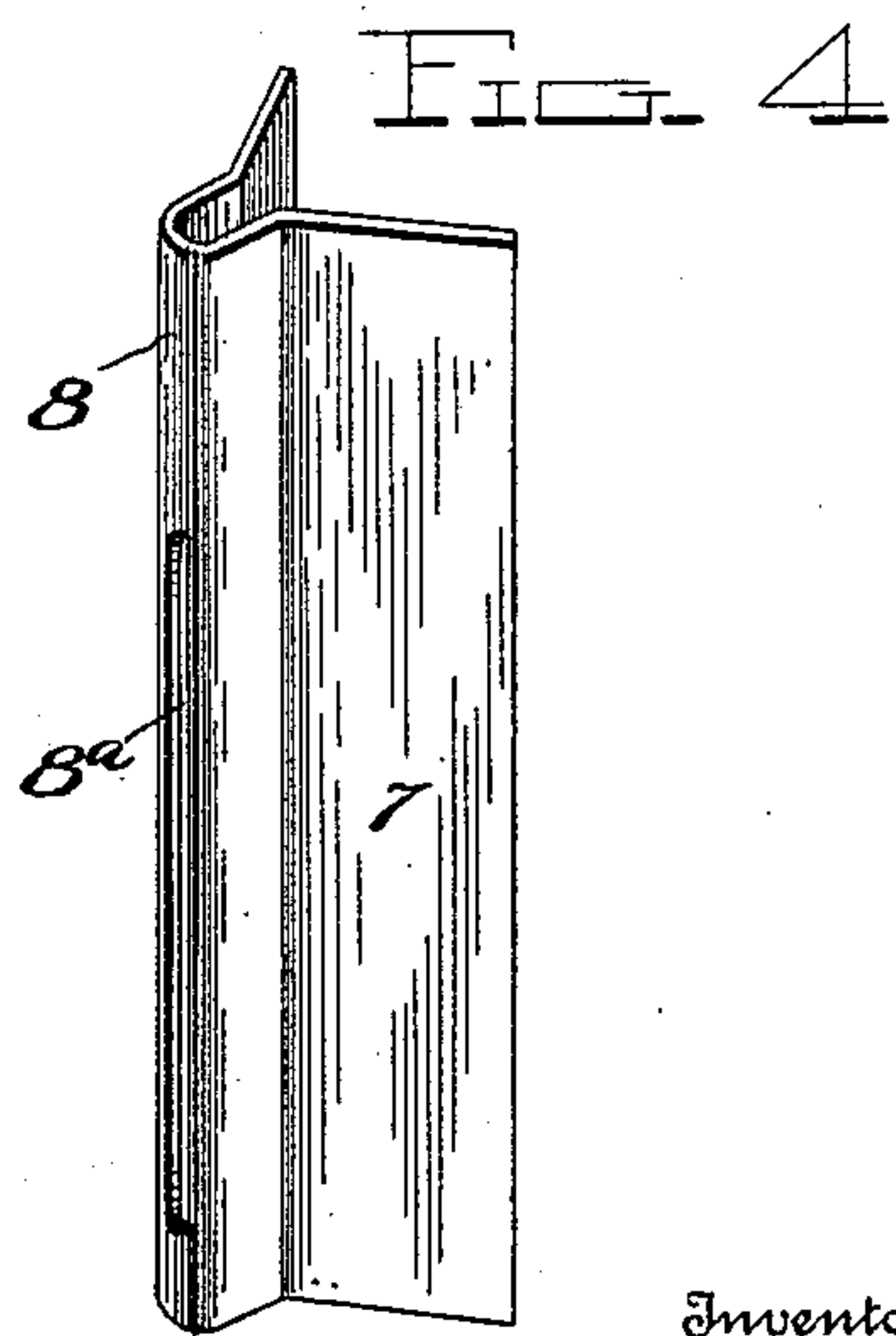
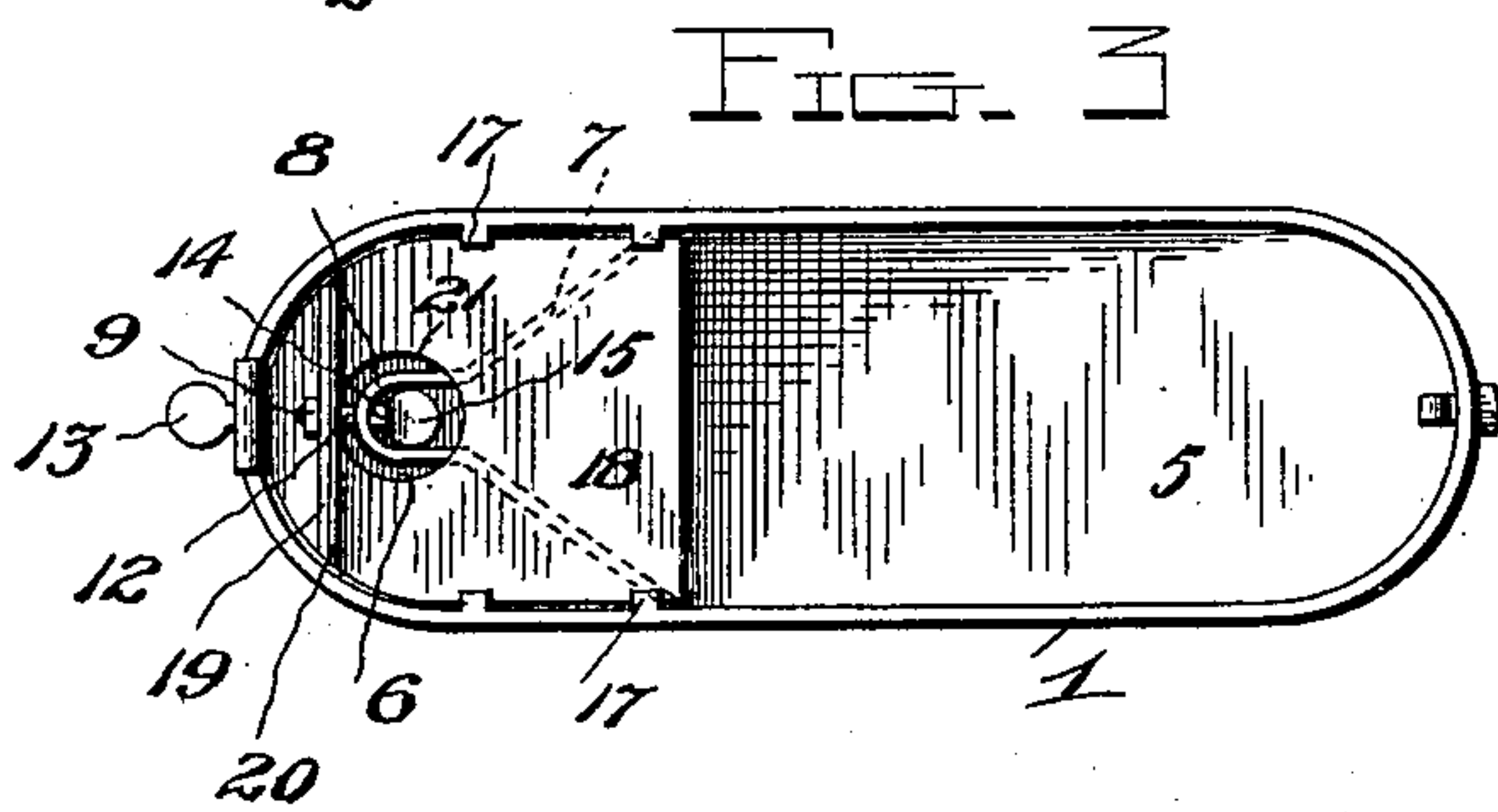
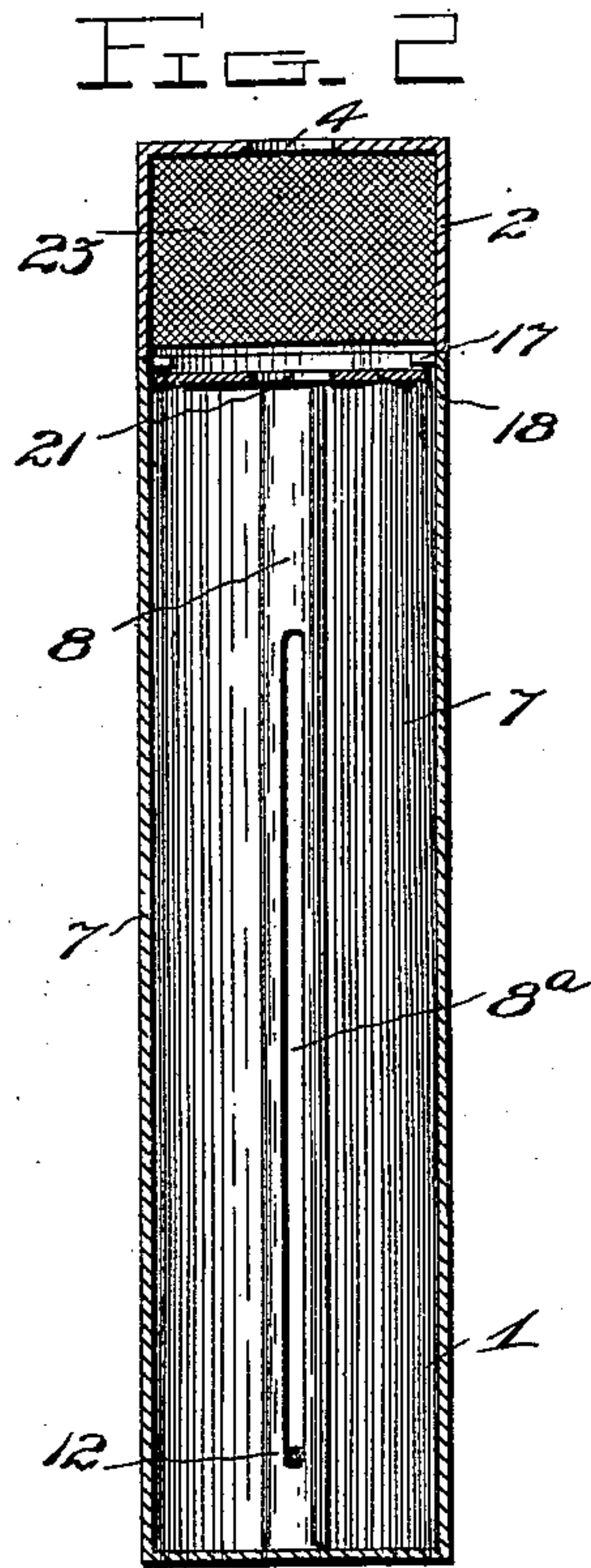
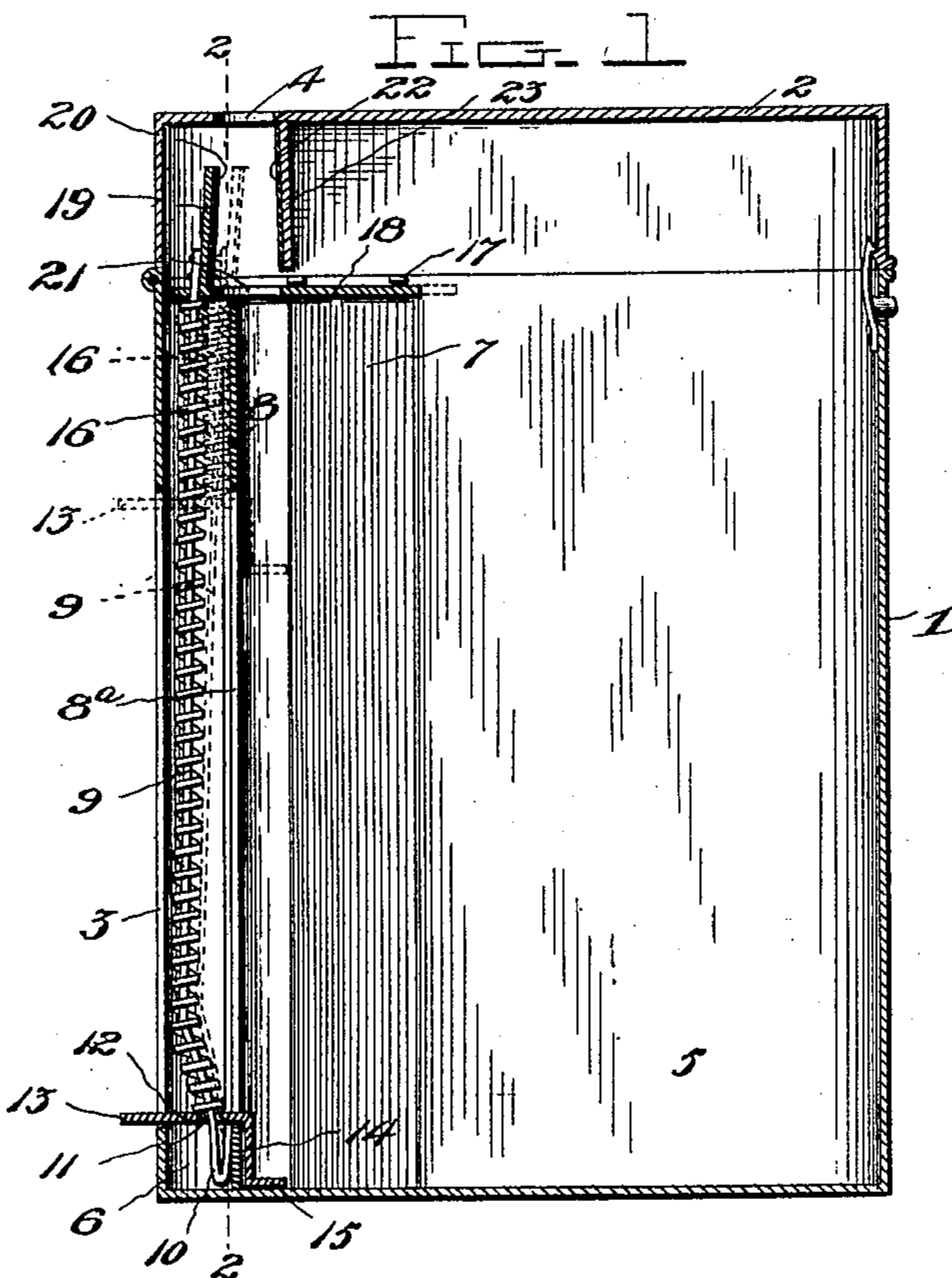
Patented Feb. 5, 1901.

C. E. LARAWAY.

MATCH BOX.

(Application filed July 18, 1900.)

(No Model.)



Inventor

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Witnesses

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UNITED STATES PATENT OFFICE.

CULLEN E. LARAWAY, OF PLAQUEMINE, LOUISIANA.

MATCH-BOX.

SPECIFICATION forming part of Letters Patent No. 667,325, dated February 5, 1901.

Application filed July 18, 1900. Serial No. 24,042. (No model.)

To all whom it may concern:

Be it known that I, CULLEN E. LARAWAY, a citizen of the United States, residing at Plaquemine, in the parish of Iberville and State of Louisiana, have invented certain new and useful Improvements in Match-Boxes; and I do 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 improvements in match-boxes and automatic igniters therefor, and has for its object to provide a simple and economical match-box from which the matches may be ejected one at a time and automatically ignited; and to this end the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, illustrating the invention, Figure 1 is a vertical longitudinal section of the match-box and automatic igniter, showing in full lines the normal position of the parts and in broken lines the position of the parts when ejecting a match. Fig. 2 is a vertical cross-section on the line 2 2 of Fig. 1 looking toward the match trough or conductor. Fig. 3 is a top plan view of the box with the cover removed. Fig. 4 is a perspective view of the match trough or conductor. Fig. 5 is a similar view of the ejecting device.

Referring now more particularly to the drawings, in which like reference characters designate corresponding parts throughout the several views, the numeral 1 designates a match-box provided with a hinged lid or cover 2, which box and cover are of ordinary construction, except that the box is provided in its rear end wall with a longitudinal slot 3 and the cover in its top with a delivery-opening 4, located adjacent to its hinged or rear end. The box may be of any approved form, but is preferably made rectangular and comparatively long and narrow, as shown.

The interior of the box is divided into front and rear longitudinal chambers or compartments 5 and 6 by a substantially V-shaped partition and conductor 7, having its open

side facing the front of the box and its wings or side walls bearing at their outer or free ends against the side walls of the box and converging toward the rear end wall thereof, said wings being connected at their inner ends by a substantially channel or U shaped end wall 8, formed with a vertical slot 8^a, located in line with the slot 3 in the rear wall of the box. The chamber or compartment 5 serves as a match-receptacle and the compartment 6 as an inclosure for the match-ejecting mechanism. The flaring wings of the conductor 7 act as deflectors to convey the matches to the part 8, which serves as a guide arranged in line with the delivery-opening 4 and is of the proper size to receive but a single match at a time.

In the chamber 6 is arranged a plate-spring 9, provided with an inclined lower end or inwardly-projecting oblique foot 10, which projects through a loop or opening 11 in an ejecting device 12, slidably mounted in the slots 3 and 8^a and provided at its outer end with a button or finger-piece 13. At its inner end said ejecting device is formed with an L-shaped extension, forming a vertical downwardly-projecting arm 14 and an inwardly-projecting horizontal finger 15. This arm 14 and finger 15 slide within the match-guide 8, and the latter is adapted to take under the end of the splint of the match contained therein to force the match out through the opening 4 when the ejecting device is moved upwardly in the slots 3 and 8^a, as will be readily understood. When the ejecting device is moved upwardly, it bears against the plate-spring 9 and forces the upper free end thereof inwardly, and a coiled spring 16 is provided to press the ejecting device downward and restore it to its normal position. The construction and application of the foot 10 adapt the plate-spring to be applied and removed independently of the ejecting device.

Resting upon the upper end of the trough or conductor 7 at the top of the box 1 and held against upward movement by lugs 17 is a sliding igniter, comprising a horizontal plate 18, provided at its rear end with a vertical block or plate 19, having a front scratch or igniting face 20 and provided also with a delivery-opening 21 in line with the match-

guide 8 and the delivery-opening 4 in the cover. The cover carries a corresponding igniting plate or block 23, formed with a rear scratch-face 22, cooperating with the said scratch-face 20 of the block 19. These two scratch-blocks 19 and 23 are located at the front and rear of the delivery-opening 4 when the cover is closed and their scratch-faces are inclined or upwardly convergent, as shown.

The operation is as follows: The matches are fed one by one to the guide 8 by inclining the box to bring the rear end wall thereof at the lowest point, as will be readily understood. With a match in position, the ejecting device is then moved toward the top of the box to force the match out. The opening 11 in the ejecting device 12 is of relatively larger area than the oblique foot 10 of the plate-spring 9, so that the ejecting device has an independent sliding movement on said spring a sufficient distance to cause the head of the match to pass through the opening 21 in the igniter-plate before said plate-spring is operated. When the ejecting device bears against the body or straight portion of the plate-spring at the upper end of the foot, it forces the upper free end of said spring inwardly, causing the plate 18 to slide toward the front of the box and moving the scratch-block 19 toward the scratch-block 23, and this action continues until the major portion of the match is ejected through the opening 4. The head of the match on coming into frictional engagement with said scratch-blocks is ignited, and the increasing pressure of the block 19 causes the lower end of the splint to be clamped against the block 23 at the time the match is far enough projected to be grasped. By this means the match is prevented from falling back and igniting the other matches. Upon releasing the ejecting device the spring 16 restores it to its normal position, while the plate-spring 9 retracts the igniter-plate 18. It will thus be seen that the igniting mechanism also serves to clamp the splint to hold the match in proper position for withdrawal by hand. The chamber 5 is filled with matches by opening the cover 2, as will be readily understood.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A match-box having a delivery-opening and an igniter comprising relatively movable and fixed members, means for operating and retracting said movable member, and an ejector for ejecting a match and acting on said operating and retracting means to project the movable member into operative position, substantially as set forth.

2. A match-box having a cover provided with a delivery-opening and an igniter comprising relatively movable and fixed members, a spring connected with said movable member for operating and retracting it, and an ejecting device for ejecting a match and

acting on said spring to project the movable member, substantially as set forth.

3. A match-box having a delivery-opening and an igniting device comprising relatively movable and fixed members, operating means connected to the igniting device, and an ejector for ejecting a match, said ejector and operating means having cooperating engaging portions adapting the ejector to have a preliminary movement in which the match is fed outward thereby without operating the movable member of the igniting device, and a further movement in which said operating means is operated to move the movable member to progressively increase the pressure of said movable member on the match, whereby the match-head is ignited and the match-splint then clamped, when the ignited end of the match is projected through the delivery-opening.

4. A match-box having a delivery-opening and an igniter comprising a fixed member on one side of said opening and a movable member having an opening for the match to pass through and adapted to move toward and from the fixed member to bring the scratch-faces thereof to bear upon opposite sides of the match-head and to bring the openings in alignment, a plate-spring for operating and retracting the movable member, and an ejecting device for ejecting a match and acting on said plate-spring for projecting the movable member, substantially as set forth.

5. A match-box having a cover provided with a delivery-opening and an igniter comprising relatively movable and fixed members, the latter being located on one side of said opening and the former slidably mounted below said opening and having an opening for the outward passage of the match, and a plate-spring connected to said movable member to impart movement thereto and to retract the same, an ejector for ejecting a match and sliding on the plate-spring to move the same and project the movable member, and a spring for retracting said movable member, substantially as set forth.

6. A match-box having a delivery-opening and divided to form compartments for the matches and operating mechanism, an igniter comprising relatively movable and fixed members located between the match-compartment and delivery-opening, a plate-spring extending vertically in the compartment for the operating mechanism and connected to the movable member and serving to retract the same, an ejecting device slidable on said spring to move the same in one direction and project the movable member and having a part projecting into the match-chamber to eject the match, and a coil-spring for retracting said ejecting device, substantially as set forth.

7. A match-box having a slot in one of its ends and a cover provided with a delivery-opening and a fixed member of an igniter on one side thereof, a V-shaped trough or con-

ductor having its wings bearing against the sides of the box and provided with a channeled central portion having a longitudinal slot in line with said slot in the body, said
5 conductor serving as a partition separating the box into chambers for the matches and operating mechanism, a movable member of the igniter mounted to slide above said chambers and provided with an opening for the
10 outward passage of a match, an igniting-face cooperating with the fixed member of the igniter, a plate-spring extending vertically in the chamber for the operating mechanism and connected at its upper end to said mov-

able member and adapted to retract the same; 15
an ejecting device movable in the slots in the box and conductor and slidable on said plate-spring to move the same to project the movable member, and a coil-spring acting on said ejecting device to retract it, substantially as 20
set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses:

CULLEN E. LARAWAY.

Witnesses:

ALBERT G. GRACE,
T. W. DARDEMY.