

(No Model.)

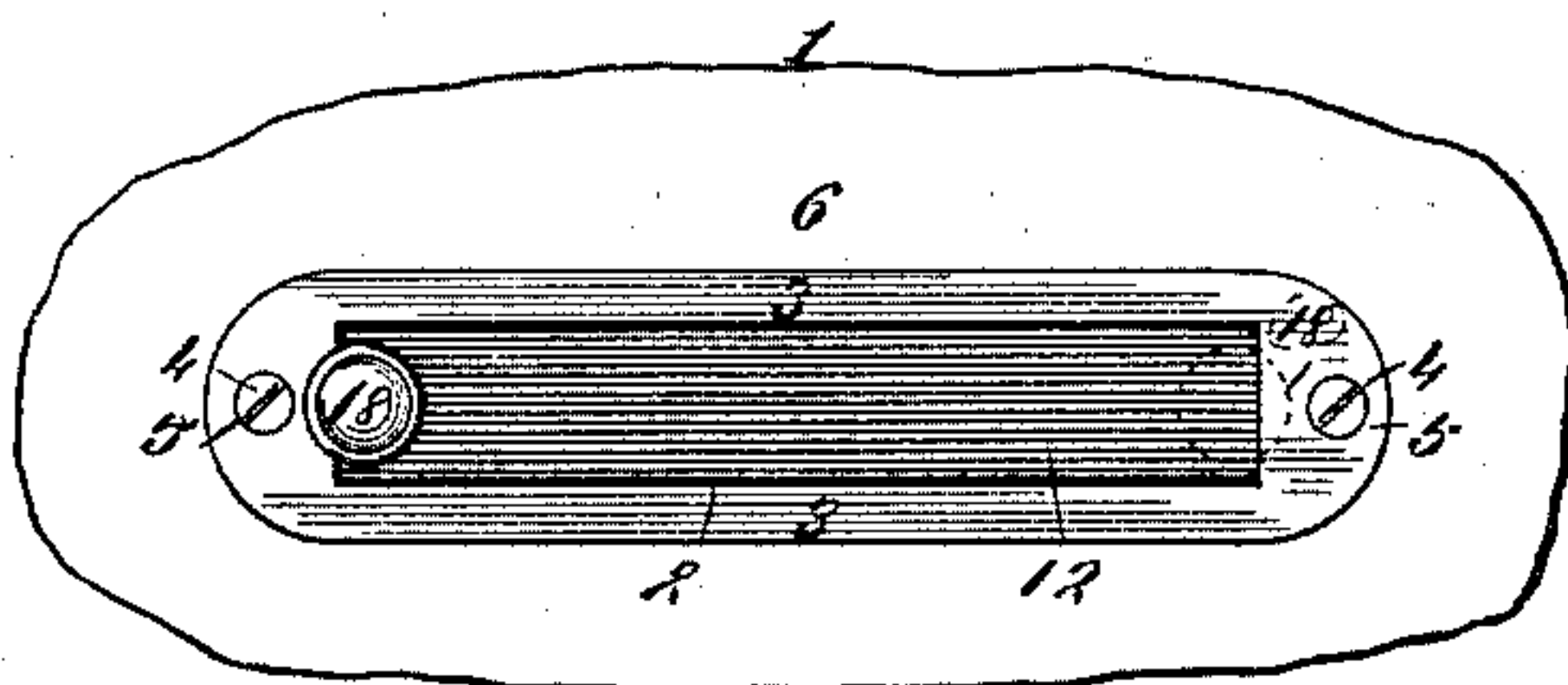
2 Sheets—Sheet 1.

A. G. MINGES.  
HOUSE DOOR LETTER BOX.

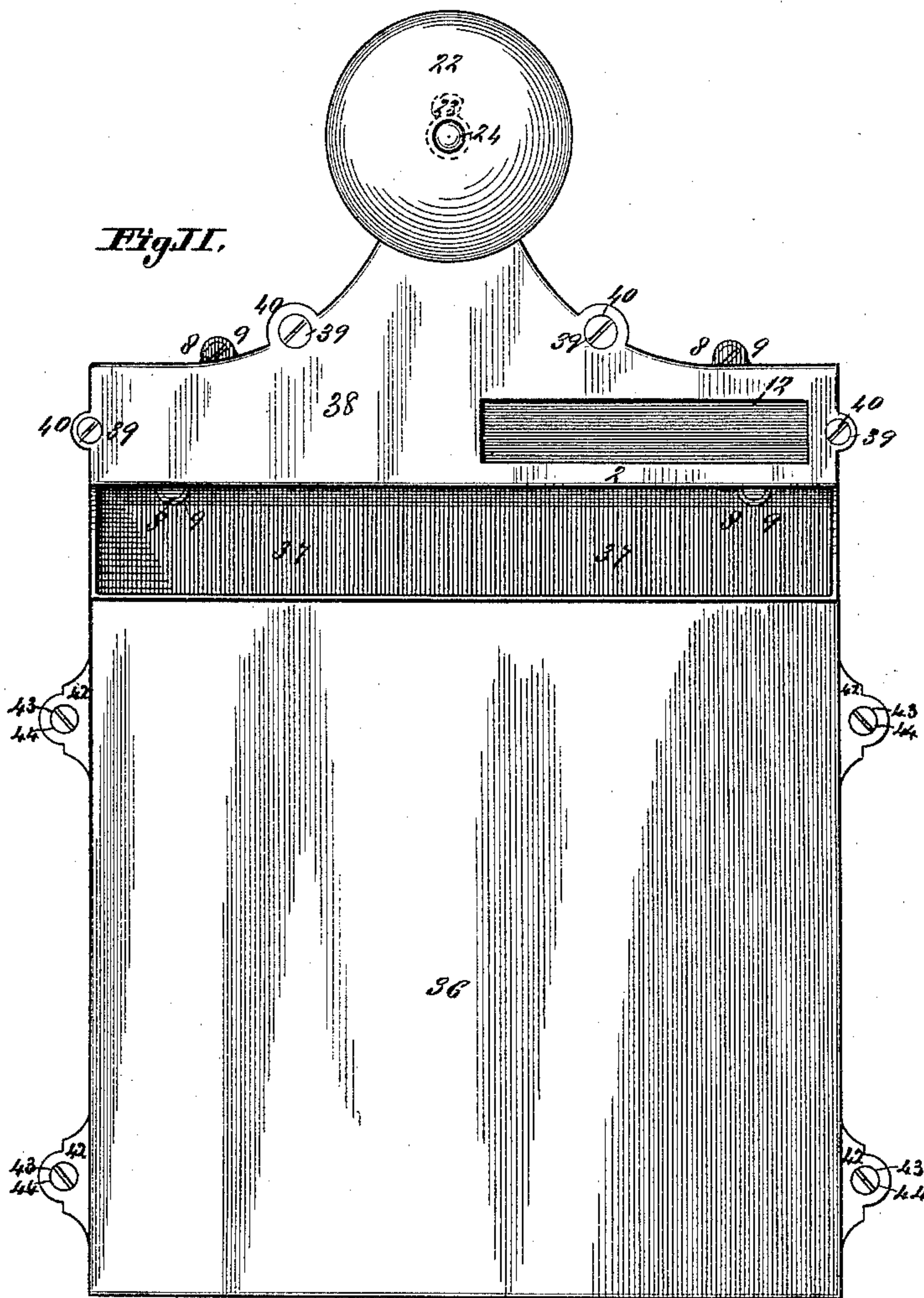
No. 453,124.

Patented May 26, 1891.

*Fig. I*



*Fig. II.*



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(No Model.)

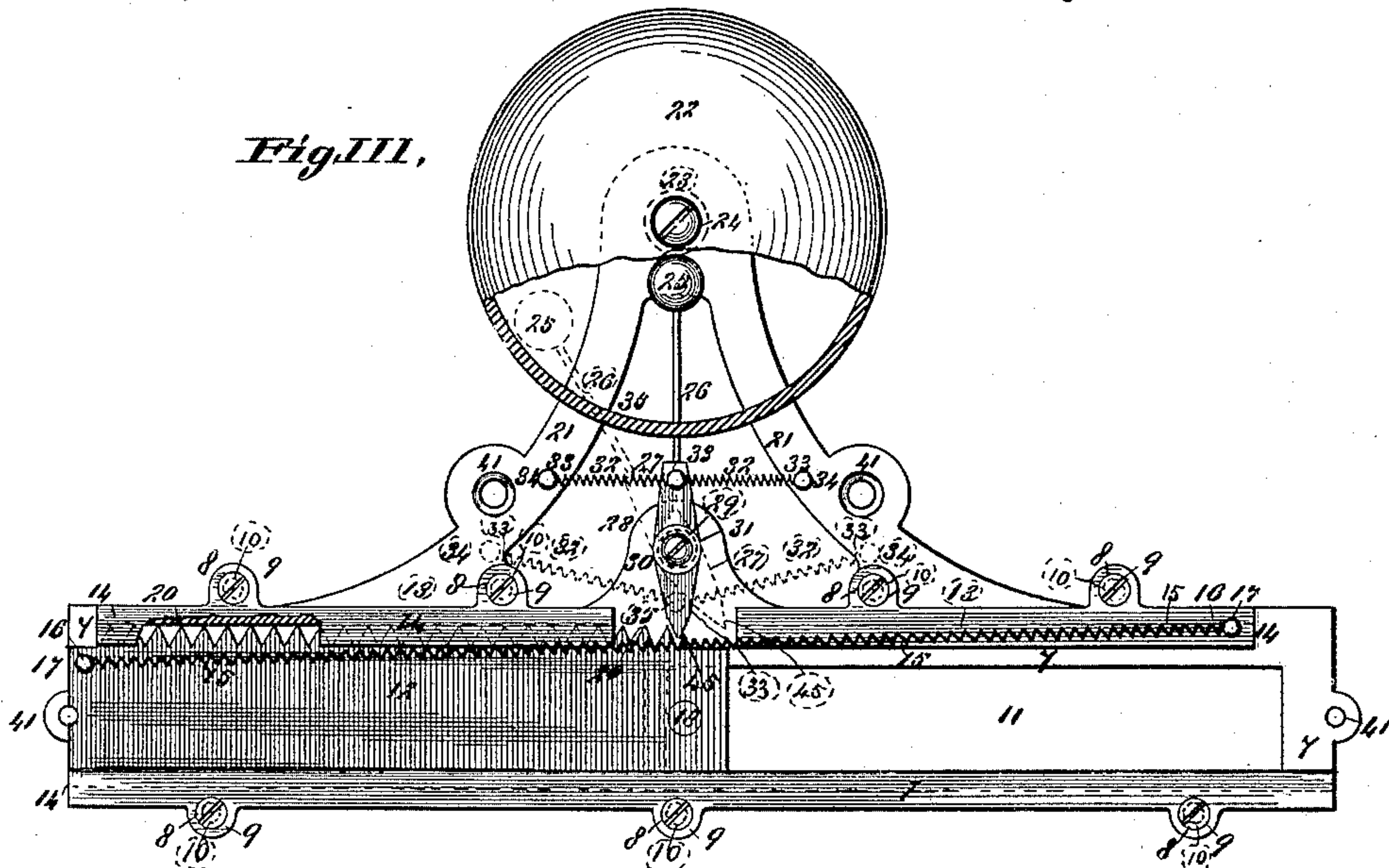
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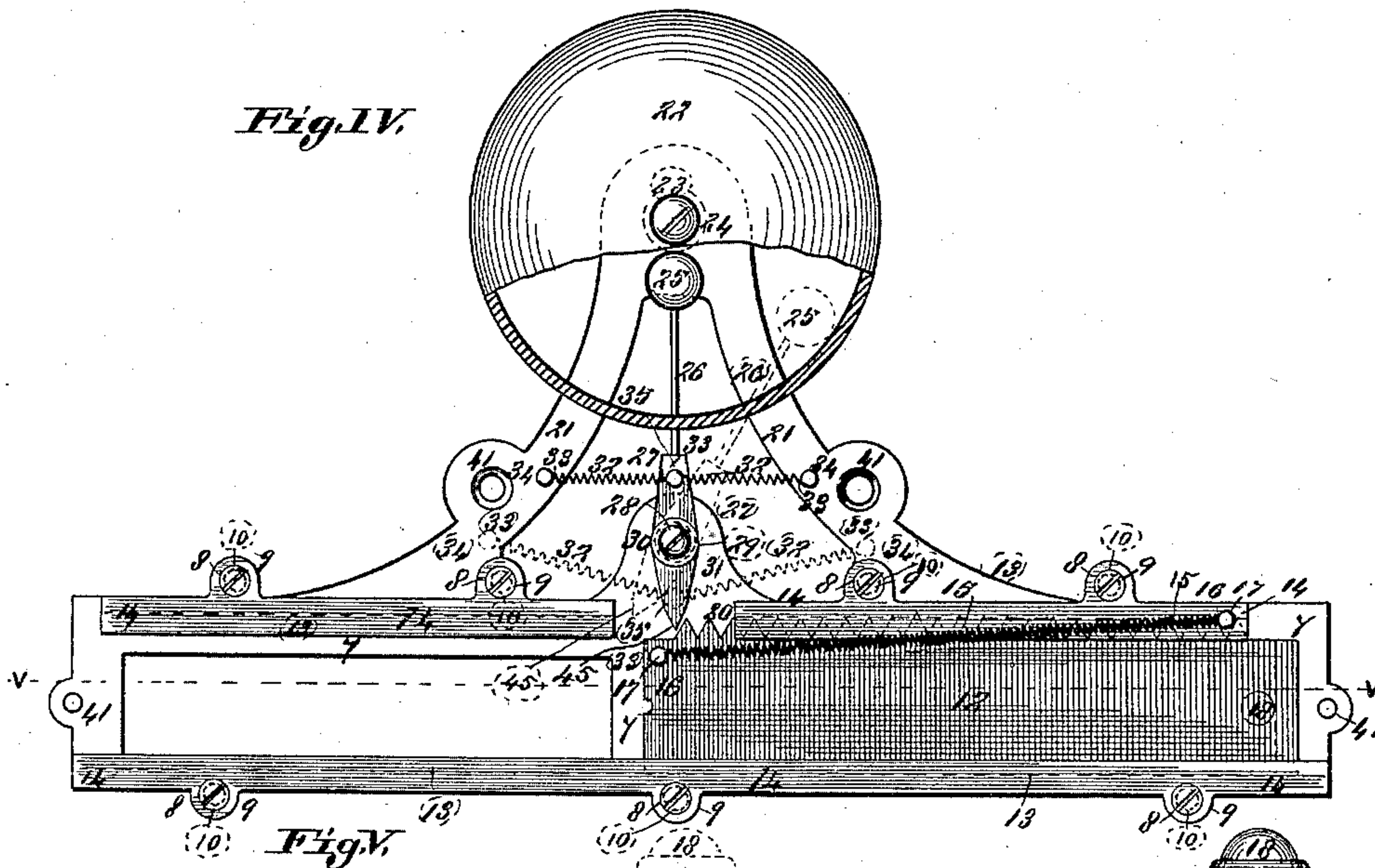
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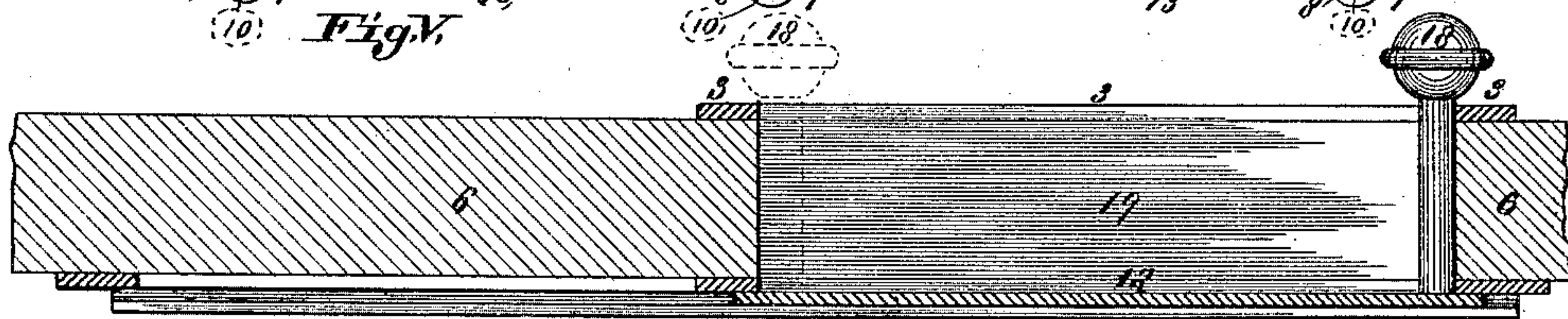
*Fig. III.*



*Fig. IV.*



*Fig. V.*



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# UNITED STATES PATENT OFFICE.

ADAM G. MINGES, OF ST. LOUIS, MISSOURI.

## HOUSE-DOOR LETTER-BOX.

SPECIFICATION forming part of Letters Patent No. 453,124, dated May 26, 1891.

Application filed October 16, 1890. Serial No. 368,349. (No model.)

*To all whom it may concern:*

Be it known that I, ADAM G. MINGES, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in a Combined Letter-Depository with Door and Depository Bell Call, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to an automatically self-closing letter-depository, in combination with an automatically double-acting bell alarm and call in combined operation for both the letter-depository and door; and the invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a front detail of a door with the escutcheon-framed letter-slot therein and the spring-actuated slide in its closed position. Fig. II is a rear view, and shows an elevation of the open letter-box, the boxed casing of the automatic spring hammer and slide, and the surmounting bell. Fig. III is an enlarged rear view of the bracket-frame that carries the spring-slide that closes the letter-slot and on which is mounted the bell and its reverberatory spring-hammer, the shutter being open for the deposit of a letter and the spring-hammer having regained its normal position after having sounded the alarm, as shown in broken lines, the result of opening the slide and the consequent action of the ratchet on the pendent point of the trip-lever of said hammer, part of the case-cleating being broken away to show the position of the ratchet-teeth. Fig. IV is a like enlarged view, the slide being closed and the spring-hammer having regained its normal position after its reverberating ring consequent on the trip of the ratchet-teeth during the self-closing of the spring-slide; and Fig. V is a horizontal section taken on line V V, Fig. IV, and shows the construction of the slide and its position after effecting its closure.

Referring to the drawings, 1 represents a door or detail thereof to which my device is attached. 2 is the letter-slot, through which the letters are inserted through said door, and 3 is the escutcheon that frames around said letter-slot, and which escutcheon is secured to

said door by the screws 4, which screws are seated in perforations 5 in said escutcheon and are screw-seated in one of the stiles or cross-bars 6 in said door-frame. 7 represents a metal bracket-frame casing, in which slides the spring-actuated closure-shutter 12 of said letter-slot 2, that is inclosed within one of the open panels 11 of the sectional bracket-frame 7. The said shutter slides in the channel-grooves 13, which grooves are formed, in conjunction with said bracket-frame 7, by the projecting flanged cleat-plates 14, which plates 14 are secured to the bracket-frame 7 by the screws 8, which screws are seated in perforations 9 in said projecting flanged cleat and are screw-seated in the perforate screws 10, as seen in dotted lines in said bracket-frame 7. The said bracket-frame is so located on the stile or cross-bar of the door-frame, so that one of its open panels 11 registers with the letter-slot 2 on the inside of the door and the escutcheon 3 frames around it on the outside, so as to leave the opening clear for the insertion of letters when the spring slide-shutter 12 is slid back within the channel-grooves 13. The said sliding shutter is normally closed and retained in said closure by the spiral spring 15, whose terminal loop or hook 16 at one end engages on and is held by the button-headed pin 17 on the inner end of the sliding shutter, and the like loop or hook alike numbered on the reverse end of the spiral spring is held by the like button-headed pin and alike numbered 17 on or near the outer terminal of one of the surmounting cleats 14, that holds said sliding shutter in its channel-groove way.

18 represents a knob-pin which is secured in and projects from the sliding shutter for convenience in sliding open said shutter when letters are to be inserted in the box, and 19 is the casing inside the escutcheon 3, that forms the lining around the letter-slot. 20 represents a serrated rack integral with and that forms a surmounting extension of the upper edge of said spring-reactuated sliding shutter, and which rack has a special function to perform in tripping the hammer that rings the bell, which will be hereinafter described.

21 represents a surmounting curvilinear extension of the bracket-frame 7, integral therewith, and mounted on or near its summit is



the perforate bell 22, which is secured to the projecting bell-bearer screw-socket 23 (which is integral with said surmounting extension 21) by the screw 24, which passes through the perforation in said bell and is screw-seated in said socket.

25 represents the ball-headed hammer that strikes the bell, whose spring-shank 26 is mounted in the perforate reverberatory trip-plug 27 in the perforation, in which is loose-seated the pivot-screw 28, whose screw-tip engages in the screw boss-socket 29, (shown in broken lines in Figs. III and IV,) which screw-socket projects from the central surmounting extension 30 of the bracket-frame 7. A washer 31 is mounted on said screw between the trip-plug 27 and the screw-head.

32 represents a duplex reverberatory spiral spring, whose outer terminal loops or hooks 33 are engaged on the button-knobs 34, that are secured to or are integral with and project from the surmounting extension 21 of the bracket 7, and the middle of which duplex spring is secured by a loop or otherwise to the button-knob 35, that is secured to or is integral with and projects from the reverberatory trip-plug 27; or, if preferred, said duplex spiral spring may be made in two sections, each of which sections may be respectively provided with a loop or hook at its inner end like those on their outer ends and alike numbered 33, which loops or hooks are securely seated on said button-knob 35, that projects from the reverberatory plug 27, and thus hold the inner ends of said spiral springs. I have shown in Figs. III and IV said spiral springs in full lines as attached to near the upper end of said reverberatory trip-plug above its pivotal screw; but I do not confine myself to that position, for the attachment may be made also by the same means, as shown in broken lines in the same figure, to near the lower end of said reverberatory trip-plug beneath instead of above its pivot-screw 28. The construction of said reverberatory spring and its means of attachment are substantially the same whether said attachment is made, as shown in full lines, above said pivot-screw 28 or, as shown in broken lines, beneath said pivot-screw, and the several parts thereof are therefore alike named and alike numbered.

36 represents the letter-box proper, which may be of malleable cast-iron or of sheet metal, or any other suitable material. It is preferably made in the form of an open box, and has an opening 37 at top, through which the letters drop into said box after being passed by the mail-carrier or other party through the letter-slot 2. The said letter-box is secured to the stile or cross-bar of the door-frame or other object of attachment of said letter-box by means of projecting brackets 42, that may be cast or made integral with said box, and screws 43 pass through and are seated in the perforations 44 in said attachment-brackets, and their screw-tips engage in

said stile of the door-frame or other object to which said letter-box and its accompanying devices are secured. Surmounting said box and the opening thereto is the flanged-cover box-plate 38, which boxes in the bracket-frame plate 7, its extension 21, and the sliding shutter, its actuating-spring, and the reverberatory spring-trip-actuating devices of the bell-hammer. The said flanged boxing-cover is secured to said bracket-plate 7 and its extension 21 and to the stile of the door-frame or other object to which the letter-box and its operative devices are attached by the screws 39, which pass through the perforations 40 in said flanged-cover box-plate and perforations 41 in said bracket-frame 7 and its extension 21, and are screw-seated in the stile of the door-frame or other object to which the letter-box and its operative devices are attached, thus securely attaching said box-cover to said bracket-frame, and thus boxing in the reverberatory spring-tripped bell-hammer and other devices, and at the same time securing said bracket-frame and the devices it carries to the door or other object to which it is attached and in its registering position in respect to the letter-box that receives the deposit.

Although the front door of the house is the most usual place of attachment for the letter-box, because the door acts as a reverberatory drum in the transmission of the sound of the bell-call, yet it can, when desired, be secured to a front fence or gateway, post, or any other convenient and suitable object. When the attachment is outside to a gateway-post, &c., it is evident that the box 36 should be made to extend above the letter-slot and a lid provided to keep out the weather, to which may be attached a lock to keep out intruders. When attached to the inside of the door, said letter-box is safe from the intrusion both of the weather and of rogues.

The operation of the device is as follows: When the postman or letter-carrier calls with the mail, he slides back the spring-actuated shutter 12, which is readily effected by the pressure of his hand against the projecting thumb-knob 18, which opens the letter-slot 2, which said shutter had previously closed. He then inserts the mail (whether it be letters, newspapers, or packages, when not too large, which latter is seldom the case) through the then open letter-slot 2, and it slides down into the letter-box inside the door, the open top of said letter-box being always ready to receive it. When the mail-carrier withdraws his hand from the knob 18, the reactionary spiral spring 15 immediately effects the spring-closure of the sliding shutter and resounds the bell-alarm.

I will now describe the operation of the spring-actuated reverberatory trip-hammer that rings the bell, with the ratchet-trip that effects its repetitious accentuated action. Now it will be seen that, as shown in Figs. I, II, and IV, the sliding shutter is in its nor-



mal or closed position and is held in said position (see Fig. IV) by the spiral spring 15. It will also be seen that when the mail-carrier or any other person slides said shutter into its open position, (see Fig. III,) so as to open the letter-slot to enable him to deposit the mail through said open slot into the letter-box, then the teeth of the serrated rack 20, that integrally surmount said shutter, trip or carry the point 45 of the reverberatory trip-plug 27 from the position shown in full lines in Fig. IV to that shown in broken lines in said figure, whereby said trip-plug, turning on its pivot, throws round its spring-shank 26 and bell-hammer 25, the latter in contact with the bell, as thus shown in broken lines in said Fig. IV, thus sounding the alarm or call, and after the passage of said point of the trip-plug past each succeeding tooth of the rack the reactionary spiral spring 32 returns the hammer to its normal vertical position ready to succumb to the trip of the next tooth of the serrated rack, and so as the sliding shutter is opened each succeeding tooth reiterates the bell-call in rapid succession until the shutter is fully opened and occupies the position shown in Fig. III. Next it will be seen that when the mail-carrier has deposited the mail he releases the knob 18, the reactionary spiral spring immediately and automatically drawing the shutter back to its closed position. In so doing the teeth of the rack on their return travel reiteratingly trip the bell-hammer by the means already described, effecting a repetition of the reverberant bell-call, thus effecting a duplex bell-call consequent on the single act of the mail-carrier in sliding open the shutter 12.

The above-described combined alarm and call bell element or elements of the device, in combination with the spring-actuated sliding shutter and trip-rack it carries, in conjunction with its accompanying letter-box, effects the five following useful results: first, a depository for the mail, especially for private residences, to both insure its safety and to facilitate its delivery by the mail-carrier, nearly half whose time is frequently taken up in awaiting the answer to the door-bell and by other hinderances contingent on having to speak and be spoken to, all of which would be avoided were there a safely-guarded depository for the mail, such as is herein provided; second, the sliding spring-operated and self-closing shutter that constantly guards the entrance through the letter-slot from the intrusion of dust and moisture; third, the automatic bell-call that notifies the household of the deposit of the mail or of the morning or evening paper; fourth, the guard that the self-closed shutter maintains over the mail in the box not only against the intrusion of dust and moisture, but also against the worse intrusion of pilferers of the box, for the household, who know by the previous bell-call that the mail has been deposited, are notified by the succeeding alarm of the bell-call that un-

authorized parties are tampering with the entrance to the letter-box, except where it is also used for the fifth useful purpose, which is that of a door-bell, and even then, as the door-bell has to be generally immediately answered by some party within, if the bell-call came from some party who was pilfering the letter-box they would be at once detected.

The device makes a good door-bell, and when intended to be so used a notice on the shutter to slide the same to ring the bell will call attention to its availability for said use.

I have shown the automatically-acting spiral spring 15, that effects the closure of the shutter 12 after opening, as attached to or near the top of the sliding shutter at one end and to the surmounting part of the frame or flanged cleat above at the other end; but I do not confine myself to that arrangement of said spring, for it can equally well be attached to near the bottom of said shutter at the one end and to the lower bar of said frame or flanged cleat at the other end; also, although there is a great advantage gained in the automatic functions of said spring in reclosure of said shutter and retention of the closure, yet when from any cause it may be desired to do without said spring the other elements of my invention will work, although less completely, without the same, the shutter in that case having to be reclosed by hand.

When the letter-box is attached to other objects than the door—such as to one of the front gate-posts or front fence—the alarm and call bell may be detached from the letter-box and other devices and mounted inside the house, and by connection of the usual electric battery and wire, as with electric door-bells, the trip devices will effect the ringing of the bell within the house.

I claim as my invention—

1. A door or other object through which mail is arranged to be delivered, provided with the letter-slot 2, the sliding shutter 12, by which said letter-slot is normally closed and guarded, the spiral spring 15, that automatically closes said shutter and holds its closure after the opening of the same, the bell, the bell-hammer, and means by which the shutter operates the hammer, substantially as and for the purpose set forth.

2. A letter-box arranged to be attached to a door or other object, the said door, &c., being provided with a letter-slot for the insertion of mail into said box, the automatically self-closing shutter that effects the closure of said letter-slot, the spring 15, that effects said closure, the bell, the bell-hammer, and means by which the shutter operates the hammer, substantially as and for the purpose set forth.

3. In a letter-depository and bell-call, the combination of the bracket-frame 7, the flanged cleats 14, arranged to provide the channel-grooves 13 between said frame and cleats, the sliding shutter 12, that slides in said channel-grooves, and the spiral spring 15, that automatically closes said shutter after open-



ing, substantially as and for the purpose set forth.

4. In a letter-depository and bell-call, the combination of the bracket-frame 7, the surmounting extension 21 of said frame, the house-door, &c., to which said bracket-frame is secured, the said door provided with the letter or mail slot 2, the flanged cleats 14, which, in conjunction with said bracket-frame 7, provide the channel-grooves 13, the screws 8, that secure said flanged cleats to said bracket-frame, the shutter 12, that slides in the channel-grooves 13 and closes said letter-slot, the spring 15, that automatically closes said shutter, and the knob 18, by pressure against which said shutter is opened, substantially as and for the purpose set forth.

5. In a letter-depository and bell-call, the combination of the bracket-frame 7, its extension 21, the flanged cleat 14, the alarm or call bell 22, and the reverberatory hammer of said bell, substantially as and for the purpose set forth.

6. In a letter-depository and bell-call, the combination of the bracket-frame 7, its extension 21, the flanged cleat 14, the sliding shutter 12, the spring 15, that automatically effects the closure of said shutter after opening, the serrated trip-rack 20, that surmounts said shutter, the bell 22, the reverberatory hammer 25, the shank of said hammer, the pivot-screw 28, that mounts said shank, and the trip-point of said shank, that is engaged by the rack 20 when said shutter moves to trip the hammer and strike the bell-call and alarm, substantially as and for the purpose set forth.

7. In a letter-depository and bell-call, the combination of the bracket-frame with its surmounting extension, the shutter 12, with its rack 20, which slides in said frame, the spring 15, that automatically effects the closure of said shutter, the bell 22, the reverberatory hammer 25, the spring-shank 26 of said hammer, the reverberatory trip-plug 27 at the foot of said shank, the pivot-screw 28, on which said trip-plug and shank are mounted, and the duplex reverberatory spiral spring 32, that retires the hammer from its strike into its normal position, said trip-plug being engaged by the sliding rack to reiteratingly strike the alarm or call of the hammer on the bell consequent on the movement of said shutter, substantially as and for the purpose set forth.

8. In a letter-depository and bell-call, the combination of the door, &c., to which the device is attached, provided with the letter-slot 2, the bracket-frame with its surmounting extension, the shutter 12, with its rack 20, which slides in said frame, the spring 15, that recloses said shutter and bars said letter-slot, the letter-box 36, the bell 22 and its reverberatory hammer, the spring-shank and trip-plug that carry said hammer, the pivot-screw on which said trip-plug and shank are mounted, and the duplex reverberatory spiral spring 32, that retires the hammer from its strike, substantially as and for the purpose set forth.

ADAM G. MINGES.

In presence of—

BENJN. A. KNIGHT,  
SAML. KNIGHT.