





(No Model.)

2 Sheets—Sheet 2.

J. W. HART, L. GRIFFITH & McA. GOODWIN.  
MATCH SAFE.

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No. 572,541.

Patented Dec. 8, 1896.

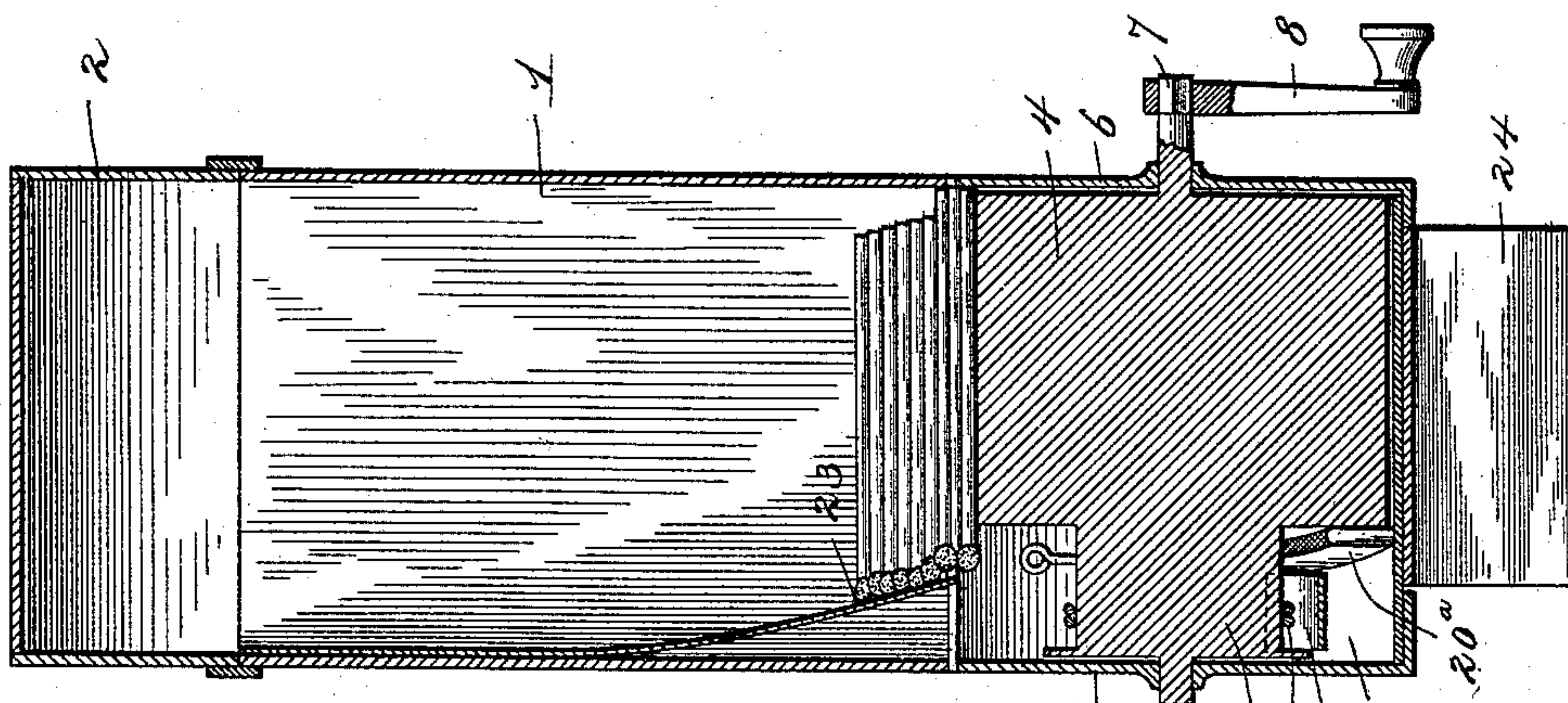


FIG. 4.

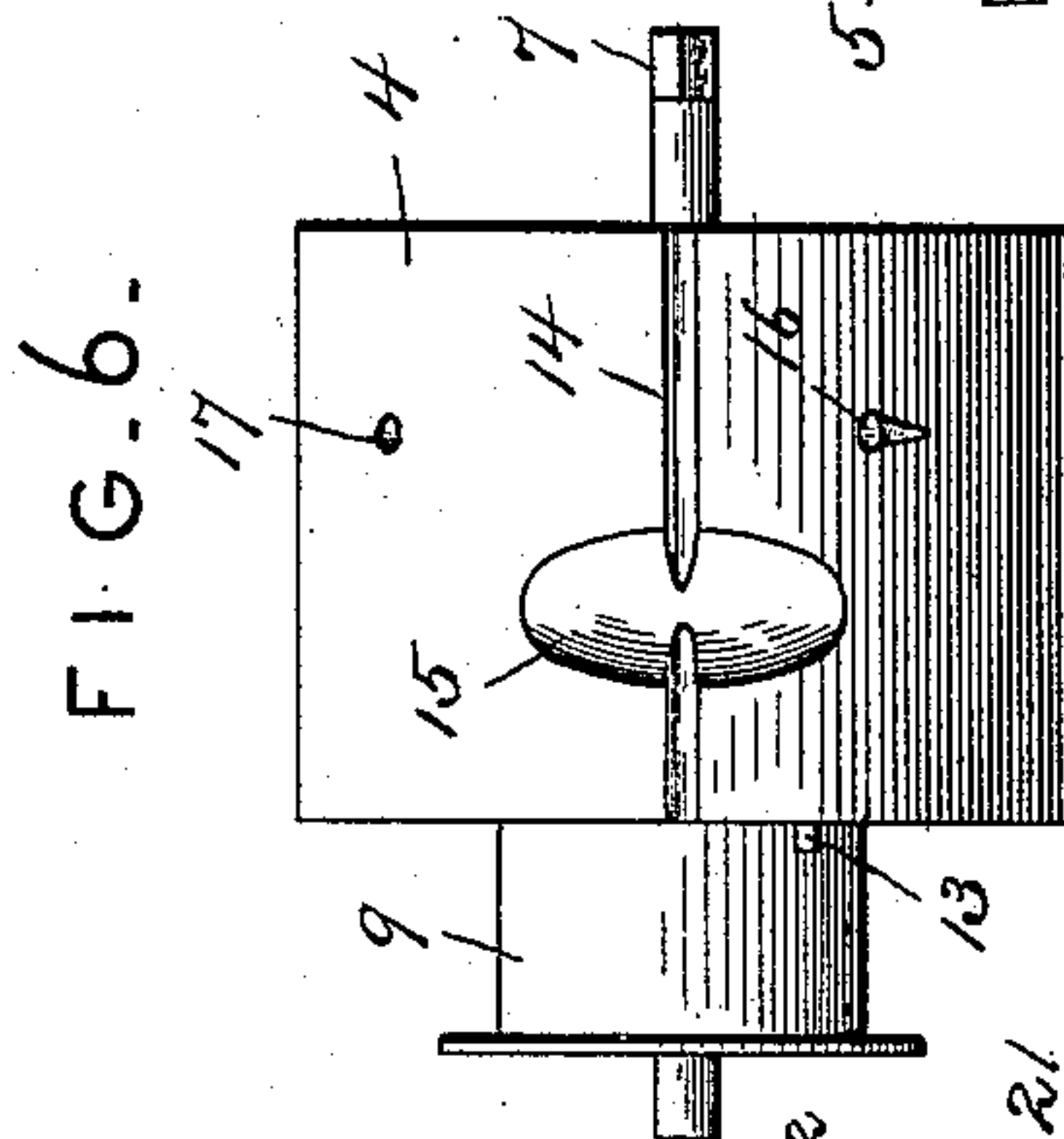
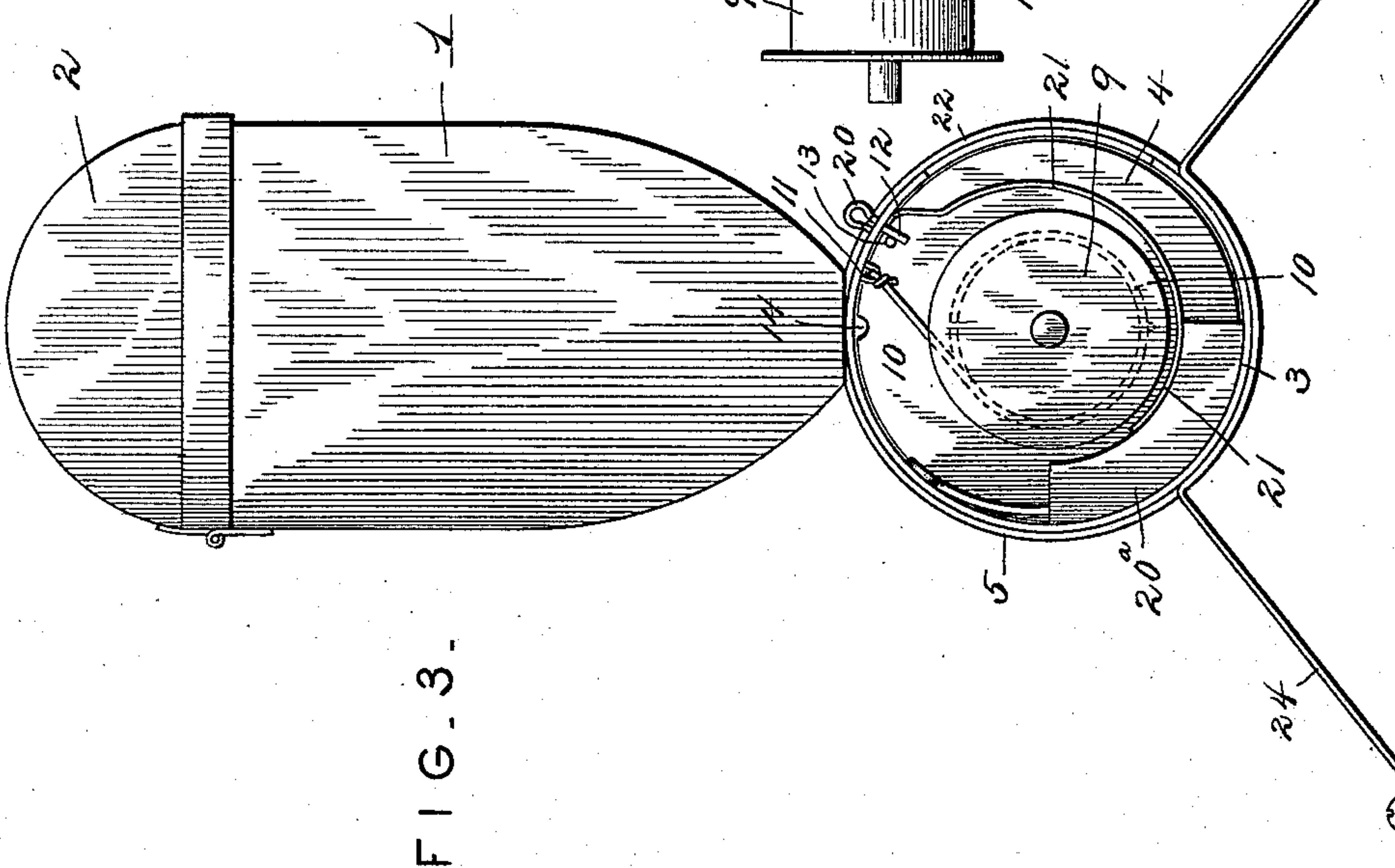


Fig. 6.



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By *their* Attorneys.

Witnesses

Harry L. Ames.

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Cash on h/o.



# UNITED STATES PATENT OFFICE.

JOHN WILEY HART, LUTHER GRIFFITH, AND McALLISTER GOODWIN, OF  
PITTSBURG, KANSAS.

## MATCH-SAFE.

SPECIFICATION forming part of Letters Patent No. 572,541, dated December 8, 1896.

Application filed June 29, 1895. Serial No. 554,502. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN WILEY HART, LUTHER GRIFFITH, and McALLISTER GOODWIN, citizens of the United States, residing at Pittsburg, in the county of Crawford and State of Kansas, have invented a new and useful Match-Safe, of which the following is a specification.

Our invention relates to match-safes constructed to discharge a single match and ignite the same as it is removed from the safe; and the object in view is to provide a simple and efficient construction and arrangement of parts whereby the discharge and ignition of the matches are secured with the minimum exertion upon the part of the operator.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a match-safe constructed in accordance with our invention. Fig. 2 is a vertical central section of the same, taken transverse to the axis of the cylinder. Fig. 3 is a side view of the same with the contiguous cap of the cylinder-casing omitted. Fig. 4 is a vertical section taken in the plane of the axis of the cylinder. Fig. 5 is a detail view of the igniting-block detached. Fig. 6 is a side view of the cylinder detached to show the match-groove and the sockets for engagement by the catch.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The hopper 1 is provided at its top with a hinged cover 2 and communicates at its lower end with a cylindrical casing 3, in which is mounted a rotary cylinder 4. The casing is provided at opposite ends with removable heads 5 and 6, adapted to be secured in place by any suitable means, said heads being provided with bearings for the reception of the spindle of the cylinder. The spindle is extended at one end to form a key-seat 7, upon which is fitted a key or crank 8. The cylinder terminates at one end short of the head 5 and is provided with a drum 9, to which is secured a spring or elastic band 10, the other

end of said spring or elastic band being attached to an eye 11 on the casing, and hence when the cylinder is turned by means of the crank it winds the spring or elastic band upon the drum, whereby upon the release of the cylinder it returns to its normal position. A stop-pin 12 on the casing is arranged in the path of a projection 13 on the cylinder, whereby the rotation of the cylinder by means of the key or crank is limited.

Formed in the cylinder at one side is a match-groove 14 and an intersecting finger-groove 15, and arranged, respectively, upon opposite sides of the match groove or seat are sockets 16 and 17, the former of which is provided with a beveled side.

Secured to the casing above an outlet-opening 18 in the front side thereof is a catch 19, having a nose 20, adapted to engage one of said sockets in the cylinder. The socket 16 is adapted, by reason of its beveled side, to allow forward rotation of the cylinder or rotation in the direction indicated by the arrow in Fig. 2, but prevent backward rotation thereof, while the engagement of the catch with the socket 17 locks the cylinder against motion in either direction. The catch is adapted to engage the socket 17 when the match groove or seat is arranged opposite the outlet-opening in the front of the casing, as shown in Fig. 1, this being the position of the parts when the cylinder has been turned to carry a match from the hopper and expose it at said outlet-opening. When the cylinder reaches this position, it is held from farther forward motion by the catch engaging the socket 17 and is held from backward movement by the same means to allow the operator to remove the match from the groove or seat. After such removal the catch may be disengaged from the socket 17 to allow the cylinder to be returned to its normal position under the tension of the spring or elastic band connected to the drum.

In connection with the above-described construction we employ an igniting-block 20<sup>a</sup>, consisting of a roughened or gauze surface arranged near one end of the cylinder and inclined inwardly or toward the cylinder in the direction of rotation of said cylinder, whereby as the match is carried by the groove or seat



from the lower end of the hopper its head is brought into contact with the igniting-block, and the pressure of said head against the block is increased as the match approaches the outlet-opening in the front of the casing. A curved guard 21 is arranged in the casing around the drum to prevent injury by the ignited matches to the spring or elastic band which is employed to return the cylinder to its normal position.

From the above description it will be seen that with the parts in their normal positions (shown in Fig. 3) a match may be discharged by turning the key or crank in the direction of the arrow in Fig. 2 until it is checked by the engagement of the catch with the socket 17. In its passage from the hopper to the outlet-opening the match has been ignited by contact with the igniting-block, and hence is presented at the outlet-opening in that condition. In order to prevent the match from dropping out of the groove or seat in the cylinder when it reaches the outlet-opening, the casing is provided with a narrow flange 22, which overhangs said groove or seat and thus engages the extremity of the match-stem after the body portion of the match has been exposed through the opening. After the match is grasped it may be disengaged from said flange by moving it longitudinally.

In order that matches of varying lengths may be held in such a position in the hopper as to have their extremities engaged by the flange 22 when they reach the outlet-opening, we employ a guide-spring 23 in the hopper, at the opposite side thereof from the flange 22, to bear against the heads of the matches and push their butts against the opposite side of the hopper. After the removal of the match from the groove or seat the catch should be disengaged from the socket 17 by lifting the free end of said catch, when the spring or elastic band will return the cylinder to its normal position, with the groove or seat in position to receive another match from the hopper.

In order to increase the tension of the elastic band when the latter has become stretched by continued use, the catch may be disengaged from the socket 17 and the cylinder turned through a complete revolution, after which the catch may be allowed to return to its normal or operative position. Thus by the use of the above-described means for limiting the rotary movement of the cylinder, such means consisting of the spring-actuated catch for engaging sockets in the cylinder, the cylinder may be turned to cause an extra wrap of the elastic band around the drum to insure an efficient operation of the cylinder when released.

In the construction illustrated in the drawings the casing is provided with securing-plates 24, by which the device may be attached to a counter, but it is obvious that securing-plates may be provided to attach the same to a wall or vertical partition, and that various

other changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described our invention, what we claim is—

1. In a match-safe, the combination of a hopper, a cylindrical casing communicating with the hopper and provided with an outlet-opening, a cylinder mounted in the casing and provided with a match groove or seat to receive a match from the hopper, and a flange on the casing concentric with the cylinder adapted to overhang the end of the groove or seat when the latter is opposite the outlet-opening and engage the butt-end of a match in the groove, substantially as specified.

2. In a match-safe, the combination of a hopper, a casing communicating with the hopper and having an outlet-opening, a cylinder mounted in the casing and having a match groove or seat and a key or crank whereby it may be turned to expose said groove or seat at the outlet-opening, a coaxial drum carried by the cylinder, a spring or elastic band attached at one end to the drum and at the other end to the casing and adapted to be strained by the forward movement of the cylinder and return the same to its normal position when released, and means for limiting the rotary movement of the cylinder in both directions, such means being adapted to be disengaged from the cylinder to allow a complete revolution of the drum to reel the spring or band thereon and thus increase the tension of the spring or band, substantially as specified.

3. In a match-safe, the combination of a hopper, a casing communicating with the hopper and provided with an outlet-opening, a cylinder mounted in the casing and having a match groove or seat and means whereby it may be turned to expose the match groove or seat at the outlet-opening, resilient means for returning the cylinder to its normal position, and a spring-catch adapted to engage sockets in the cylinder to limit the forward and return movements thereof, substantially as specified.

4. In a match-safe, the combination of a hopper, a casing communicating with the hopper and having an outlet-opening, a cylinder mounted in the casing and having a match groove or seat and means whereby it may be turned forward to expose said groove or seat at the outlet-opening, a drum carried by the cylinder, a spring or elastic band attached at one end to the drum and at the other end to the casing and adapted to be reeled upon the drum during the forward movement of the cylinder, an igniting-block arranged in an inclined position contiguous to one end of the cylinder, and a guard arranged in the casing around the drum to protect the spring or elastic band from injury by an ignited match, substantially as specified.

5. In a match-safe, the combination with a



hopper, and a casing communicating with the  
hopper and having an outlet-opening, of a  
rotary cylinder mounted in the casing and  
provided with a match groove or seat and an  
5 operating key or handle, means for returning  
the cylinder to its normal position after each  
forward movement, an igniting-block ar-  
ranged in the path of the heads of the matches,  
a flange arranged contiguous to the outlet-  
10 opening in the casing to engage the butt-end  
of a match and hold it temporarily in the  
groove or seat in the cylinder, and a guide-  
spring arranged in the hopper to hold the

butt-ends of the matches in contact with the  
side of the hopper adjacent to said flange, 15  
substantially as specified.

In testimony that we claim the foregoing as  
our own we have hereto affixed our signatures  
in the presence of two witnesses.

JOHN WILEY HART.  
LUTHER GRIFFITH.  
McALLISTER GOODWIN.

Witnesses:

CHAS. EWING,  
J. F. HEATWOLE.