

No. 734,927.

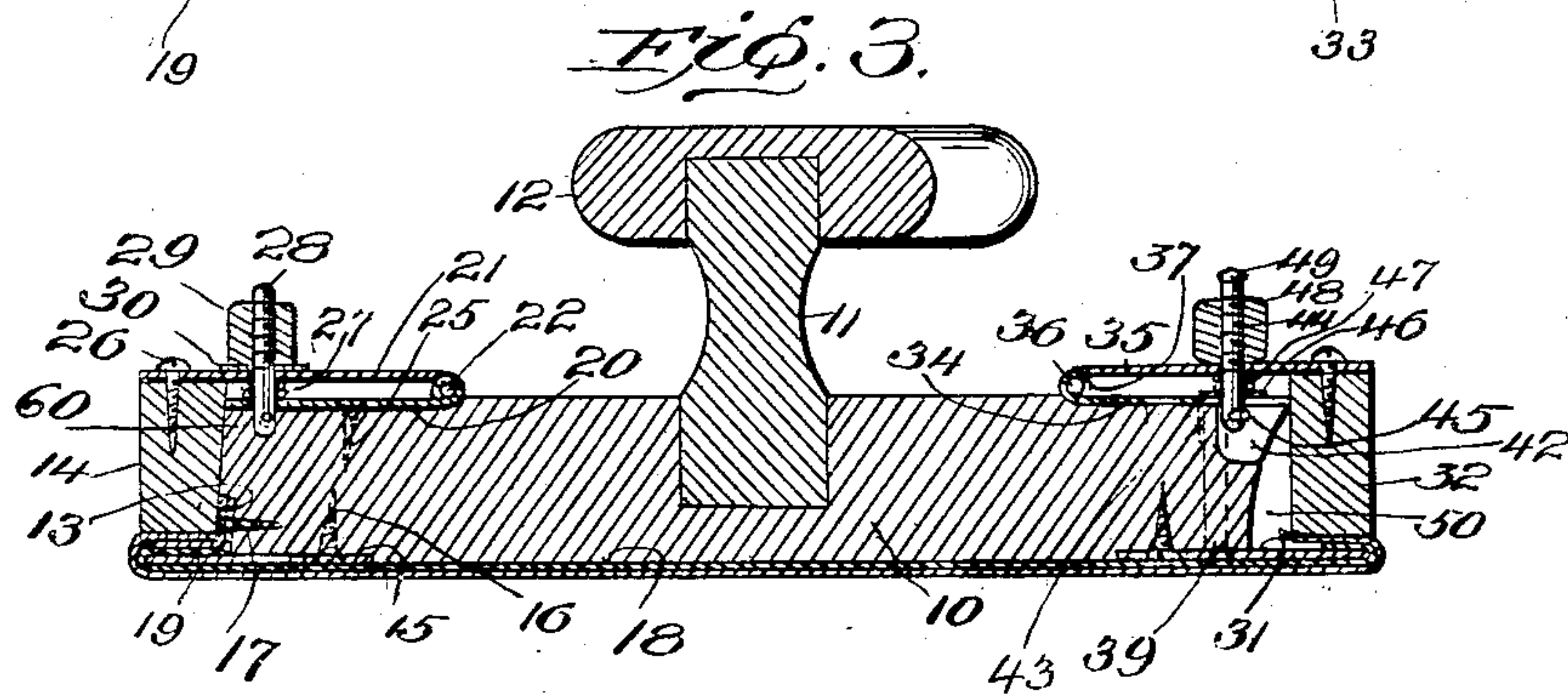
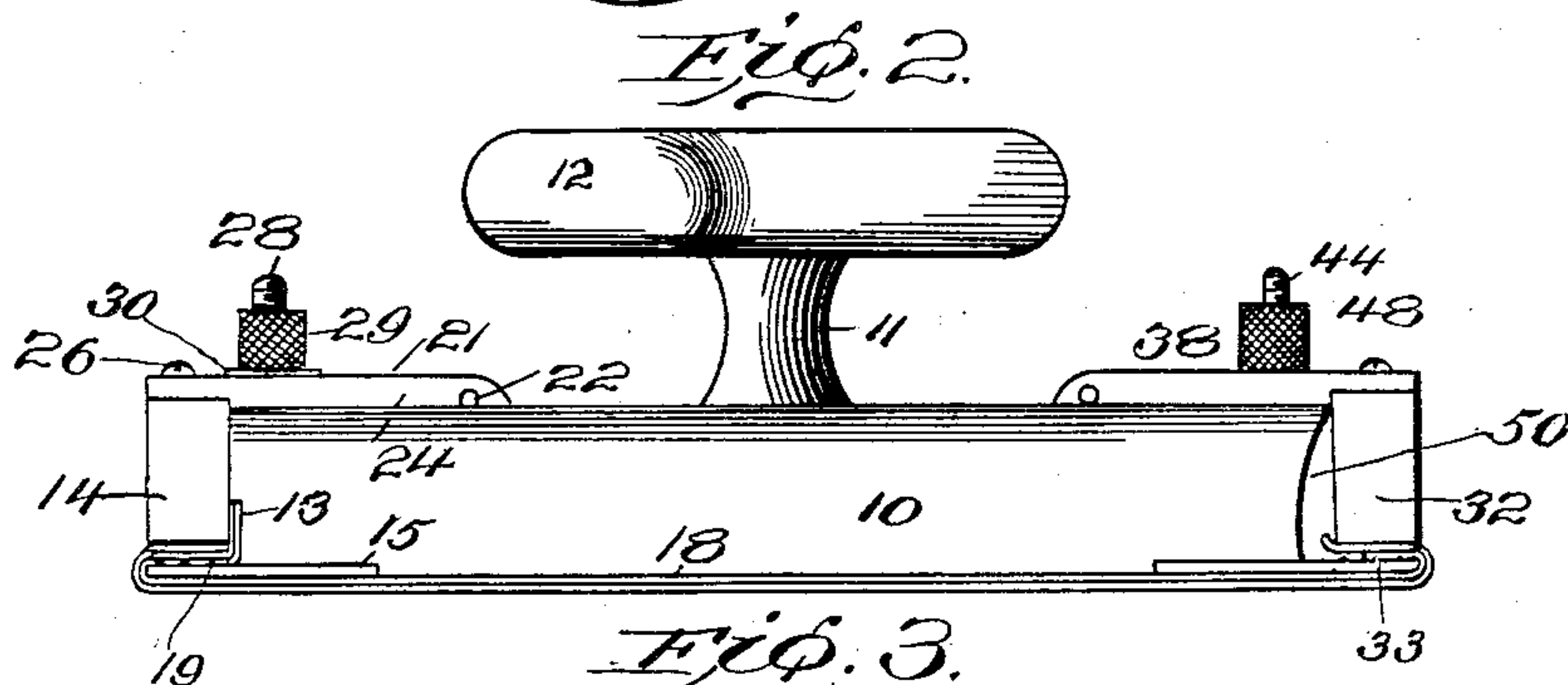
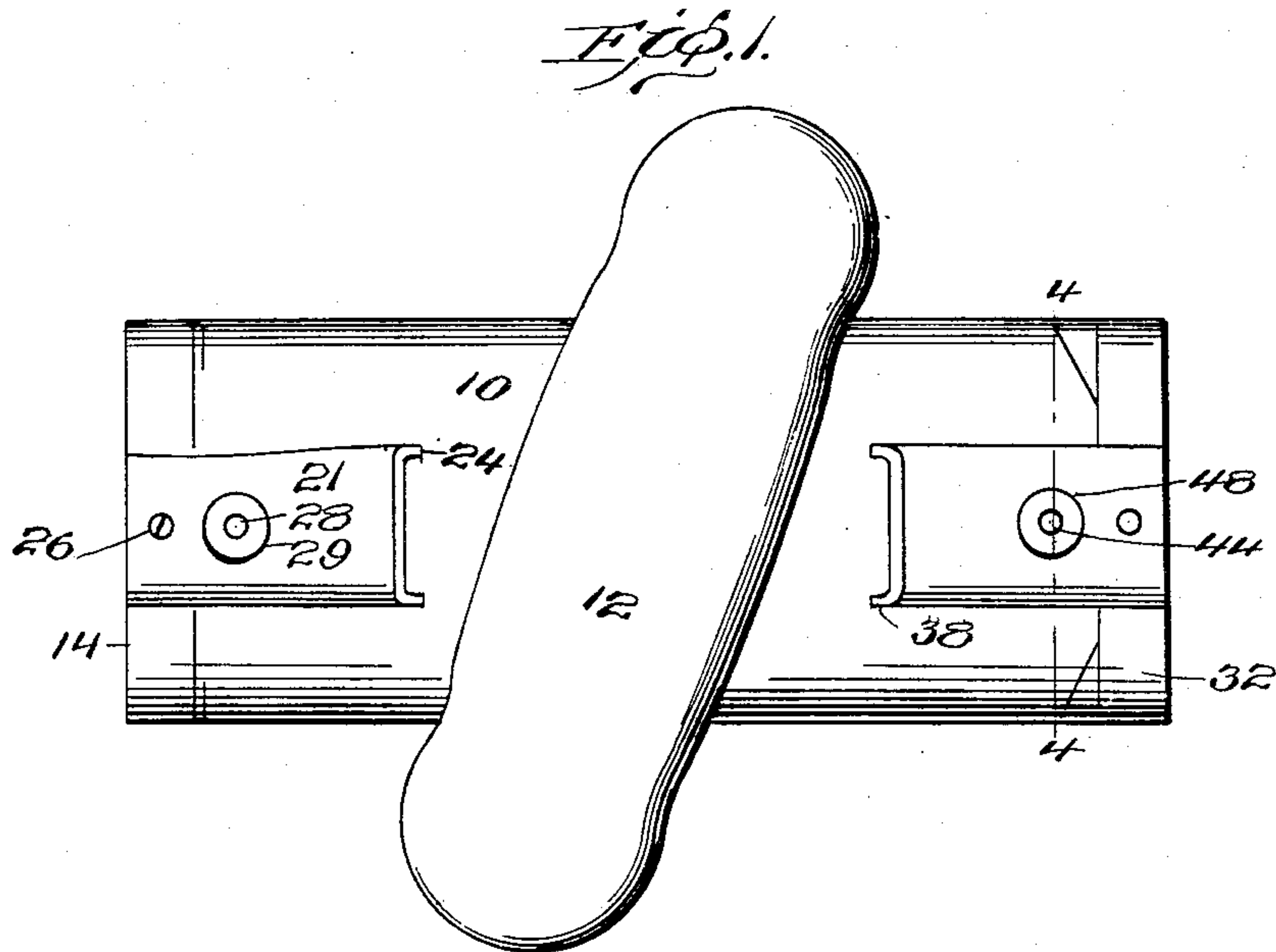
PATENTED JULY 28, 1903.

M. E. McAFEE.  
TOOL FOR HOLDING ABRADING MATERIALS.

APPLICATION FILED NOV. 29, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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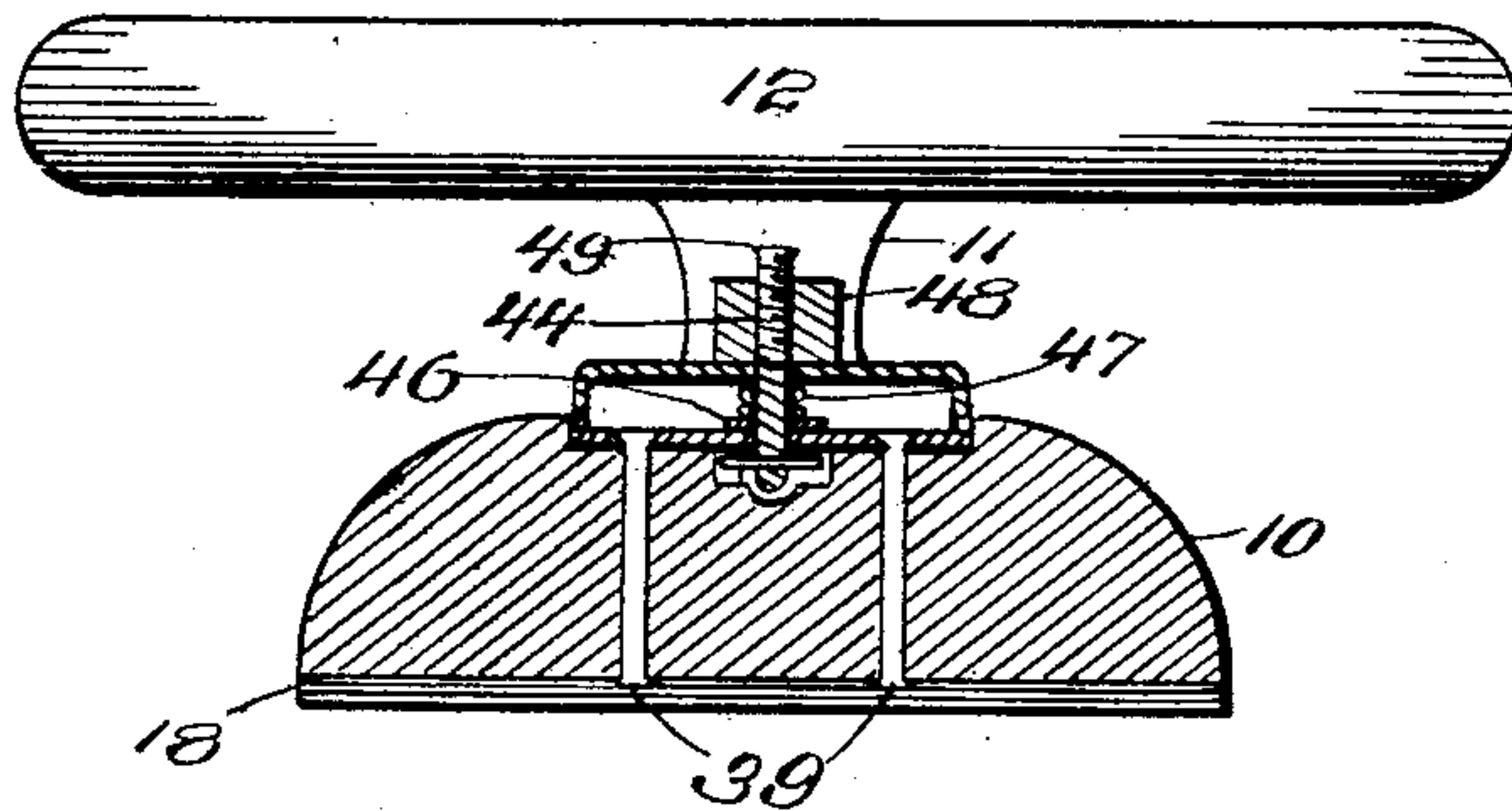
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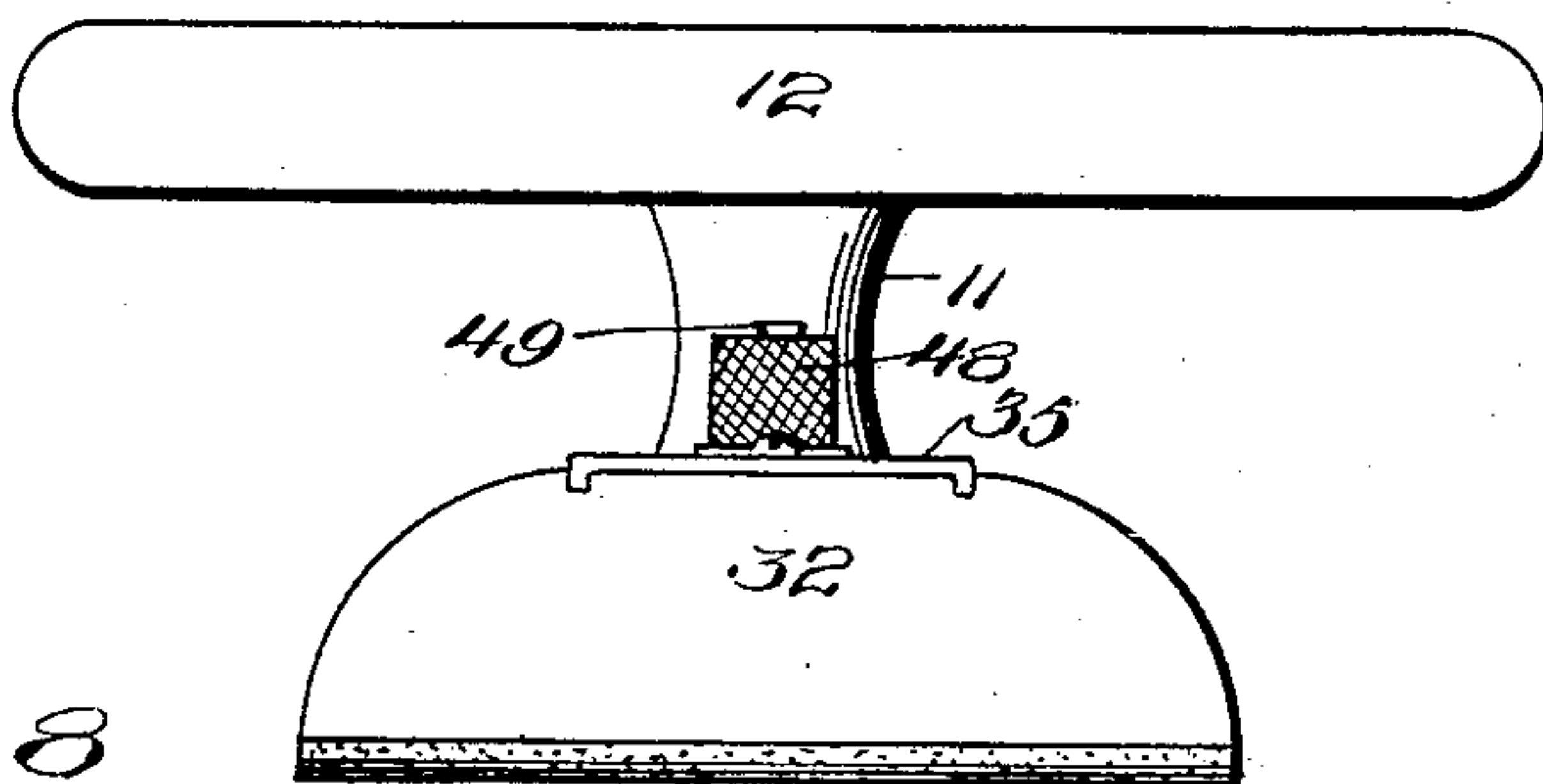
NO MODEL.

2 SHEETS—SHEET 2.

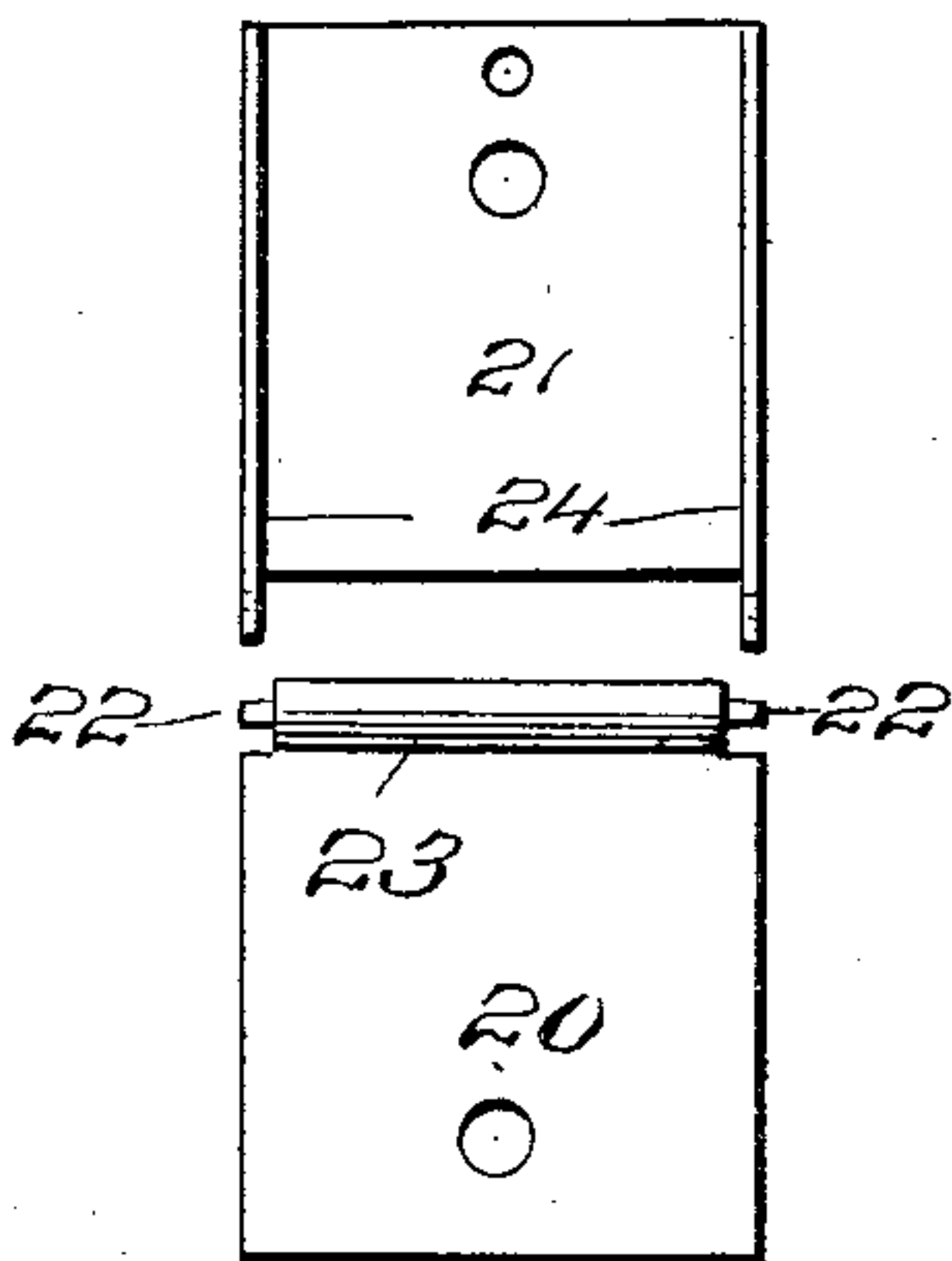
*Fig. 4.*



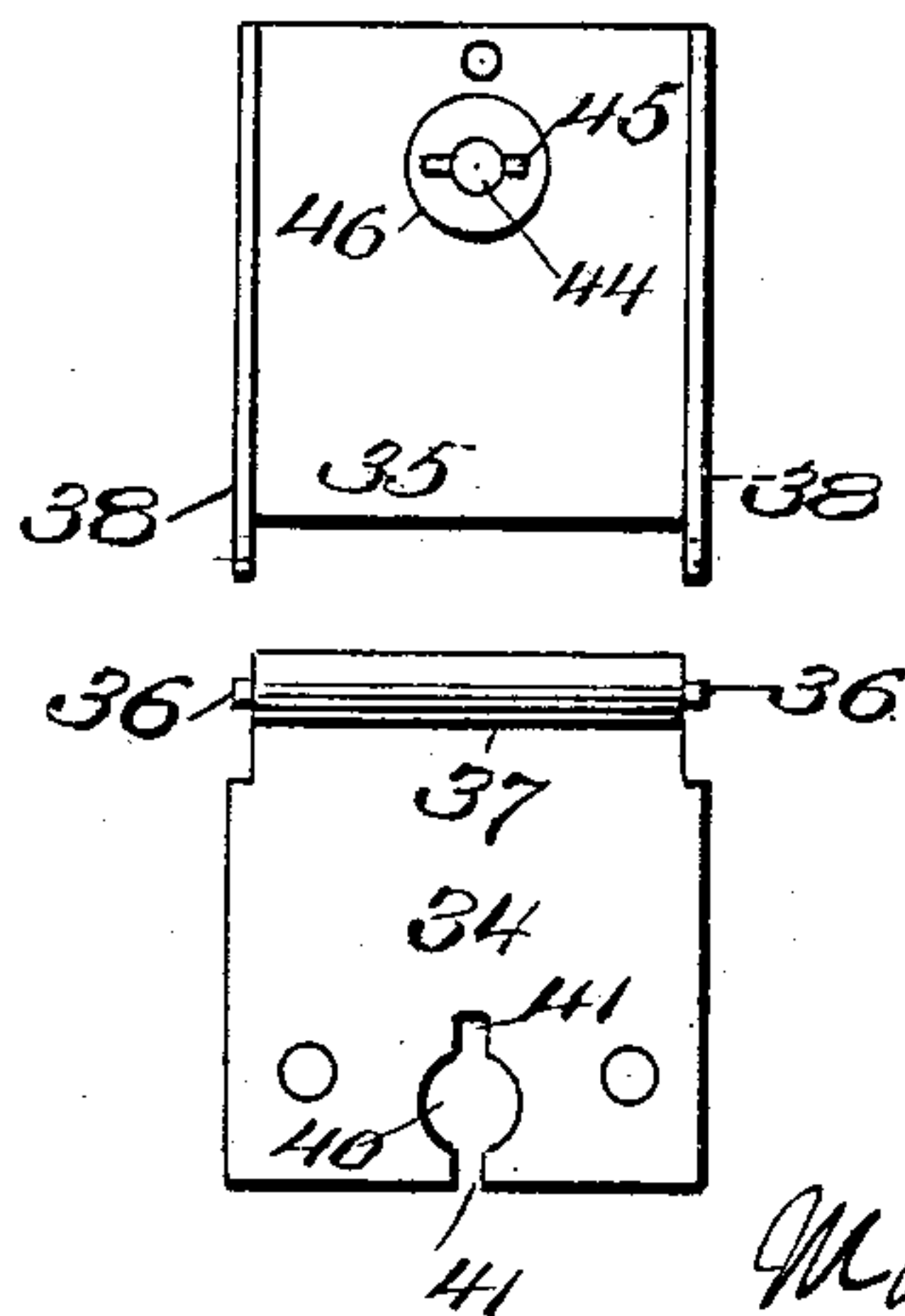
*Fig. 5.*



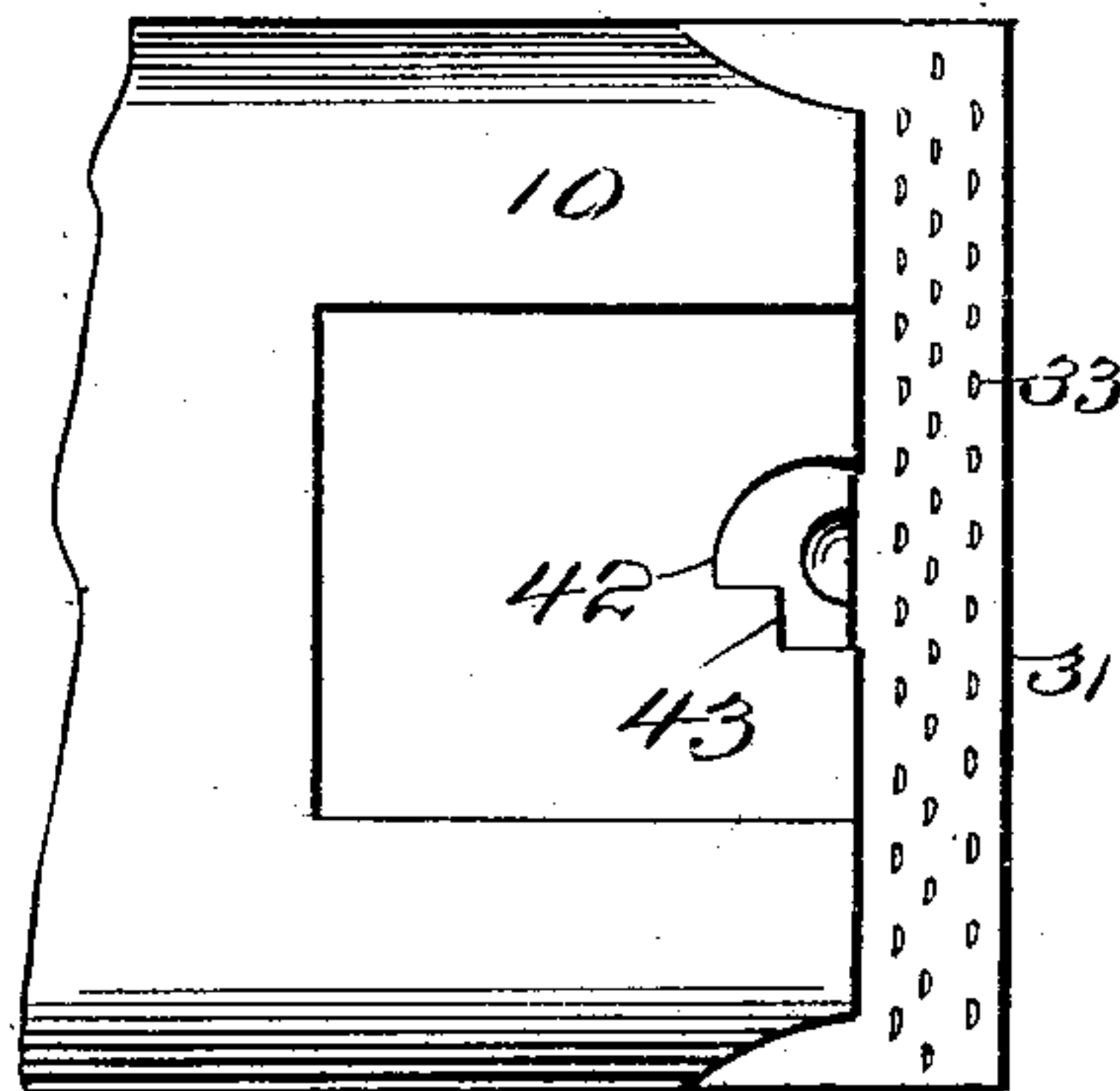
*Fig. 8.*



*Fig. 6.*



*Fig. 7.*



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# UNITED STATES PATENT OFFICE.

MORGAN E. MCAFEE, OF ATLANTA, GEORGIA.

## TOOL FOR HOLDING ABRADING MATERIALS.

SPECIFICATION forming part of Letters Patent No. 734,927, dated July 28, 1903.

Application filed November 29, 1902. Serial No. 133,273. (No model.)

*To all whom it may concern:*

Be it known that I, MORGAN E. MCAFEE, a citizen of the United States, and a resident of Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Tools for Holding Abrading Materials, of which the following is a full, clear, and exact description, such as will enable those skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in tools for holding abrading materials of that description which consist of a holder or body forming a backing to which the abrading material in the form of a sheet, such as sandpaper, is secured by clamping mechanisms.

It has for its object the provision of such a device whereby the abrading material can be easily and readily attached to or removed from the tool, and it consists in the novel construction, combination, and arrangement of parts, such as will be hereinafter fully described, pointed out in the appended claims, and illustrated in the accompanying drawings.

In the drawings, in which similar reference characters designate corresponding parts, Figure 1 is a plan view of a device embodying the invention. Fig. 2 is a side elevation. Fig. 3 is a longitudinal sectional view. Fig. 4 is a cross-sectional view on the line 4 4 of Fig. 1. Fig. 5 is an end view. Fig. 6 is a detail view showing the members of the hinge of one of the clamping mechanisms. Fig. 7 is a detail plan view showing one of the ends of the body of the tool, and Fig. 8 is a detail view showing the members of the hinge of the other clamping mechanism.

The body 10 of the tool is generally rectangular in form and has a flat surface and a rounded back. Projecting from the back of the body is the standard 11, on the outer end of which is secured the handle 12. The latter is obliquely disposed across the body to facilitate the manipulation of the tool. At the opposite ends of the body are clamping mechanisms for securing the abrading material to the face of the body. Each of the clamping mechanisms comprises, essentially, a fixed jaw and a movable jaw. One of them

consists of the angle-piece 13, secured to the body and forming the fixed jaw, and of the block 14, hinged to the body and forming the movable jaw to cooperate with the said fixed jaw in holding an end of the abrading material. A plate 15 is seated in one end of the body flush with the face of the same. It is secured in place by the screws 16 passing through it into the body, and it projects beyond the end of the body. In the angle formed by the projecting plate and the end of the body is secured the angle-piece 13 by the screws 17 passing through it into the body. Between it and the plate 15 and the end of the body is clamped an end of the strap 18, which forms a cushion between the abrading material and the face of the body. From the upper side of the member of the angle-piece, parallel with the plate 15, project the teeth 19, adapted to engage with the abrading material.

On the back of the body is secured the hinge, consisting of the fixed member 20 and the movable member 21, pivoted together by the pintle 22. The latter passes through the elongated bearing 23 of the fixed member and the bearings formed in the flanges 24, projecting from the longitudinal sides of the movable member. The fixed member is seated in the back of the body and is secured in place by the screws 25, passing through it into the body. The outer end of this member is flush with the end of the body. The movable member of the hinge extends at its outer end when the hinge is closed beyond the end of the body and has secured to its under side the block 14 by the screw 26, passing through it into the block. The latter is suitably recessed to receive the flanges 24 of the movable member. The members of the hinge are normally pressed apart by the spring 27 interposed between them. Their movement apart is limited by the rod 28 passing through them and the nut 29 turned onto the outer end of the rod outside of the movable member. The inner end of the rod passes through circular openings in the members of the hinge into a socket in the body formed for its reception. A pin 30 passes through the inner end of the rod beneath the fixed member of the hinge to hold the rod in place. The spring 27 is coiled around the rod 28 and is thereby held in place.



By turning the thumb-nut 29 onto the rod the members of the hinge can be moved together against the action of the spring, and this closing of the hinge will force together the jaws comprising the angle-piece 13 and the block 14. A washer 30 is interposed between the thumb-nut and the movable member of the hinge to take up the wear. On the other end of the body of the tool is another clamping mechanism somewhat similar to that already described. It consists of the jaws formed by the plate 31, secured to the end flush with the face of the body, and the block 32, hinged to the back of the body. Projecting from the upper face of the plate 31, which extends beyond the end of the body, are the teeth 33. On the back of the body is secured the hinge, comprising the fixed member 34 and the movable member 35, pivoted together by the pin 36, passing through the socket 37 of the fixed member and bearings in the flanges 38 of the movable member. The fixed member is secured to the body by the rivets 39, and its outer edge is flush with the end of the body. When the hinge is closed, the free end of the movable member projects beyond the outer end of the fixed member and has secured to its under side the block 32, adapted to engage with the teeth 33 of the plate 31. The movable member of the hinge is provided with a catch for connecting it with the fixed member and holding the two together to press the block 32 upon the plate 31. In the outer end of the fixed member 34 of the hinge, near its edge, is the circular opening 40, and extending from opposite sides of this opening are the slots 41.

In the body of the tool beneath the circular opening and the slots is the socket 42, having a projection 43, extending from the wall of the same. Passing through the movable member 35 of the hinge and rotatable therein is the rod 44, adapted to register at its inner end with the circular opening 40 in the fixed member. Passing transversely through the inner end of the rod 44 is the pin 45, adapted to register with the slots 41 in the fixed member of the hinge. On the rod inside of the pin 45 is the washer 46, and interposed between the latter and the movable member 35 is the spring 47, coiled around said rod. This spring tends to press the rod inwardly through the movable member. On the outer end of the rod outside of the movable member is the thumb-nut 48, that limits the inward movement of the rod caused by the spring 47. The extreme outer end of the rod, as at 49, is swelled to prevent the thumb-nut from being turned clear of the rod.

In the end of the body of the tool above the plate 31 is the recess 50 to receive the free end of the abrading material should there be an excess of length in the same.

It is to be observed that the angle-piece 13 and the plates 15 and 31 also serve to prevent the body of the tool, which is of wood, from warping.

The operation of the clamping mechanisms is as follows: An end of the abrading material, which has been previously cut into suitable strips, is placed between the horizontal member of the angle-piece 13 and the block 14. By turning the thumb-nut 29 onto the rod 28 the members 20 and 21 of the hinge are forced together against the action of the spring 27, and the block and angle-piece are forced together to clamp the end of the abrading material between them. The teeth of the angle-piece engaging with the material firmly holds the latter in place. The abrading material, together with the strap 18, is folded over the outer edge of the plate 15 along the face of the body. The free ends of the strap and abrading material are then folded over the outer edge of the plate 31. The block 32, which has been previously raised, is then forced downwardly until the lower or inner end of the rod 44 registers with the circular opening 40 in the fixed member 34 of the hinge carrying the block. The rod is then turned by rotating the thumb-nut 48 until the pin 45 registers with the slots 41. The end of the rod and the pin are then forced through the circular opening and the slots until the pin registers with the socket 42 in the body of the tool. The washer 46 prevents the spring 47 from entering the circular recess and bears against the upper surface of the fixed member. The rod is then turned until the pin engages with the projection 43 in the socket. This will prevent any further rotation of the rod and also connects the two members of the hinge together. The thumb-nut is then screwed onto the rod and closes the hinge against the action of the spring 47. This is continued until the ends of the strap and abrading material are clamped between the plate 31 and the block 32. If there should be any excess in the length of the abrading material, the surplus will be received by the recess 50 in the end of the body of the tool. It is to be observed that the teeth of the plate 31 and the angle-piece do not come in contact with the abrading-surface of the material, and consequently do not become dulled by contact with the same.

To remove the abrading material, the thumb-nut 48 is turned off the rod 44 until it is stopped by the swelled head 49. This will allow the spring 47 to press apart the members of the hinge to open the jaws, and thereby release the material and cushioning-strap. The clamping mechanism at the other end of the body is opened by unscrewing the thumb-nut 29 from the rod 28. The abrading material can then be removed from the tool. By removing the angle-piece 13 the cushioning-strap can be replaced when it becomes worn.

To facilitate the attachment of the free ends of the abrading material and cushioning-strap after they have been secured between the first clamping mechanism, the block 32 can be thrown back clear of the



plate 31. This is done by continuing to turn the thumb-nut 48 in the direction to unscrew it. As the rotation of the thumb-nut on the rod 44 is stopped by the swelled head 49 the rod itself will be turned, and when the pin 45 registers with the slots 41 the two members of the hinge will be disconnected and forced apart by the spring 47. After the members of the hinge have been disconnected the block can be turned back on the tool and access to the plate 31 and the recess 50 be given, so that the free ends of the strap and abrading material can be readily folded into place.

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

1. In a tool for holding abrading material, a clamping mechanism comprising a fixed jaw, a movable jaw coacting with said fixed jaw, a spring normally pressing said jaws apart, and means for closing said jaws against the action of said spring.

2. In a tool for holding abrading material, the body of the tool, a plate secured to said body, a hinge having one of its members secured to said body, a block carried by the free member of said hinge and adapted to engage with said plate, and means for closing the members of said hinge to press said block into engagement with said plate.

3. In a tool for holding abrading material, the body of the tool, a plate secured to said body, a hinge having one of its members secured to said body, a block carried by the free member of said hinge, a spring for pressing apart the members of said hinge, and means for closing the members of said hinge against the action of said spring to press said block into engagement with said plate.

4. In a tool for holding abrading material, the body of the tool, a plate secured to said body, a hinge having one of its members secured to said body, a block carried by the free member of said hinge, a rod passing through the free member of said hinge, and a thumb-nut turned onto said rod outside of said free member for closing the members of said hinge to press said block into engagement with said plate.

5. In a tool for holding abrading material, the body of the tool, a plate secured to said body and provided with teeth, a hinge having

one of its members secured to said body, a block carried by the free member of said hinge and adapted to engage with said plate and to register with said teeth, a spring normally pressing the members of said hinge apart, a rod passing through the free member of said hinge, and a thumb-nut turned onto said rod outside of said free member for closing the members of said hinge against the action of said spring to press said block into engagement with said plate.

6. In a tool for holding abrading material, a clamping mechanism comprising a fixed jaw, a movable jaw coacting with said fixed jaw, and a catch carried by one of said jaws for engaging with the other jaw to hold the two together.

7. In a tool for holding abrading material, the body of said tool, a cushioning-strap secured at one end to one end of said body, and a clamping mechanism on the other end of said body for engaging the free end of said strap and comprising a fixed jaw, a movable jaw coacting with said fixed jaw, and a catch carried by one of said jaws for engaging with the other jaw to hold the two together in engagement with said strap.

8. In a tool for holding abrading material, the body of said tool provided with a socket, a projection extending into said socket, a hinge having one of its members secured to said body over said socket and provided with a circular opening and slots registering with said socket, a rod rotatably mounted in the free member of said hinge and adapted to pass through said circular opening at its inner end, a pin passing through the inner end of said rod and adapted to pass through said slots and to engage with said projection, a washer placed on said rod inside of said pin, a spring on said rod and interposed between said washer and said movable member, a thumb-nut on the outer end of said rod for closing the members of said hinge, a plate secured to said body, and a block carried by the free member of said hinge and adapted to engage with said plate.

In testimony whereof I have signed my name in the presence of two witnesses.

MORGAN E. MCAFEE.

Witnesses:

A. WATERS,  
G. W. PEARY.