

March 6, 1951

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2,543,798

PIPE AND CIGARETTE LIGHTER

Filed March 1, 1949

3 Sheets-Sheet 1

Fig. 1.

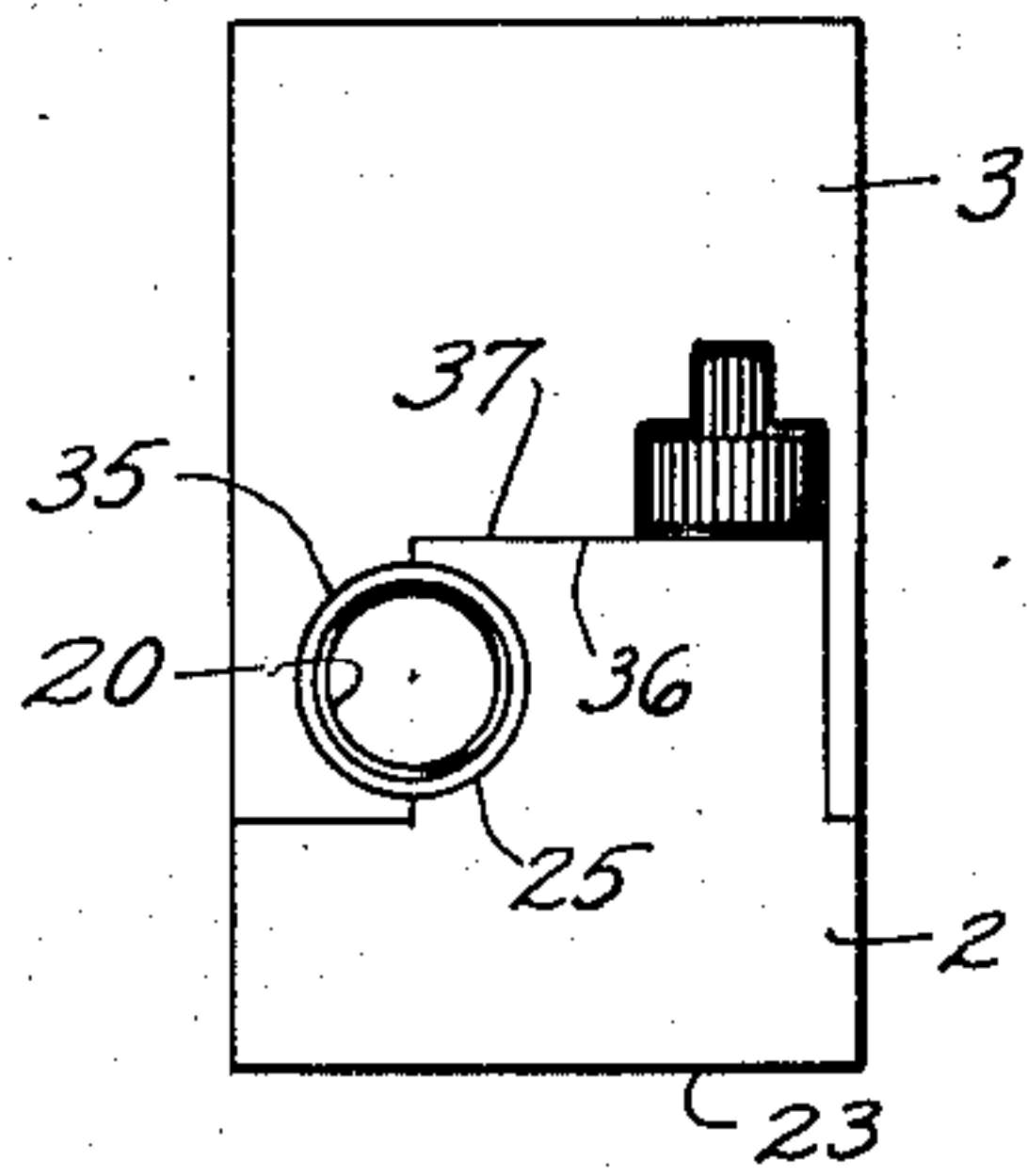


Fig. 7.

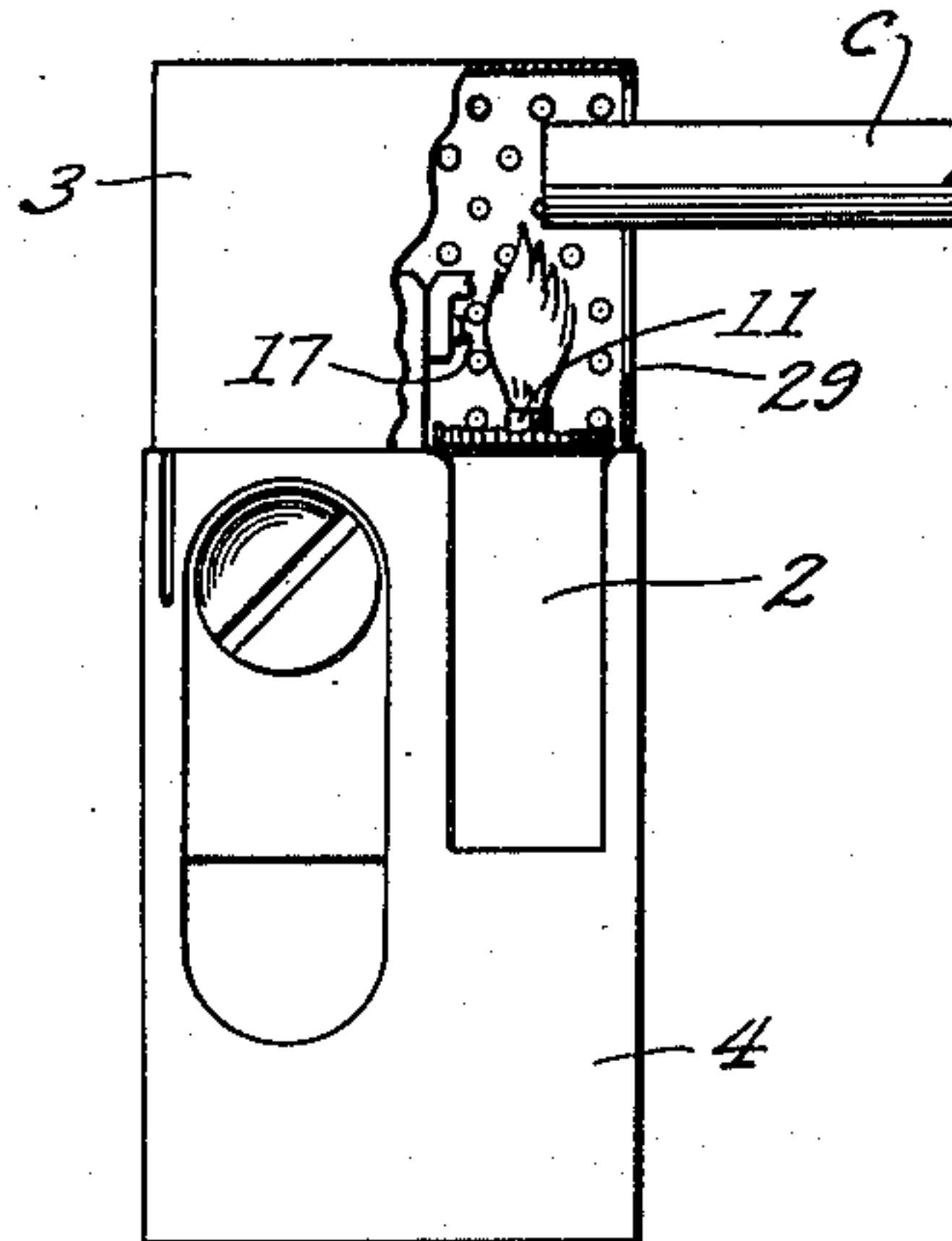


Fig. 2.

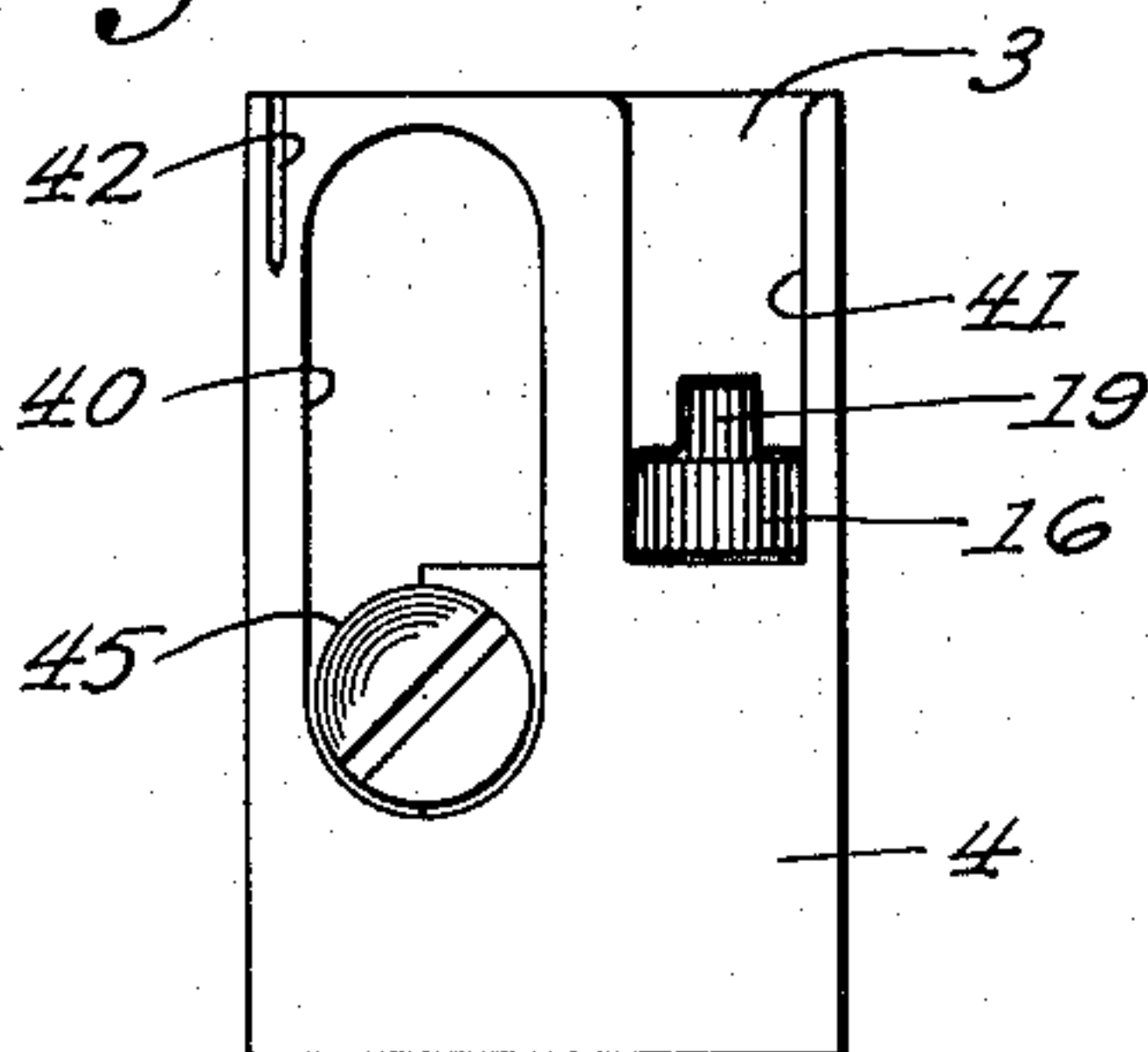


Fig. 3.

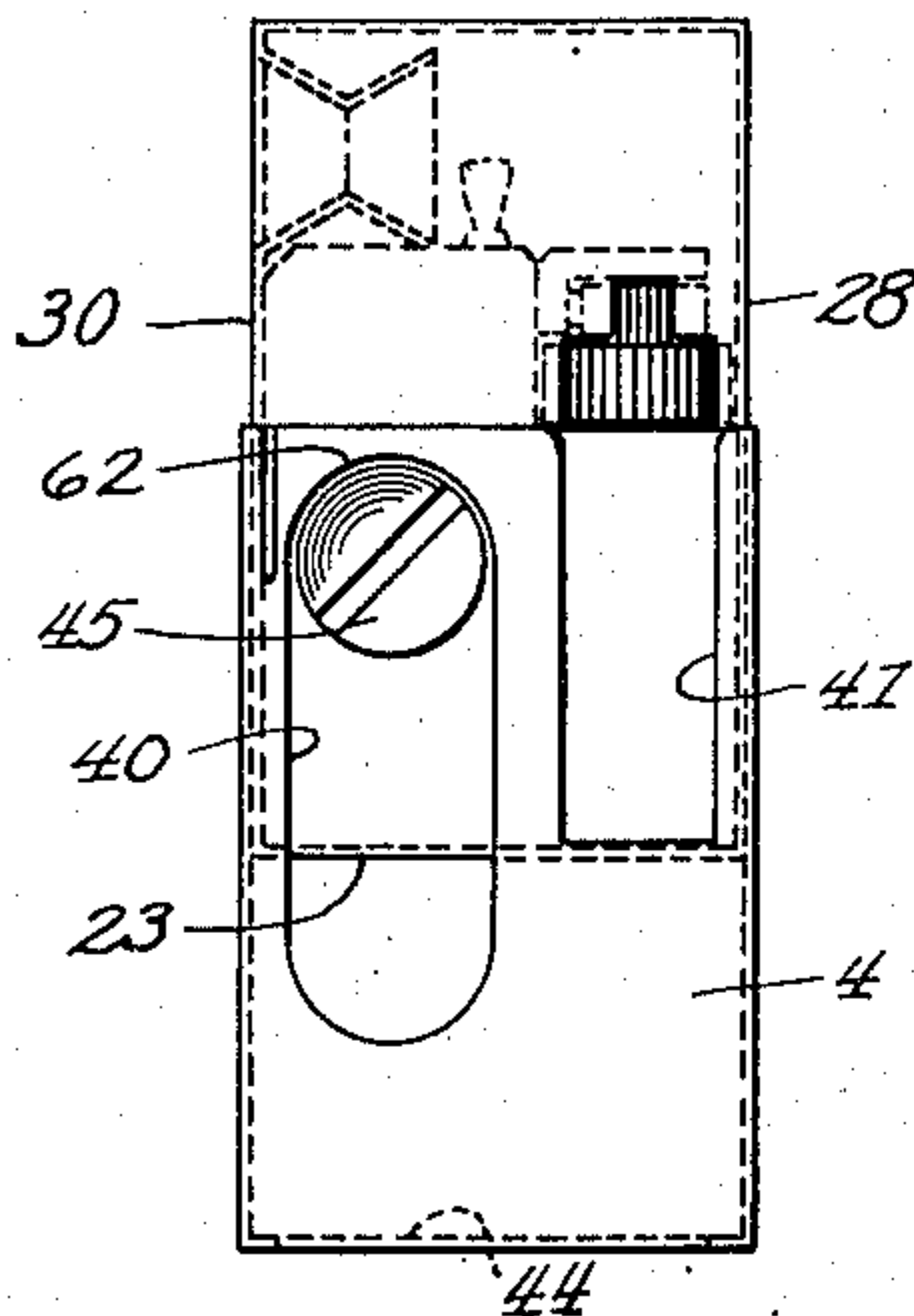


Fig. 4.

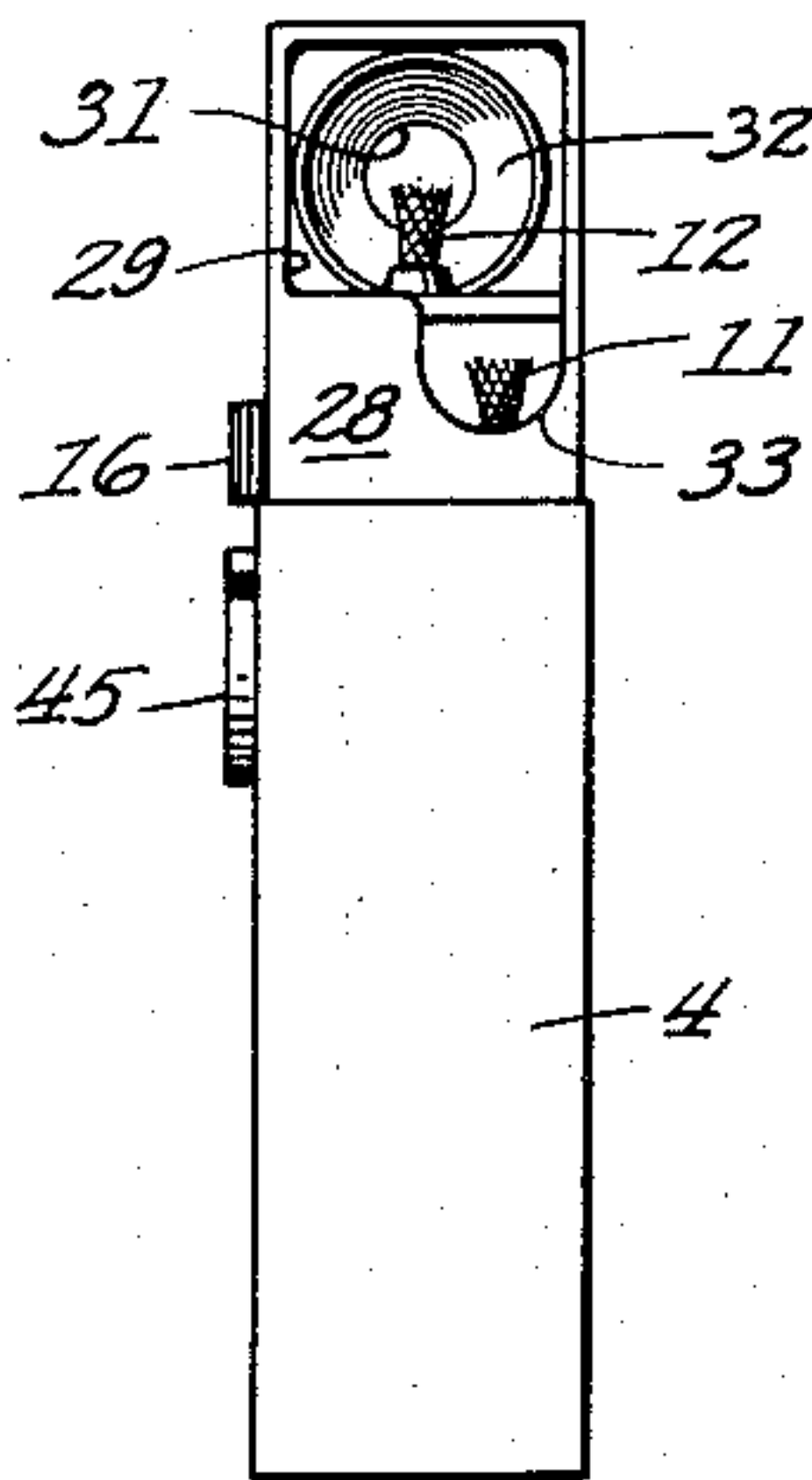


Fig. 5.

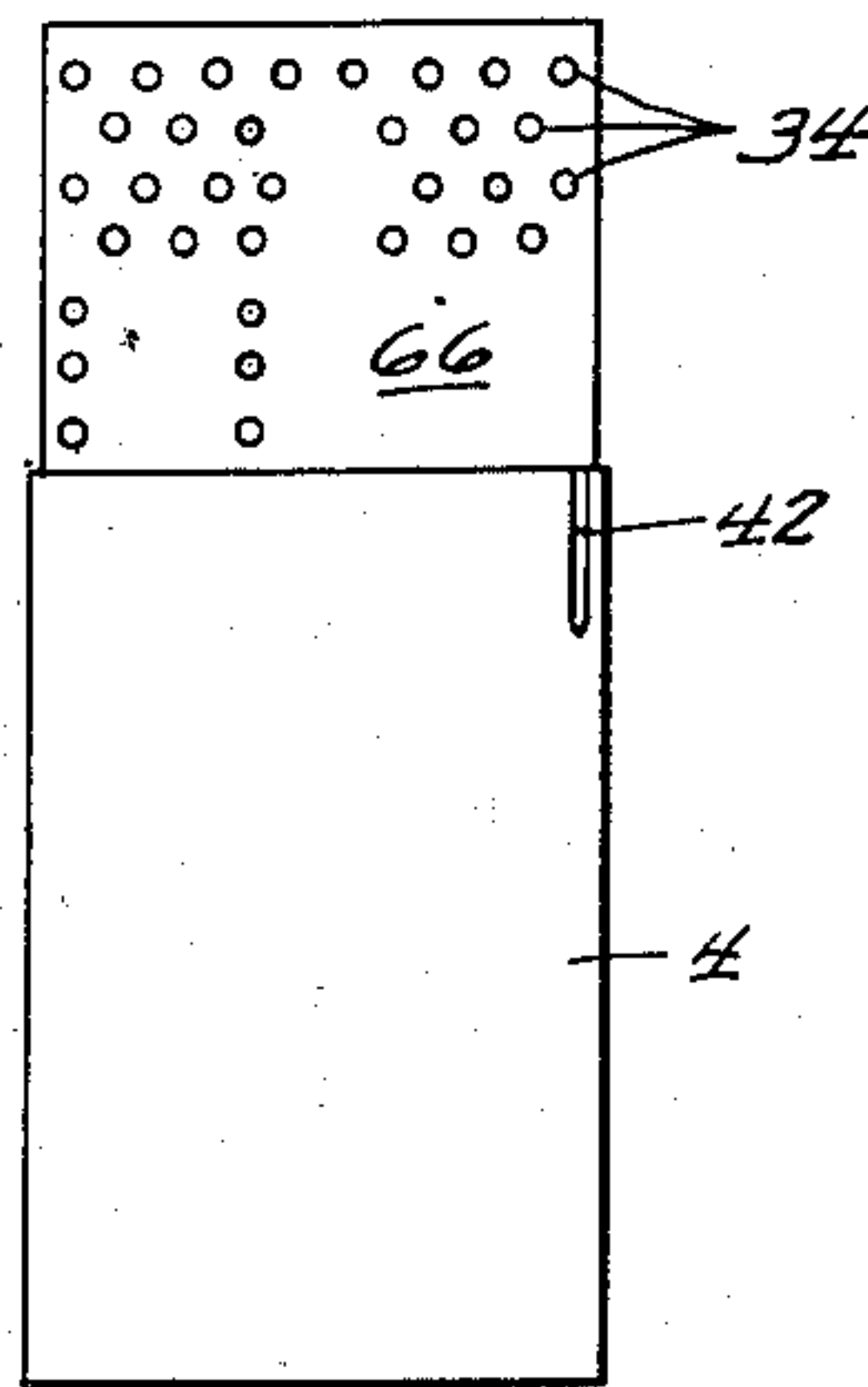
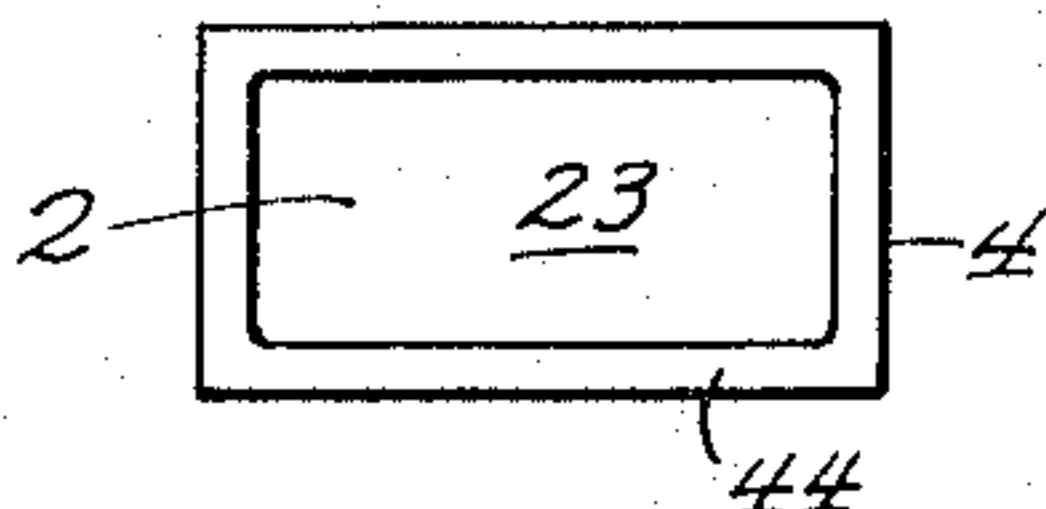


Fig. 6.



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Fig. 8.

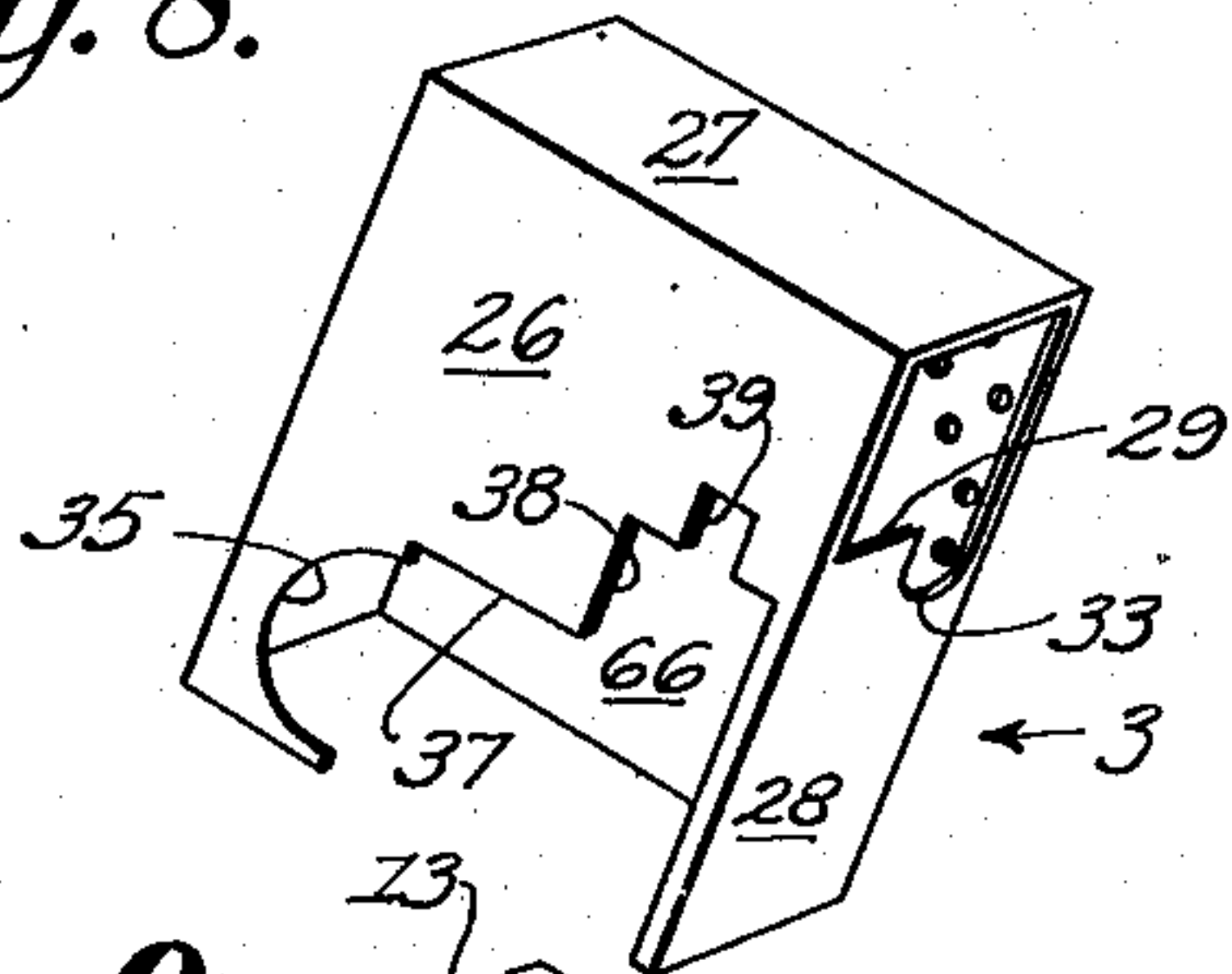


Fig. 9.

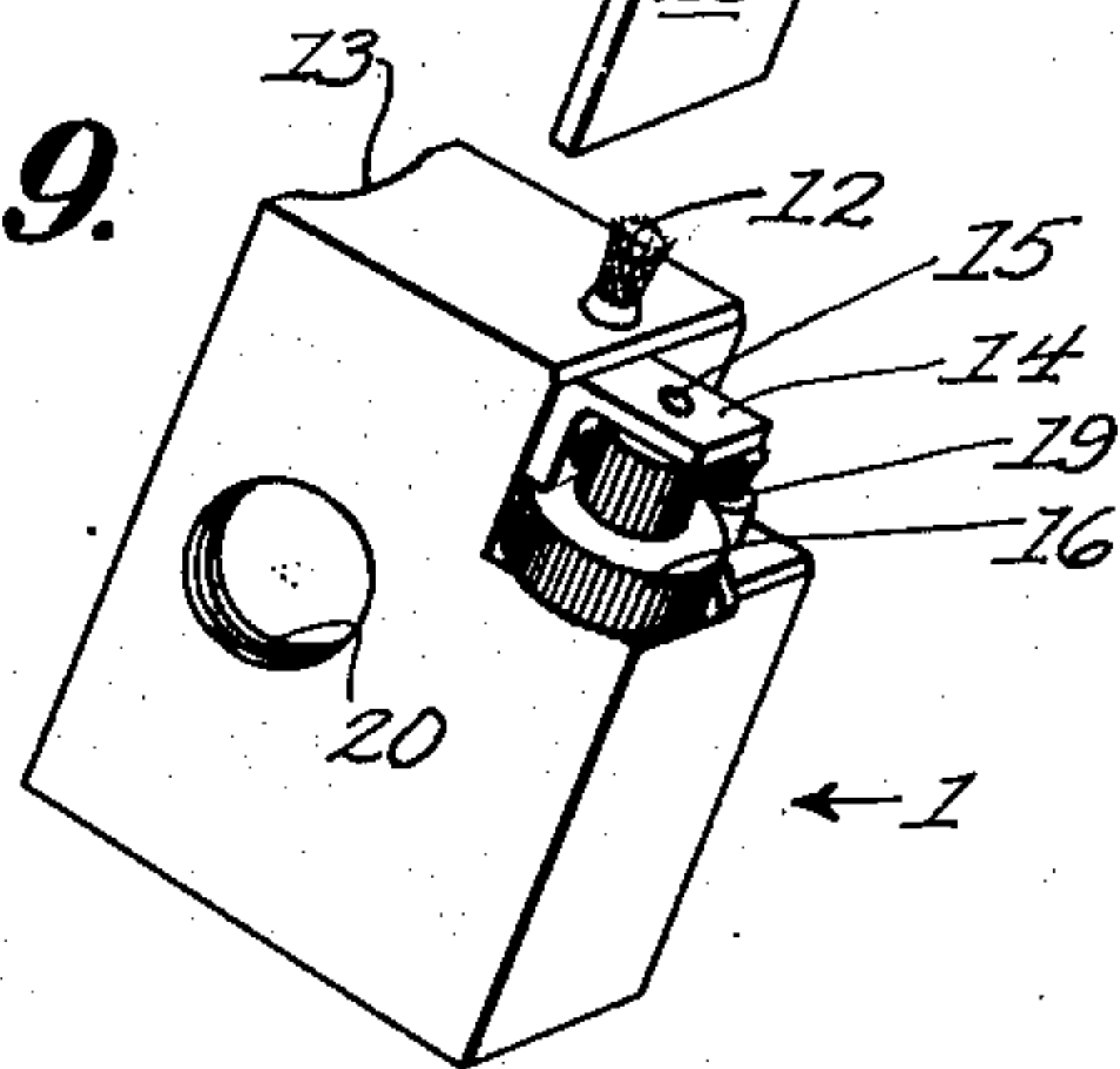


Fig. 10.

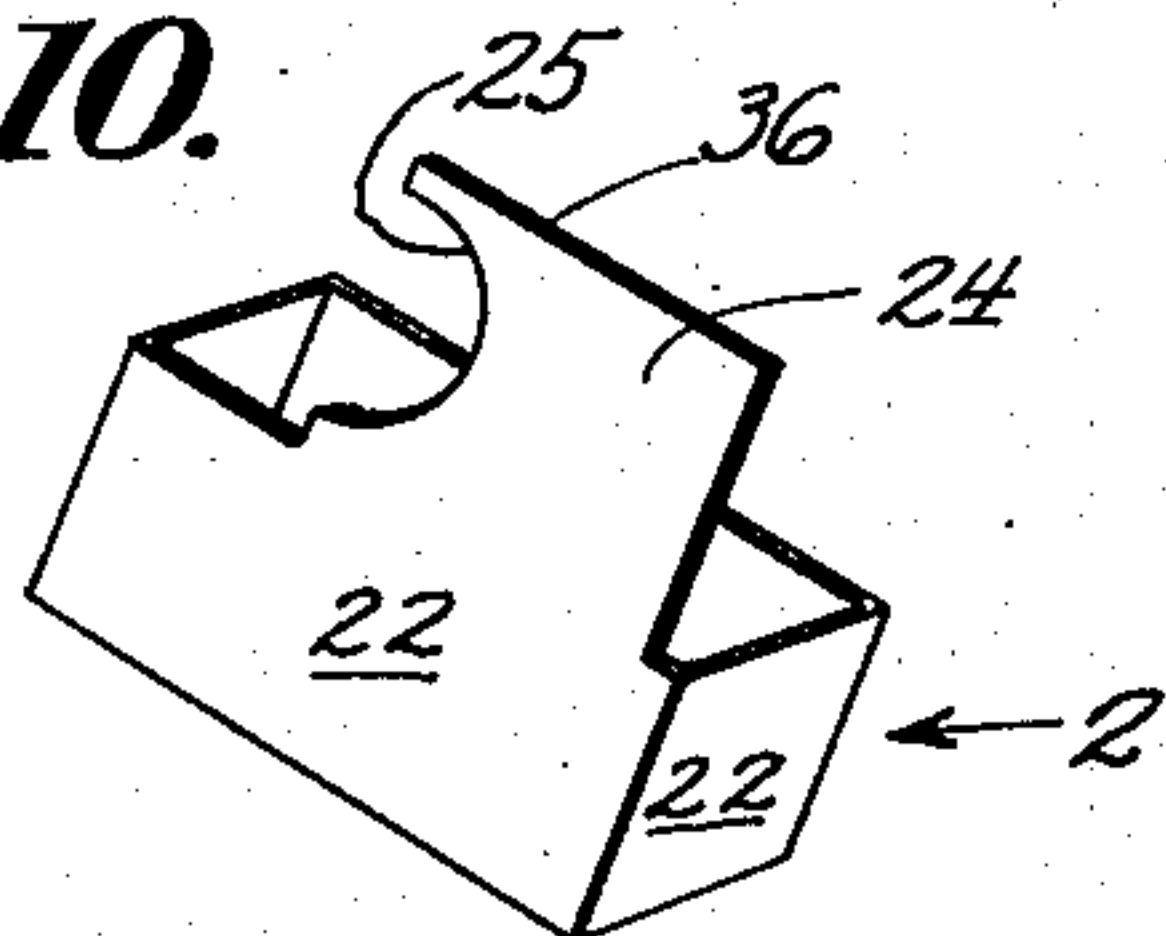


Fig. 11.

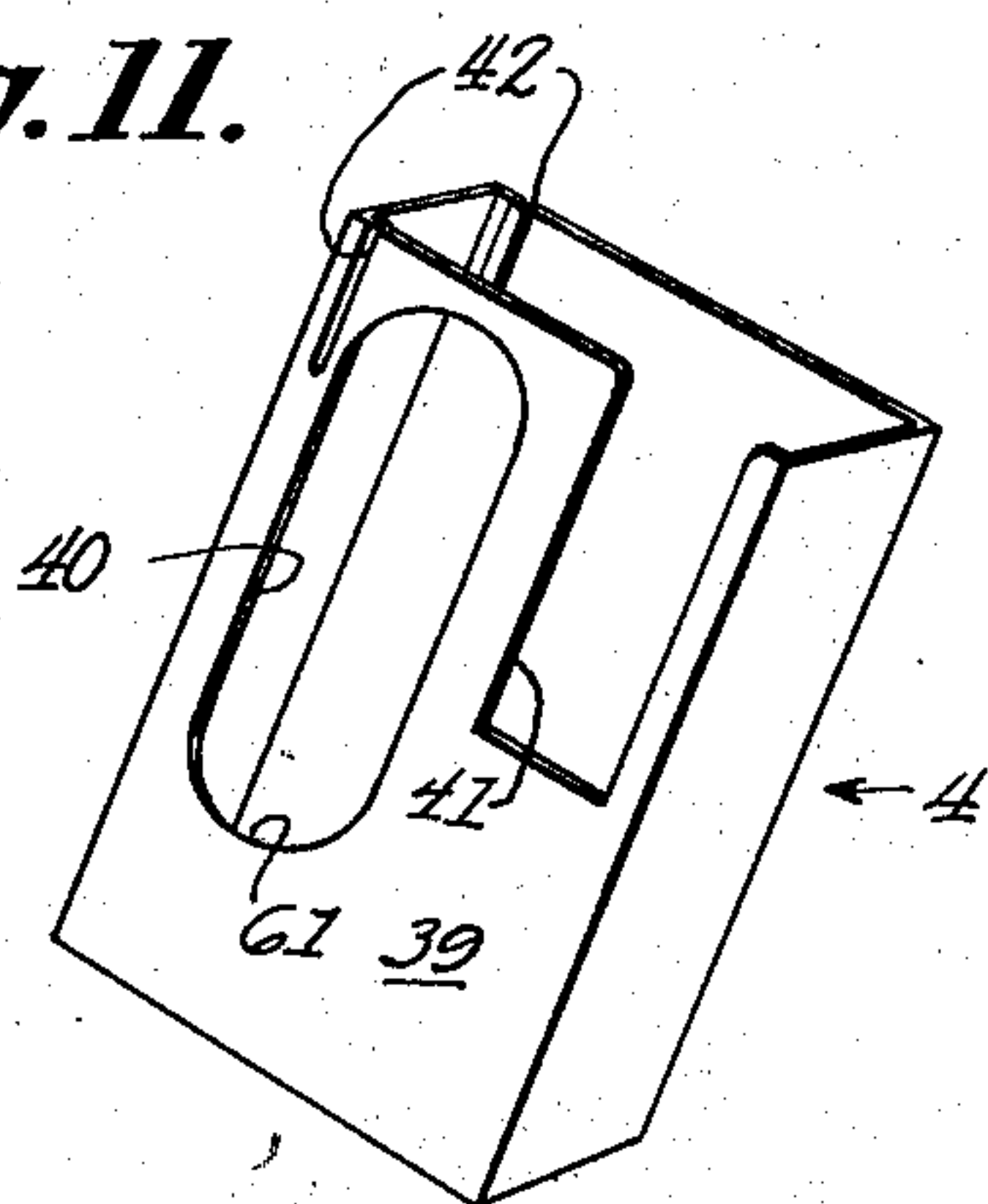


Fig. 12.

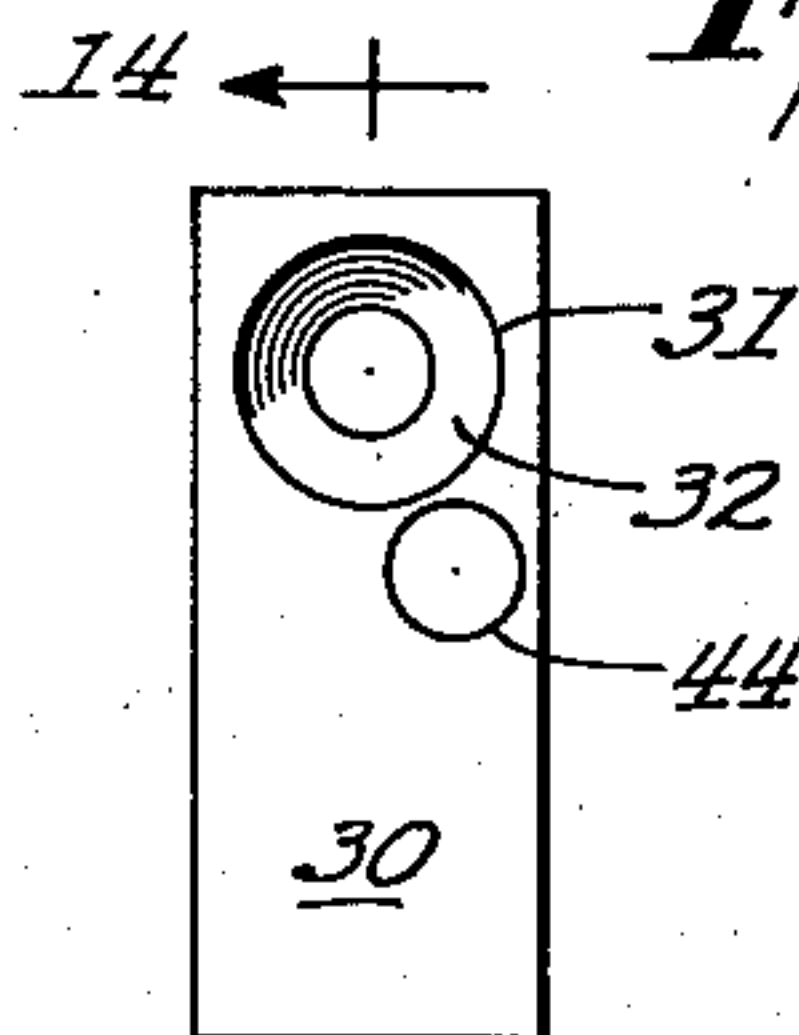


Fig. 13.

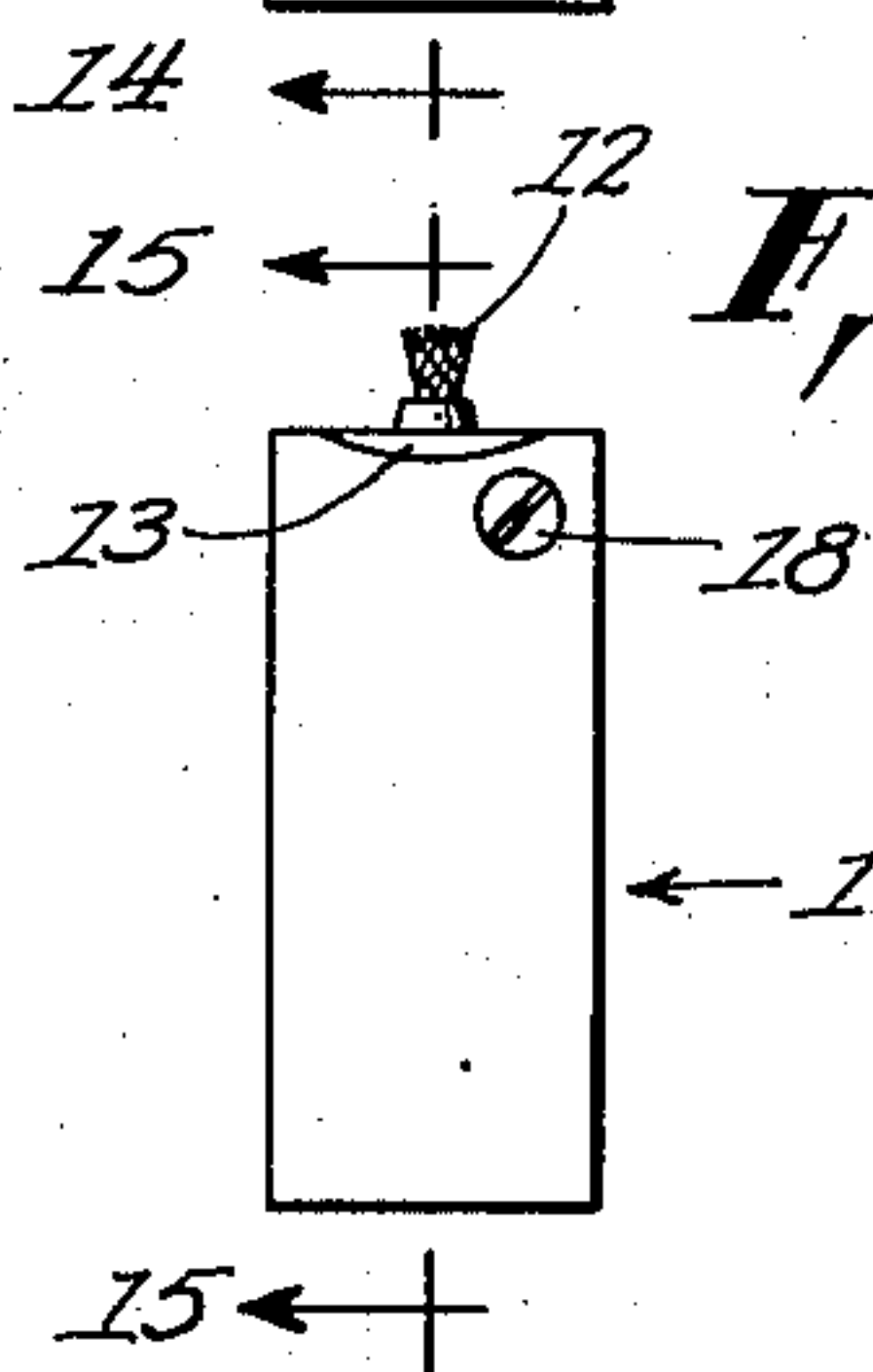


Fig. 14.

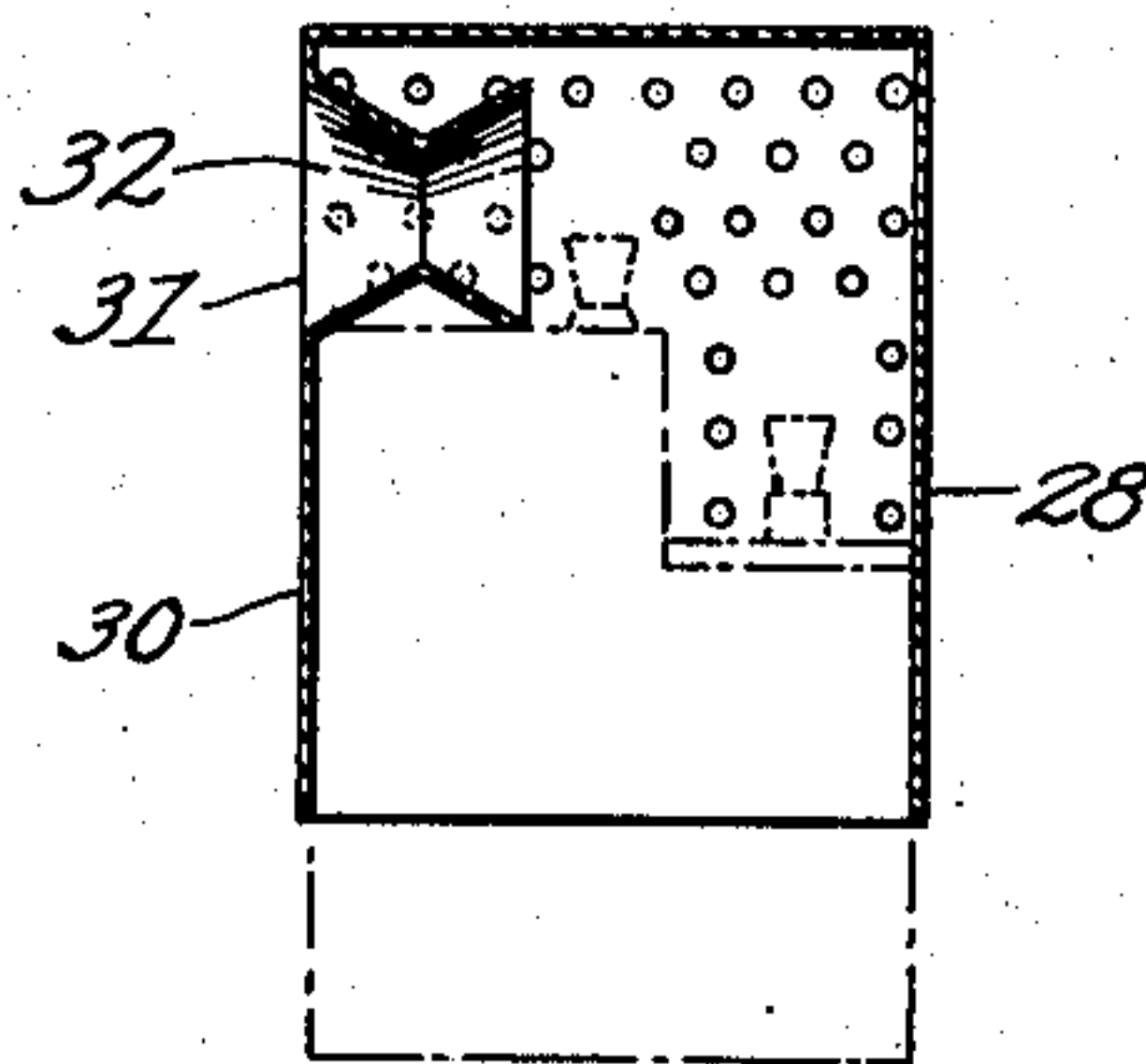
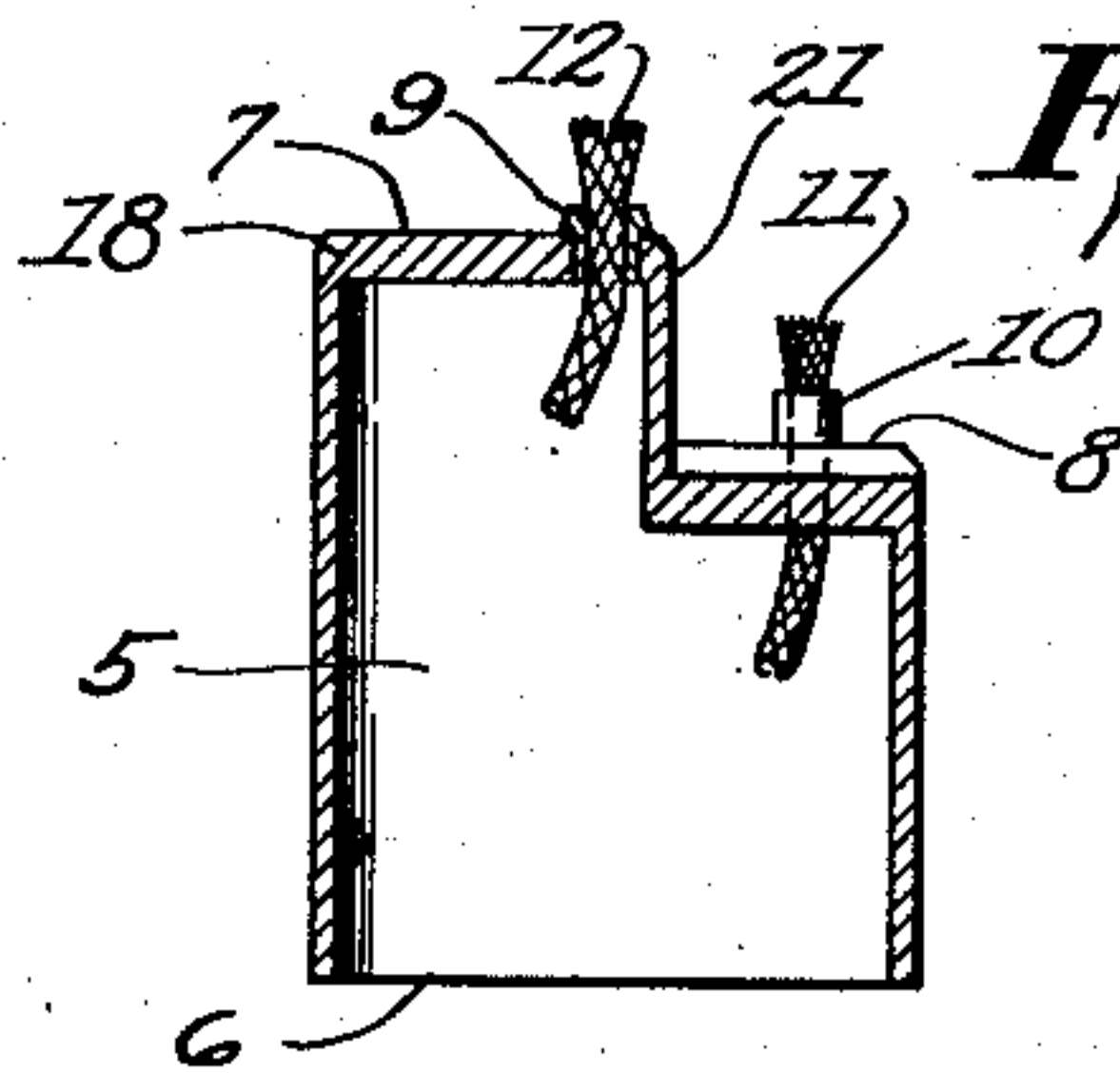


Fig. 15.



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Fig. 16.

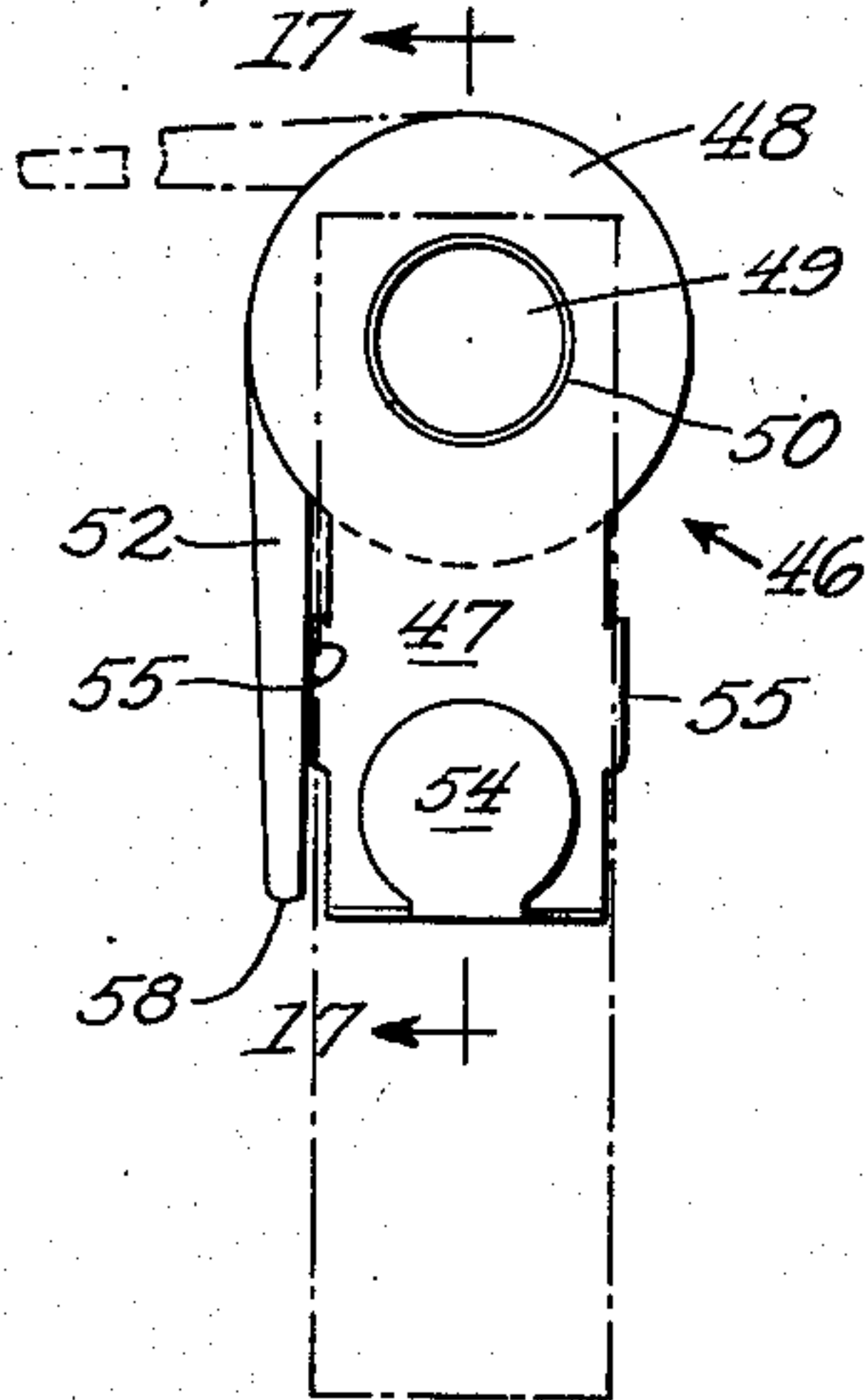


Fig. 17.

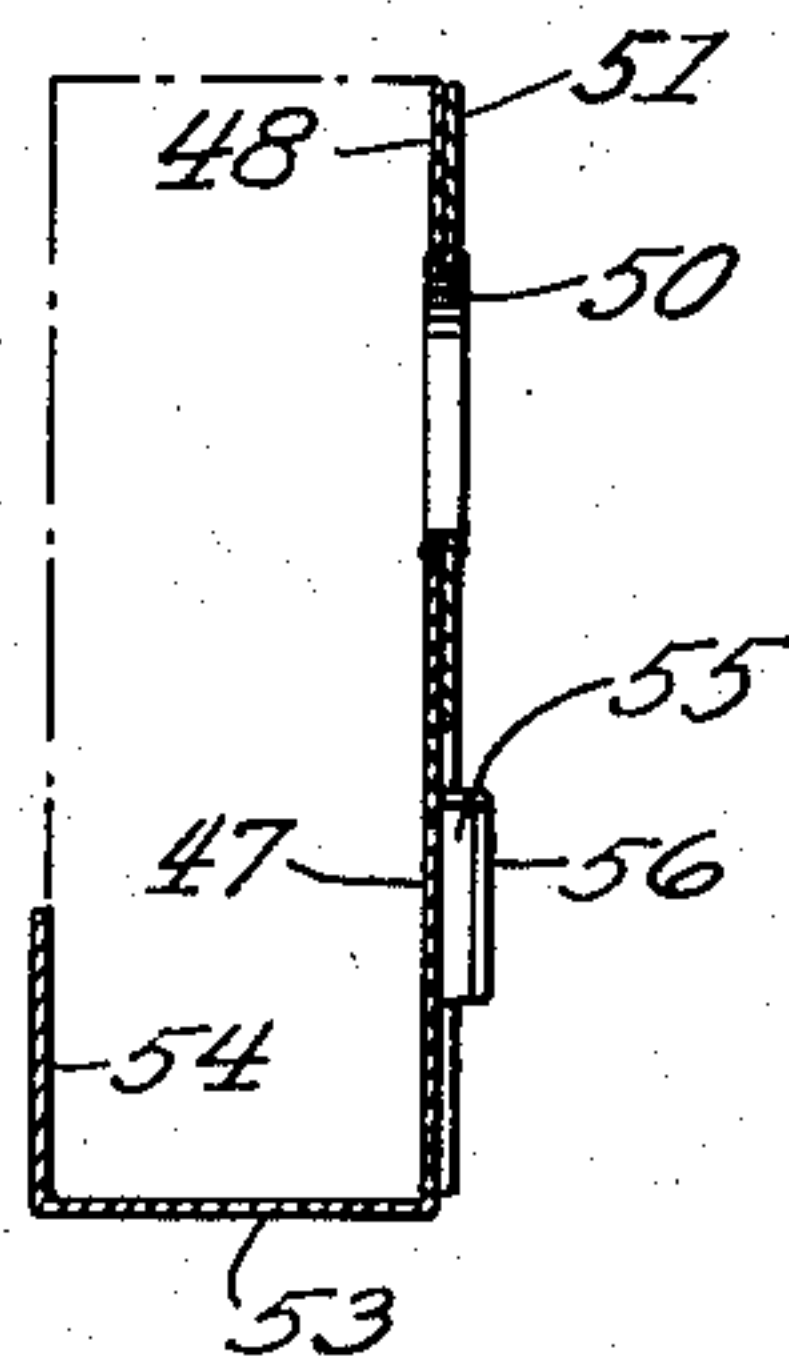


Fig. 18.

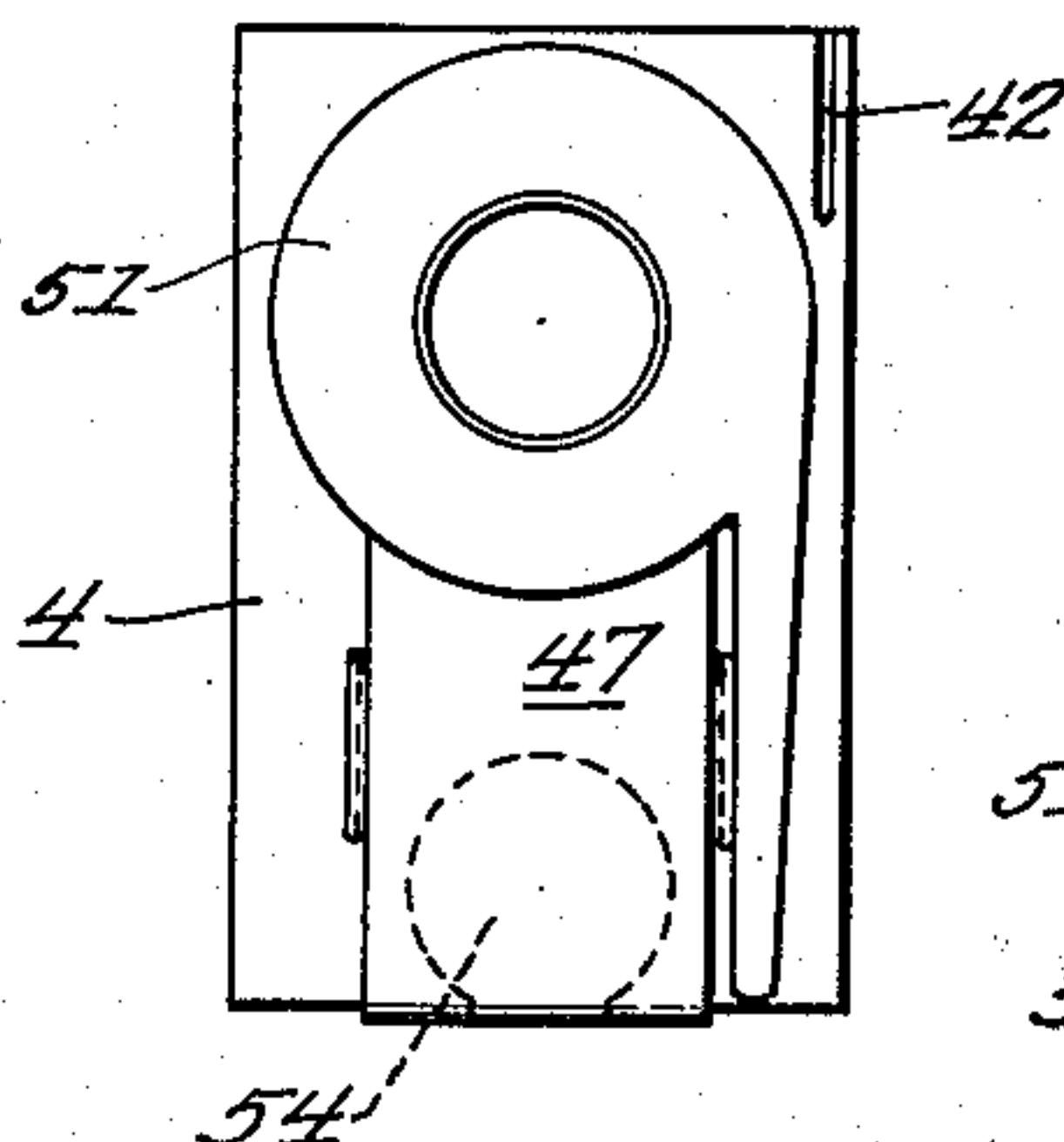


Fig. 19.

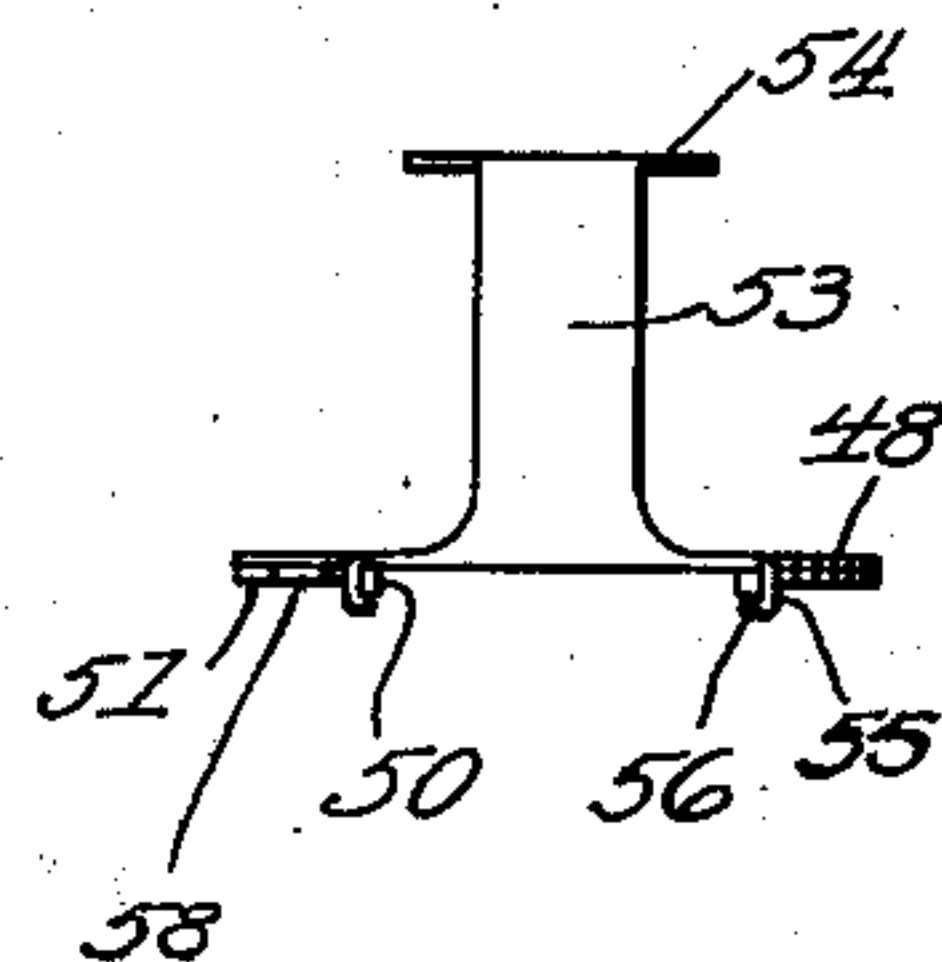


Fig. 20.

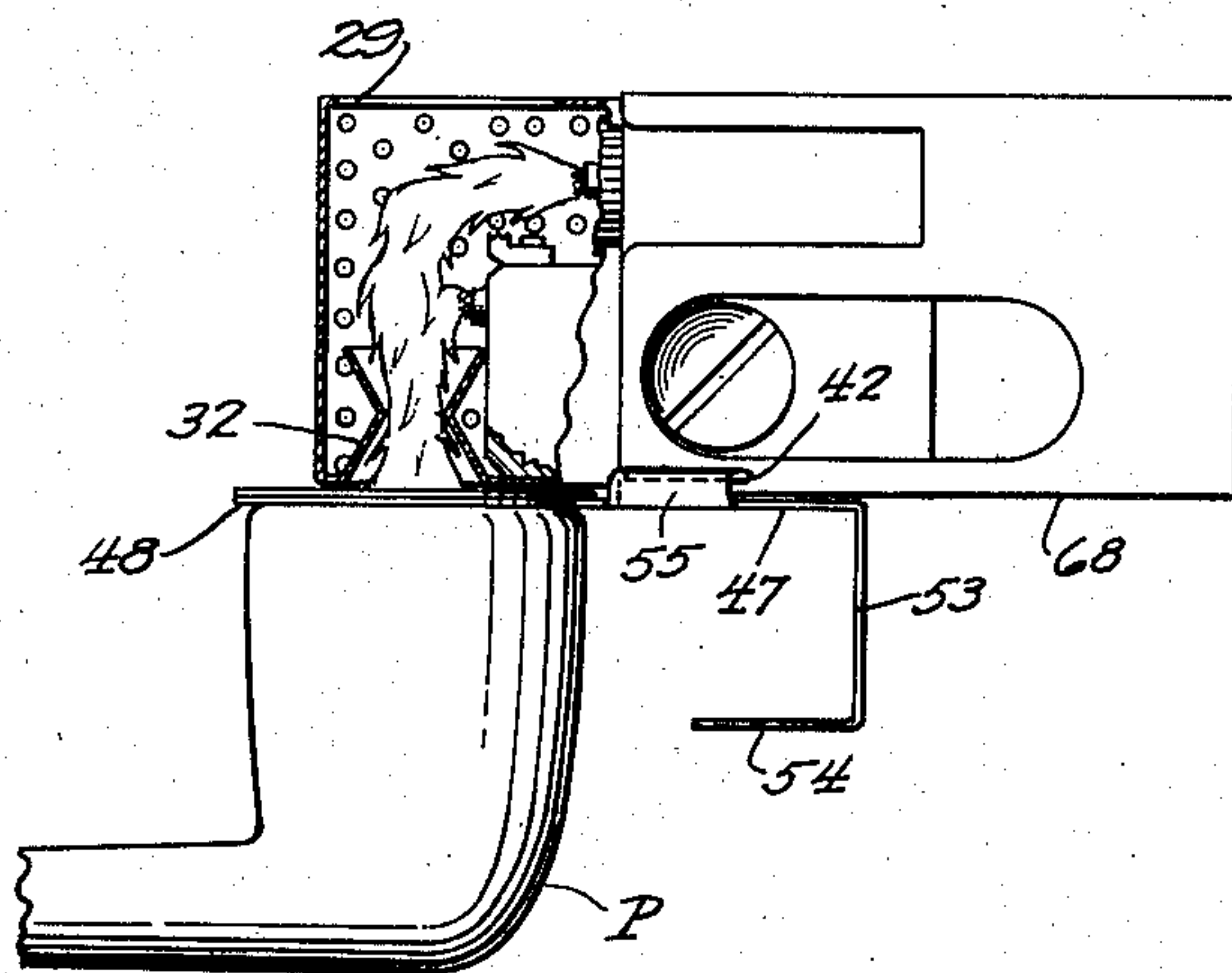
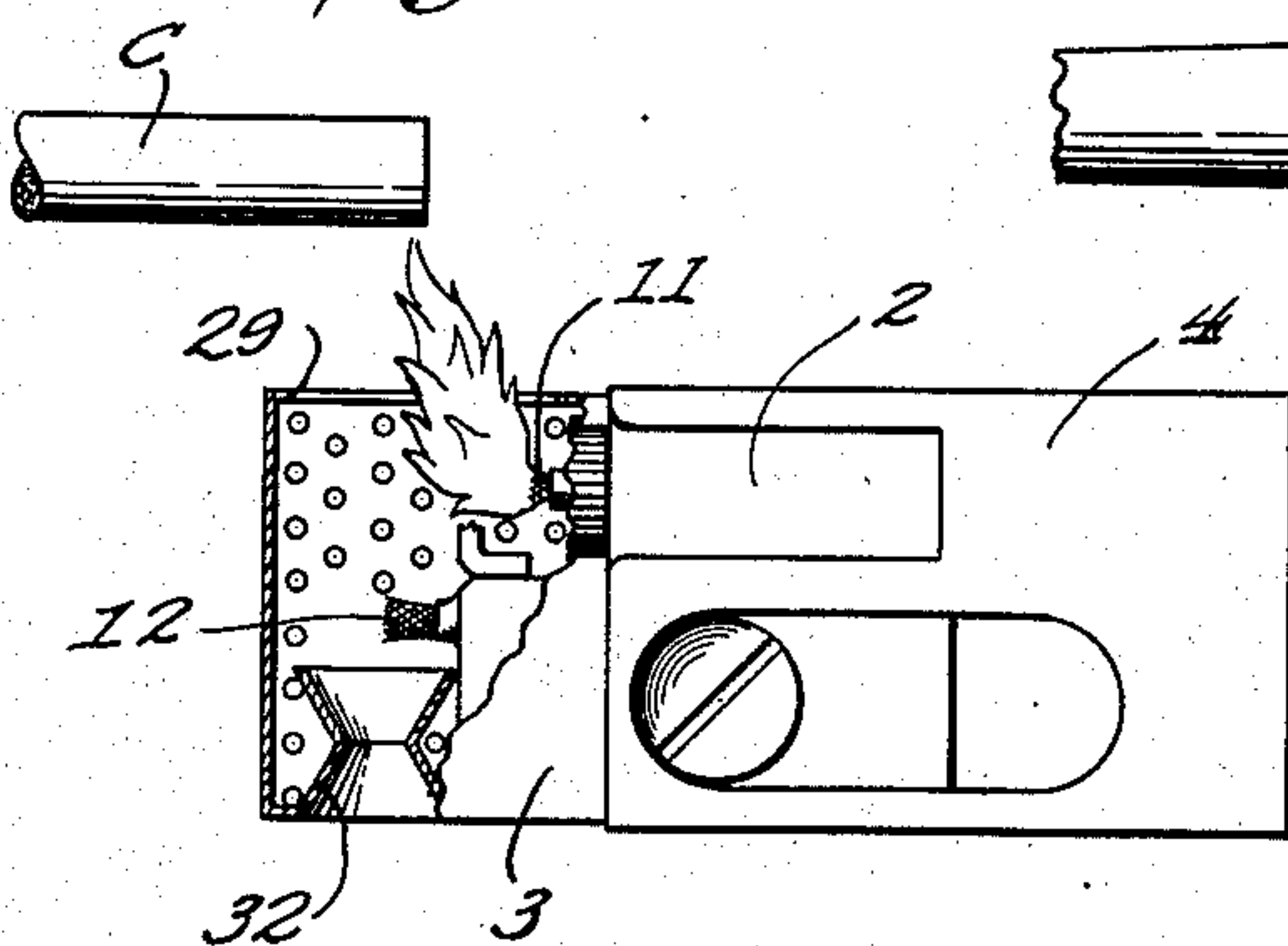


Fig. 21.



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PIPE AND CIGARETTE LIGHTER

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Application March 1, 1949, Serial No. 79,085

8 Claims. (Cl. 67—7.1)

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This invention relates to a lighter for igniting either cigars, cigarettes or pipes, and to an attachment for the lighter. The general object of the invention is to provide a lighter which may be used either to light cigars or cigarettes by means of an upwardly-directed flame or to produce a strong downwardly-directed and wind-protected flame for lighting a pipe.

Another object is to provide a lighter in which the flaming wick or wicks are laterally enclosed by the walls of a vertical, open-ended chimney having lateral vent holes which, by providing controlled ingress of draft-air through the chimney walls, permit elongation of the chimney for more complete protection of the flame against wind.

A further object is to provide a lighter having a first wick so located with respect to the top of an elongated, vertical, side-ventilated chimney that the flame from this wick, by producing convection currents which draw air through vents in the chimney, permits combustion to take place within the interior of the chimney at the location of a second wick which otherwise could not be ignited.

Another object is to provide a lighter having two complementary wicks vertically spaced within an elongated, vertical, side-ventilated chimney so that once the wicks are ignited each wick tends to reinforce the flame of the other wick and prevent its extinction, the joint flame thereby possessing greater volume and greater resistance to extinction by wind action than the flame from a single wick.

A further object is to provide a lighter having in the upper portion of a vertical, elongated chimney a first wick which is mechanically ignited in the conventional manner by sparks struck from a flint by a serrated steel wheel, and a second wick located centrally in the interior of the chimney below the first wick so that it will be ignited by the flame from the first wick when a down-draft is induced within the chimney.

Another object is to provide a lighter in which the flaming wick or wicks are laterally enclosed by a vertical, elongated, side-ventilated chimney having at its base, internally and concentrically mounted, a Venturi tube for concentrating and applying directly to a centrally located flaming wick the full suction resulting from drawing on a pipe the bowl of which is held in contact with the open base of the chimney, and for concentrating and intensifying the flame thus drawn into the pipe bowl.

Another object is to provide a lighter in which

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the flaming wick or wicks are enclosed by the walls of a vertical, open-ended chimney having vent holes through the chimney walls so as to obviate any necessity for tilting the chimney with respect to the pipe bowl to allow ingress of draft air to the flaming wick or wicks when the chimney is placed above the pipe bowl in position for lighting the pipe.

A further object is to provide a novel arrangement of the vent holes so as to protect the flaming wicks from the wind.

Another object is to provide a lighter having a convenient opening for replacing the fuel container cotton and the wicks while at the same time providing an efficient sealing means for the opening to prevent evaporation.

A further object is to provide a convenient means for sealing off the chimney, vent holes and wicks from the atmosphere when the lighter is not in use.

Another object is to provide a lighter wherein a simple operation of detaching a single securing means puts the lighter in condition to be either disassembled, resealed with fuel container cotton, furnished with new wicks, or refueled.

Another object is to provide a lighter having as a component part a detachable annular flange to cover the periphery of the pipe bowl for concentrating and intensifying the flame drawn downward into the tobacco.

A further object is to provide a lighter having as a component part a detachable tamping device mounted in convenient position for tamping tobacco in the pipe bowl during the lighting process.

Another object is to provide a lighter having a detachable component comprising an annular flange for covering the periphery of the pipe bowl, a tamp for tamping tobacco in the pipe bowl, and a combination screw driver and cleaning pick movably mounted, the entire detachable component being designed to clip onto the casing of the lighter in an alternate position for compactness when the lighter is not being used for lighting a pipe.

Additional objects and advantages of the invention will appear as the description proceeds.

In the drawings accompanying this specification and illustrating one embodiment of the invention:

Figure 1 is a side elevation of the lighter with the outermost casing removed,

Figure 2 is a view similar to Figure 1 but with the outermost casing assembled on the lighter,

Figure 3 is a view similar to Figure 2 but with

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the outermost casing moved to a position exposing the chimney to the atmosphere,

Figure 4 is an end elevational view as seen from the right of Figure 3,

Figure 5 is an elevational view as seen from the right of Figure 4,

Figure 6 is a bottom plan view as seen from below Figure 3,

Figure 7 is a partial sectional view showing a cigarette in position within the chimney to be lighted by the first wick,

Figure 8 is a perspective view of the upper casing segment,

Figure 9 is a perspective view of the fuel container body,

Figure 10 is a perspective view of the lower casing segment,

Figure 11 is a perspective view of the outermost casing,

Figure 12 is an elevational view of the upper casing segment as seen from the left of Figure 8,

Figure 13 is an end elevation of the fuel container body as seen from the left of Figure 9,

Figure 14 is a sectional view taken on the line 14—14 of Figure 12,

Figure 15 is a sectional view taken on the line 15—15 of Figure 13,

Figure 16 is an end elevation of the detachable component comprising the annular flange, tamp, and screwdriver mounted in operating position,

Figure 17 is a sectional view of the detachable component taken on the line 17—17 of Figure 16 but showing the detachable component mounted in the alternate or carrying position,

Figure 18 is an end-elevation of the detachable component mounted in alternate or carrying position,

Figure 19 is a bottom plan of the detachable component removed from the lighter,

Figure 20 is a side elevation showing the assembled lighter in operating position for lighting a pipe, and

Figure 21 is a view similar to Figure 7 but showing the lighter in a horizontal position for lighting a cigarette.

Referring to Figures 8 to 11, the lighter comprises generally a fuel container body 1, a lower casing segment 2 which fits over the lower portion of the body 1, an upper casing segment 3 which fits over the upper portion of the body 1 and an outermost casing 4 which surrounds and is slidably mounted on the casing segments 2 and 3.

The body 1 has a hollow interior 5 so as to form a fuel container therein as shown in Figure 15. An opening 6 in the lower end of the body 1 enables conventional fuel container cotton (not shown) to be placed in the hollow interior 5. The opening 6 also provides access to the interior 5 in order to replace the wicks. The upper surface of the body 1 is formed of two horizontal walls 7 and 8 vertically offset with respect to each other and a vertical wall 21 extending from the upper wall 7 to the lower wall 8.

Wick holders 9 and 10 are mounted within the walls 7 and 8, respectively. A first wick 11 is mounted within the wick holder 10 and a second wick 12 is similarly mounted within the wick holder 9. The wicks extend from the hollow interior 5 through the wick holders 9 and 10 and project therefrom into a chimney, as will be described below. An L-shaped bracket 14 is secured to the vertical wall 21 by one of its legs. The horizontal leg of the bracket 14 extends over the lower horizontal wall 8 and is provided with

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a flint wheel shaft screw 15 which provides an upper bearing or mounting for the flint wheel shaft (not shown), as will be obvious. A flint wheel 19 is rotatably mounted on the flint wheel shaft between the horizontal leg of the bracket 14 and the lower horizontal wall 8. Secured to the flint wheel 19 is a thumb wheel 16 for rotating the flint wheel, the thumb wheel 16 projecting beyond the side of the body 1 so as to enable the thumb of the operator to impart motion to the flint wheel. A threaded fuel supply opening 20 is formed in a side of the body 1 and communicates with the hollow interior 5. As shown in Figure 13, a flint screw 18 is mounted on the body 1 for adjusting and replacing the flint 17 which latter is best seen in Figure 7.

Referring to Figures 6 and 10, the lower casing segment 2 comprises four vertical walls 22 and a bottom 23 joined therewith. Extending from one of the walls 22 is an extension 24 having a semi-circular opening or recess 25. As shown in Figures 8 and 12, the upper casing segment 3 comprises side walls 26 and 28, end walls 23 and 30 joined therewith, and a top wall 27. The side wall 26 has a semi-circular opening or recess 35 which is oppositely disposed to the semi-circular opening 25 when the lighter is assembled. The upper casing segment 3 fits over the upper portion of the body 1 and it will be seen, in Figure 1, that when the two casing segments are assembled in position on the body, the edge 36 of casing segment 2 abuts against the edge 37 of casing segment 3 and the semi-circular openings 25 and 35 together form a circular opening slightly larger than the fuel supply opening 20. The side wall 26 of the upper casing segment 3 is cut away as at 38 and 39 to receive the projecting portions of the thumb wheel 16 and flint wheel 19, respectively. The end wall 23 has a substantially rectangular opening 29 therein and is further cut away as at 33 to provide draft-air and an opening of egress for the flame of wick 11. The end wall 30 has a circular opening 31 therein in substantial alignment with the opening 29. A "Venturi" tube 32 is secured to the end wall 30 and has its outer discharge end in alignment with the opening 31. The end wall 30 also has an opening 44 in alignment with the flint screw 18 when the lighter is assembled so as to provide access to the screw 18 without removing the upper casing segment 3 from the body 1. The side wall 28 is provided with a plurality of vent holes 34 therethrough. It will be seen in Figure 14 that the vent holes are distributed over the entire upper area of the side wall 28 except for those portions of the side wall 28 which are adjacent the wicks 11 and 12.

The outermost casing 4 comprises four walls 39 and has flanges 44 joined to the lower edges of the walls, as shown in Figure 6. A longitudinal slot 40 is formed in one of the walls 39 and has rounded opposite ends 61 and 62. A second slot 41 is formed in said wall 39 and extends to the upper edge thereof. Oppositely disposed grooves 42 are formed on the surfaces of a pair of oppositely disposed walls 39, for a purpose to be described below.

In assembled relation, the upper and lower casing segments are first placed in position on the body 1, as shown in Figure 1. The arcuate bevelled surface 13 on the body 1 provides clearance for the lower portion of the Venturi tube 32. The outermost casing 4 is then slid over the casing segments 2 and 3 as shown in Figure 2. The thumb wheel 16 slides within the slot 41 as the

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outermost casing slides with respect to the casing segments 2 and 3 and the body 1. A thumb screw 45 is then threadably secured within the fuel supply opening 20. It will be seen that the thumb screw 45 projects through the slot 40 and may abut the end 62 of the slot 40 so as to prevent the outermost casing 4 from being disassembled. The thumb screw 45 also engages the semi-circular openings 25 and 35 of the casing segments 2 and 3 and secures the casing segments in position on the body 1.

The top walls 7 and 8 of the body 1 and the walls 26, 66 and 27 of the upper casing segment 3 form a chimney for a purpose to be described below. The wicks 11 and 12 project into the chimney, the wick 11 being located adjacent the opening 29 and the wick 12 being located adjacent the inner end of the Venturi tube 32.

The flanges 44 abut against the bottom 23 of the lower casing segment 2 so as to prevent the upper edge 43 of the outermost casing 4 from extending above the top wall 27 in the closed position shown in Figure 2.

A detachable component 46 for the lighter is shown in Figures 16 to 20. The component 46 comprises a flat base member 47, an annular pipe cover flange plate 48 integral with the base member 47 at one end thereof, a member 53 extending perpendicularly from the opposite end of the base member 47, and a combined tamper and gripping flange 54 extending from the end of the member 53 and parallel with the base member 47. Flanges 55 extend perpendicularly from the base member 47 at opposite edges thereof and have projections 56 for sliding within the grooves 42 formed on the outermost casing 4. The cover plate 48 has a circular opening 49 therein of substantially the same diameter as the opening 31 in the upper casing segment 3. Secured within the opening 49 is a circular bearing hoop 50 having a second plate 51 rotatably mounted thereon. Integral with the second plate 51 is a combined pipe pick and screw driver 52. The tip 53 of the pipe pick 52 is of a size to drive the flint screw 18 and the flint wheel shaft screw 15. When not in use, the component 46 is detached and mounted on the lighter in the manner shown in Figure 18, the base member 47 lying flat against a side wall 39 of the outermost casing 4, the member 53 bearing against the bottom flanges 44 of the casing 4, and the tamper 54 gripping the opposite wall 39 of the casing 4. When the component 46 is used in lighting a pipe, as shown in Figure 20, the base member 47 lies against the wall 68 of the outermost casing 4 and the wall 30 of the upper casing segment 3. The projections 56 of the flanges 55 project into the grooves 42 so as to hold the component 46 in position on the lighter. The opening 49 will then be in alignment with the opening 31. The lighter and component are then positioned with respect to the pipe so that the cover plate 48 abuts against the upper portion of the pipe bowl P and prevents air from entering the pipe bowl except by way of the chimney and the Venturi tube 32, thereby providing a stronger draft through the chimney and a more effective flame through the Venturi tube and into the pipe bowl. The member 54, in addition to providing a conveniently mounted tamper substantially circular in shape, also provides a means for securing the component 46 to the lighter in an alternate, or carrying, position.

It is a matter of considerable convenience to a pipe smoker to have a tamp in position for tamping the tobacco during the lighting operation.

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At the first application of the flame the tobacco expands and rises in the pipe bowl and must be tamped back before lighting can be properly completed. It will be seen in Figure 20 that the tamper 54 is positioned so as to be quickly and conveniently applied to the pipe bowl during the lighting operation.

Operation

Beginning with the closed position shown in Figure 2, the operator grasps the outermost casing 4 and applies his thumb to the thumb screw 45 so as to move the body 1 and casing segments 2 and 3 upwardly with respect to the outermost casing 4 to the open position shown in Figures 3 to 5, 7, 20 and 21. When lighting a cigarette, as shown in Figures 7 and 21, the thumb wheel 16 is rotated to cause a spark from the flint 17 to ignite the wick 11. The lighter may be held in the upright position shown in Figure 7 and the flame of wick 11 extends upwardly so that the cigarette C may project into the chimney through the opening 29 and in contact with the flame of wick 11. However, a stronger flame may be provided by holding the lighter in the horizontal position shown in Figure 21. In this latter position the flame will extend upwardly from the chimney so as to light the end of the cigarette held over the chimney opening 29. Figure 21 shows only the first wick 11 to be ignited. Although the flame from one wick is itself sufficient for lighting cigarettes or cigars, the presence of combustible vapor in the chimney will frequently cause the lower wick 12 to be ignited so as to produce a combined flame.

When lighting a pipe, the lighter is held in the horizontal position shown in Figure 20 with the opening 31 adjacent and above the opening of the pipe bowl P. The wick 11 is ignited and when the smoker sucks through the pipe, a draft is created downwardly through the chimney and the Venturi tube 32 to cause the flame of wick 11 to ignite the second wick 12 if the latter has not already been ignited due to the presence of combustible vapor in the chimney. The flames of the wicks 11 and 12 then combine to produce a stronger flame for igniting the pipe than could be had with a single wick.

It is customary in lighting pipes with conventional pipe lighters having a down-draft chimney to slightly tilt the lighter on the pipe bowl so as to enable draft air to be supplied to the chimney before drawing on the pipe. In order to obviate this tilting without causing the flaming wicks to be extinguished for want of draft air, the vent holes 34 are provided and enable a natural draft to flow through the chimney and reach the flaming wick while the lighter is in position over the pipe and before an artificial draft can be created by drawing on the pipe. The vent holes 34 are located substantially over the entire upper area of the side wall 66 except those portions of the wall 66 adjacent the wicks 11 and 12 so as to prevent wind from entering the vent holes 34 and blowing directly upon the flaming wicks.

I claim:

1. A pipe lighter comprising a body having two extending side walls and a third side wall joined therewith to form a chimney, an end wall at one end of the chimney and having an opening there-through, a second end wall at the other end of the chimney and having an opening smaller than said first opening, a Venturi tube having one end in communication with the smaller opening and the

other end in communication with the chimney whereby air entering the chimney may be sucked through the tube and the smaller opening so as to be discharged therefrom in the form of a small-diameter high-velocity draft, a first wick projecting into the chimney adjacent the larger opening, a second wick projecting into the chimney adjacent the tube and spaced longitudinally of said chimney from said first wick, means to supply fuel to the wicks, and means to ignite said first wick.

2. A lighter and component attachment therefor comprising a body having oppositely aligned openings therein, a Venturi tube within the body and communicating with one of said openings, a chimney within the body leading from the other of said openings to the Venturi tube, a wick extending into the chimney, means to ignite the wick, an attachment comprising a base member, flange means extending from the base member for gripping the body, a pipe bowl cover plate extending from the base member and having an opening therethrough of substantially the same size and shape as said one of said openings, the attachment lying against the body and secured thereto by means of said flange means, the opening in the cover plate being in alignment with said one of said openings, whereby when the lighter and attachment are placed over a pipe bowl the cover plate will prevent air from entering the pipe bowl except for the air drawn through the chimney and Venturi tube.

3. An attachment for a lighter having a chimney, comprising a base member adapted to lie against the lighter, flange means extending from the base member for detachably securing said base member to the lighter, a pipe bowl cover plate secured to one end of the base member and having a circular opening therethrough of substantially the same size and shape as the discharge opening of the chimney, a circular bearing hoop mounted in the opening, a second plate having a circular opening of the same size as and in alignment with the opening in the cover plate, said second plate being rotatably mounted with respect to the cover plate by means of the circular bearing hoop, tool means mounted on said second plate, a member extending perpendicularly from the other end of the base member, and a pipe tamping plate extending from said last-named member and parallel with the base member, the distance between the tamping plate and the base member being slightly smaller than the width of the lighter body so as to enable the base member and tamping plate to grip the lighter body.

4. An attachment for a lighter having a chimney, comprising a base member adapted to lie against the lighter, flange means extending from the base member for detachably securing said base member to the lighter, a pipe bowl cover plate secured to one end of the base member and having an opening therethrough of substantially the same size and shape as the discharge opening of the chimney, a member extending perpendicularly from the other end of the base member, and a pipe tamping plate extending from said last-named member and parallel with the base member, the distance between the tamping plate and the base member being slightly smaller than the width of the lighter body so as to enable the base member and the tamping plate to grip the lighter body.

5. A pipe lighter as set forth in claim 1 and having a pipe bowl cover means, said cover means having an opening therethrough in communication with said smaller opening, whereby when said cover means is mounted over a pipe bowl opening, air will be prevented from entering said pipe bowl except through said chimney.

6. A pipe lighter comprising a body having an elongated chimney extending therethrough and communicating with the atmosphere at both ends, a first wick projecting into the chimney adjacent one of said ends, a second wick projecting into the chimney at a point spaced longitudinally of said chimney from said first wick and between said first wick and the other of said ends, a Venturi tube within said chimney, said tube having one end in communication with the atmosphere at the other of said ends, the inner end of the Venturi tube being in communication with the interior of said chimney, said other end of the chimney being sealed and communicating with the atmosphere solely through said Venturi tube, and means to ignite said first wick whereby the flame of the first wick will ignite said second wick and will create convection currents within the chimney so as to provide sufficient air for maintaining combustion of said second wick.

7. The combination set forth in claim 6 having a pipe bowl cover plate, said cover plate having an opening therethrough in communication with said other end of the chimney, whereby when said cover plate is mounted over a pipe bowl opening, air will be prevented from entering said pipe bowl except through said chimney.

8. A pipe lighter comprising a body having an elongated chimney extending therethrough, said chimney being closed at its top, having a stepped bottom portion and communicating with the atmosphere at both ends thereof, a first wick projecting into the chimney adjacent one of said ends into the lower portion of said stepped bottom, a second wick projecting into the upper portion of said stepped bottom of the chimney between said first wick and the other of said ends, whereby the second wick is spaced from said first wick both longitudinally and laterally of said chimney, and means to ignite said first wick whereby the flame of the first wick will ignite said second wick and will create convection currents within the chimney so as to provide sufficient air for maintaining combustion of said second wick.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,251,191	Domeniconi	Dec. 25, 1917
1,564,613	Neviere	Dec. 8, 1925
2,413,473	Sundby	Dec. 31, 1946
2,430,323	Ayotte	Nov. 4, 1947

FOREIGN PATENTS

Number	Country	Date
222,752	Great Britain	Oct. 9, 1924
328,522	Germany	Oct. 27, 1920
347,209	Germany	Jan. 16, 1922
366,197	Germany	Jan. 3, 1923
618,797	France	Dec. 21, 1926
934,835	France	Jan. 19, 1948