

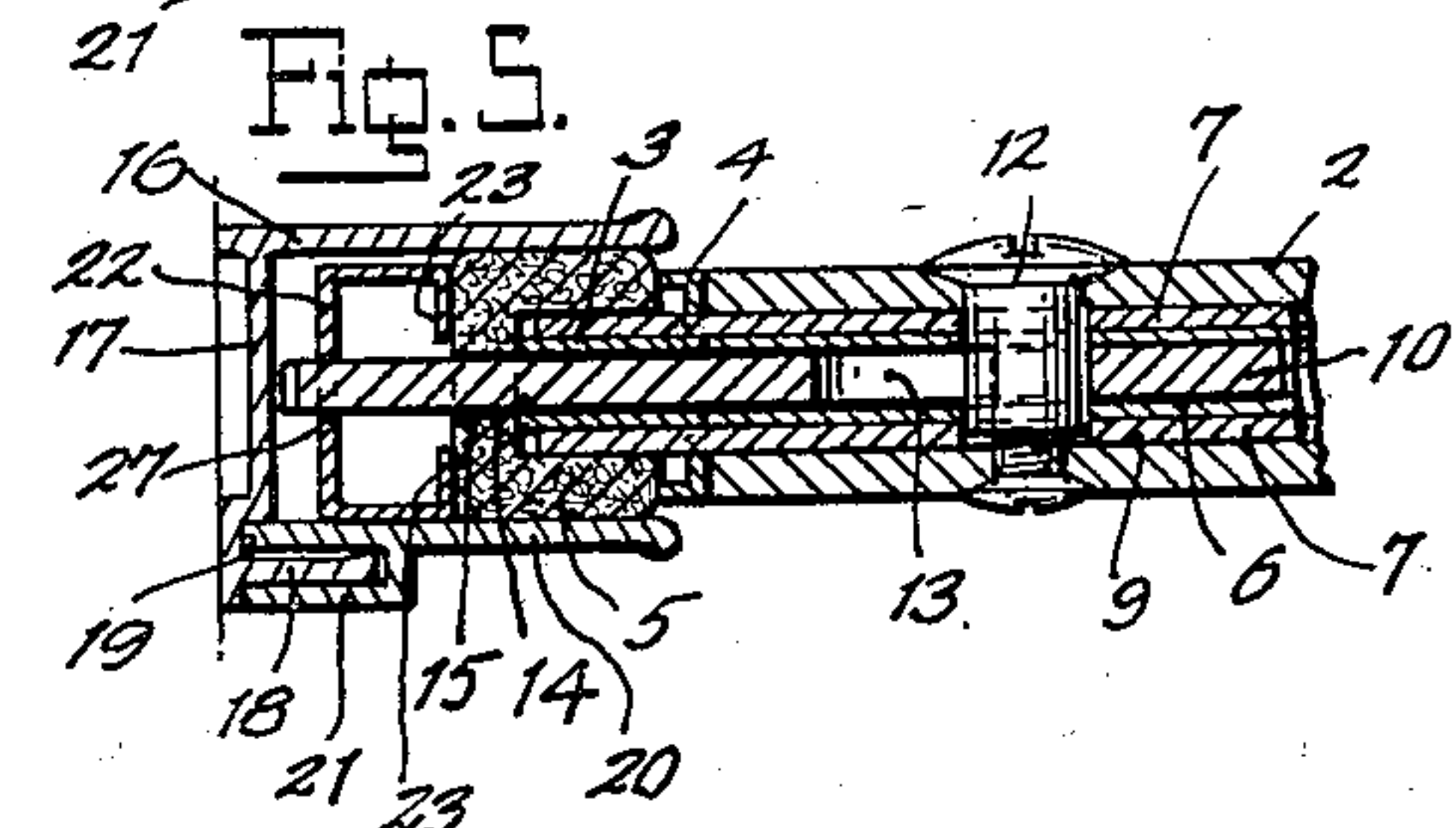
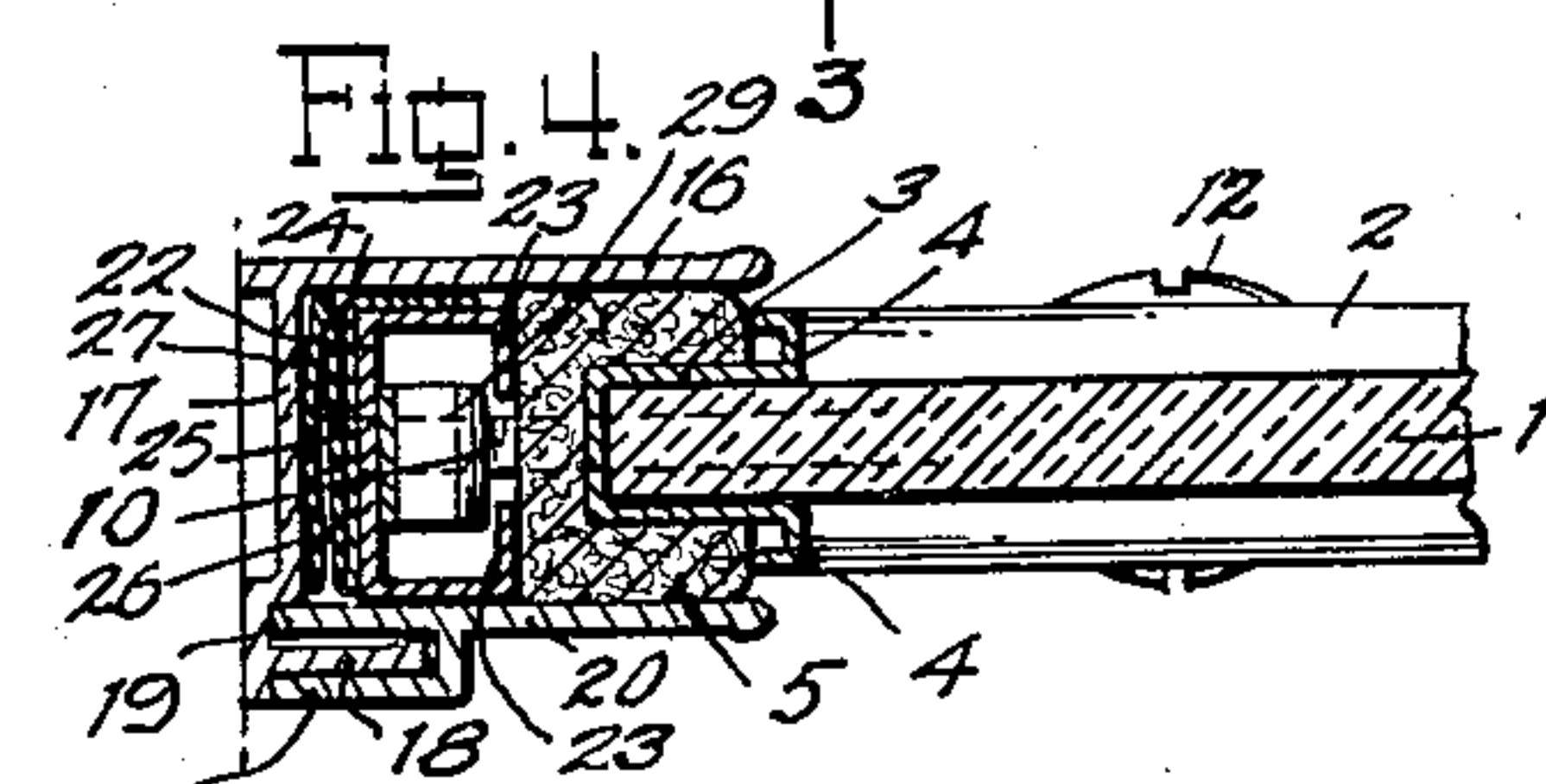
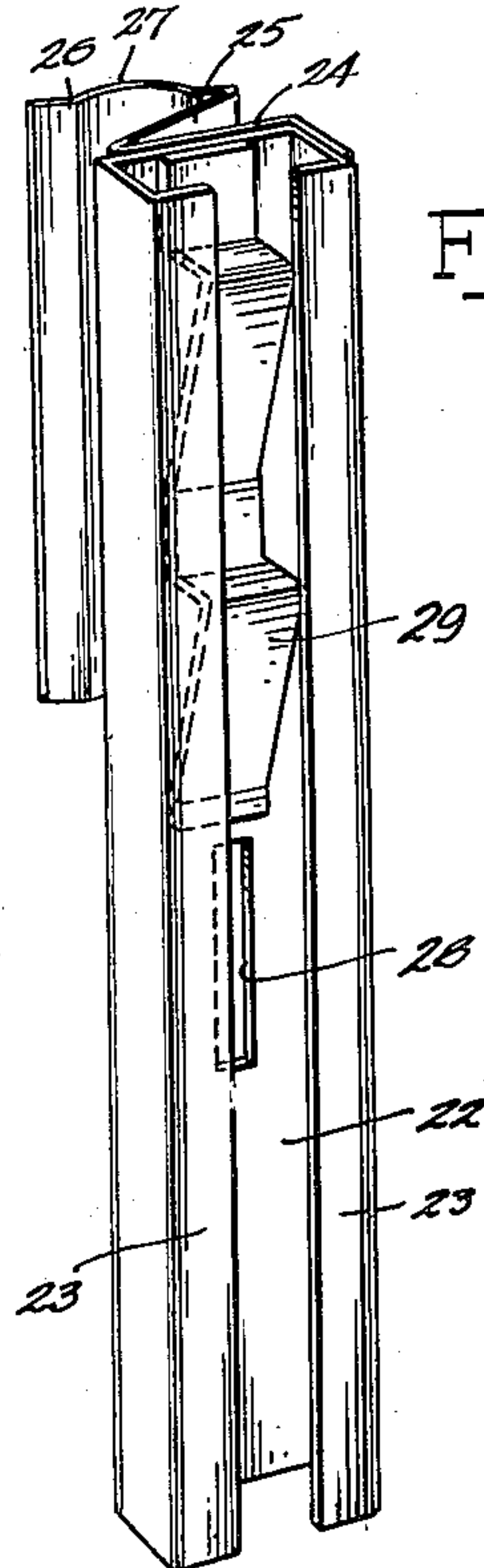
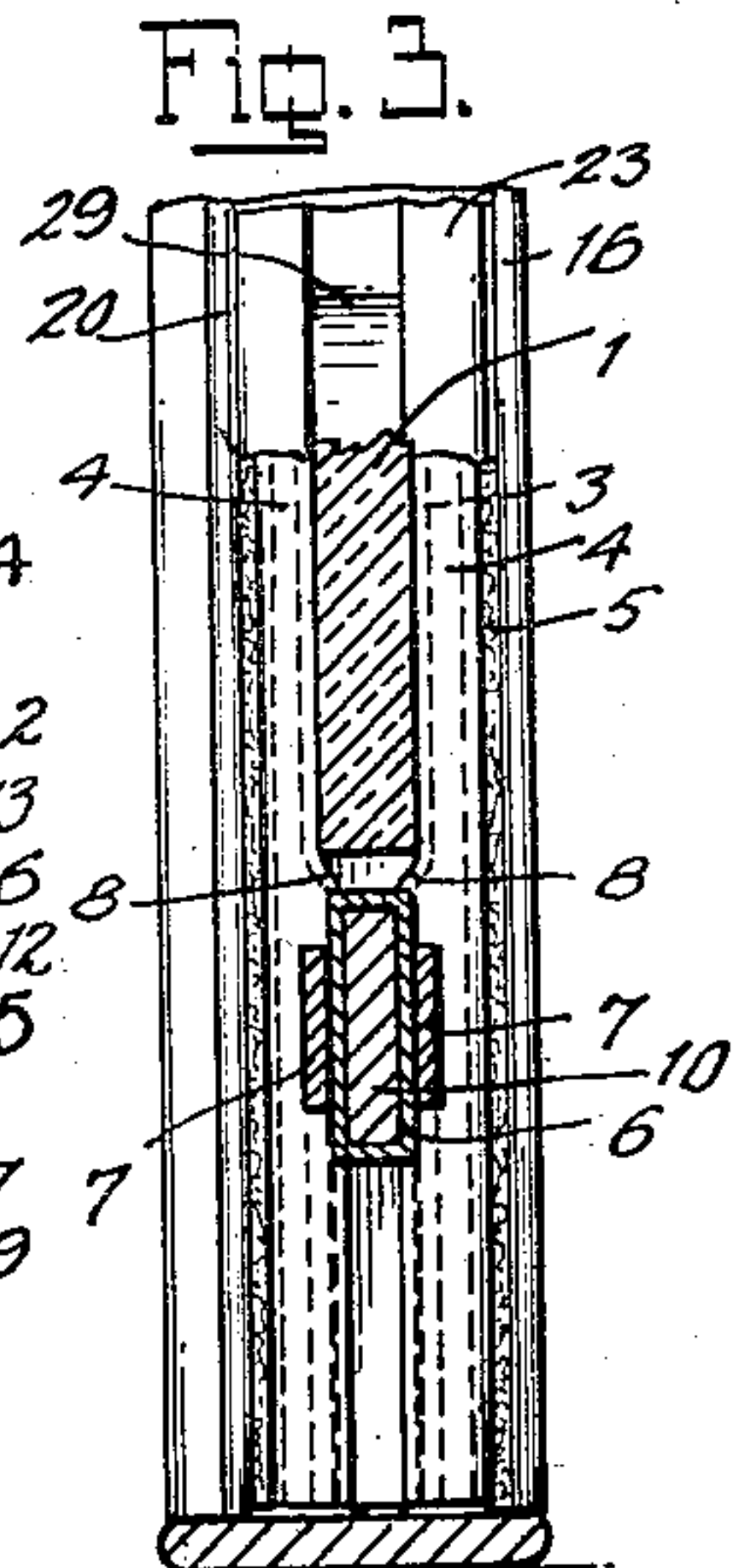
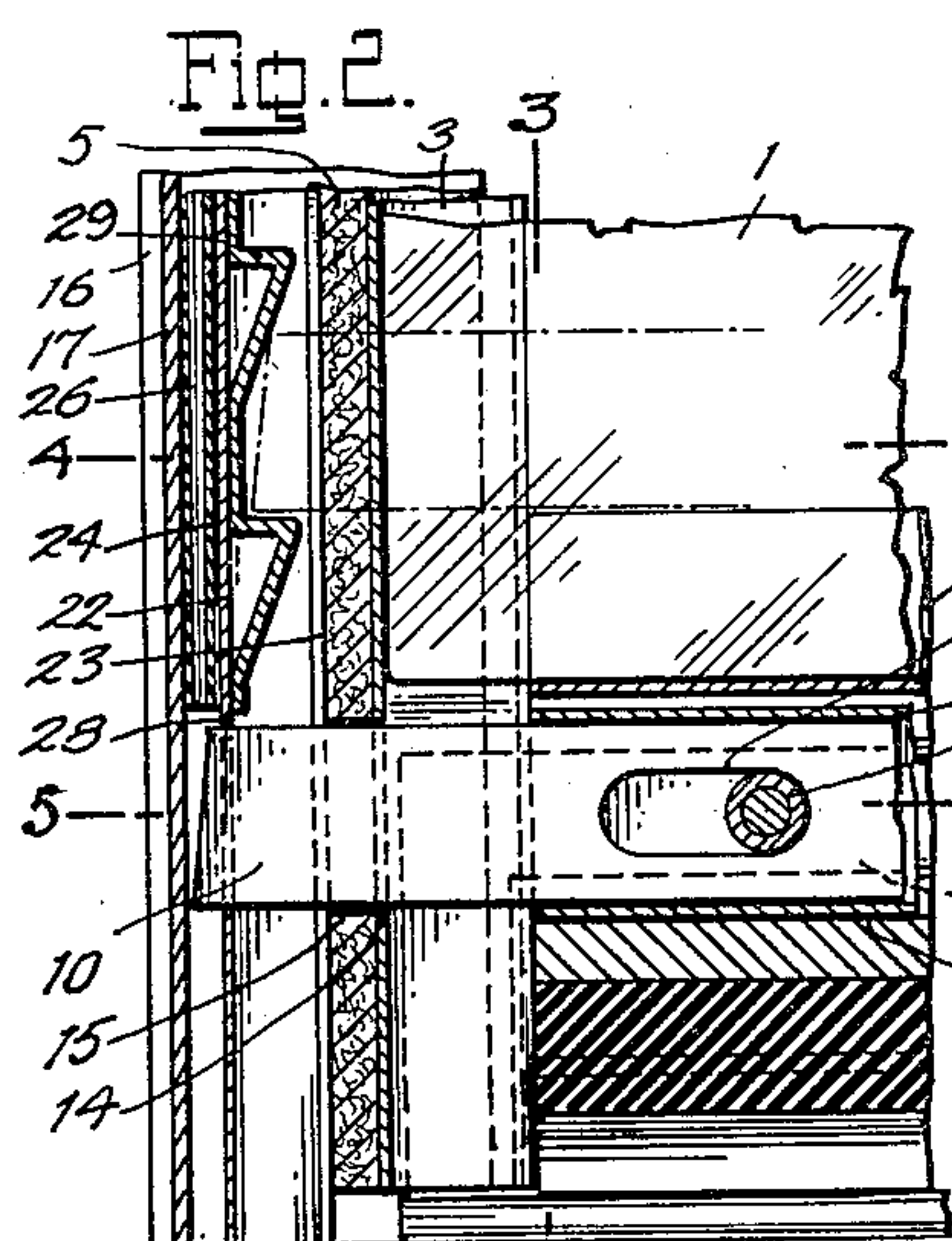
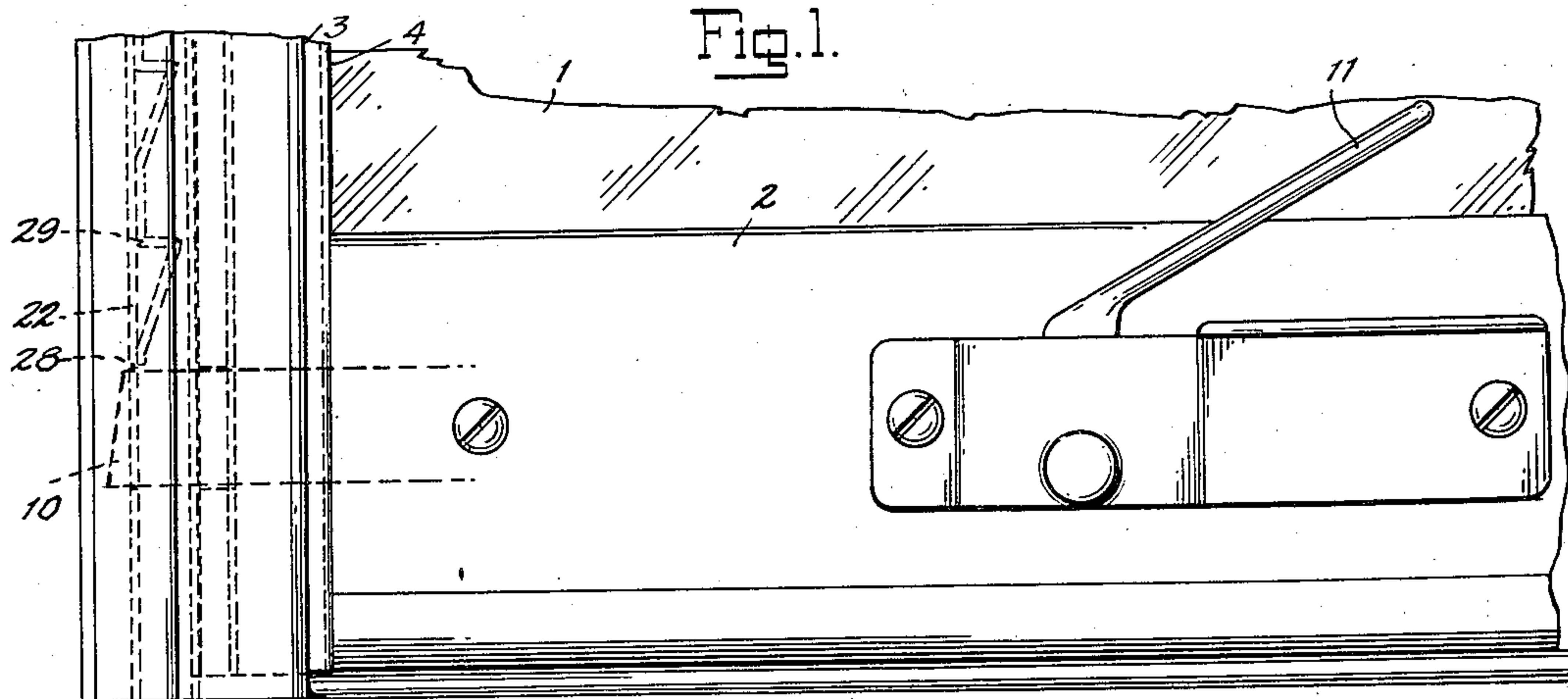
Aug. 20, 1935.

T. G. CONWAY

2,012,120

BUS OR CAR WINDOW CONSTRUCTION

Filed Jan. 13, 1934



INVENTOR.
THOMAS G. CONWAY.
BY
Smith & Mattern.
ATTORNEYS.

Patented Aug. 20, 1935

2,012,120

UNITED STATES PATENT OFFICE

2,012,120

BUS OR CAR WINDOW CONSTRUCTION

Thomas G. Conway, Chatham, N. J., assignor to
The National Lock Washer Company, Newark,
N. J., a corporation of New Jersey

Application January 13, 1934, Serial No. 706,505

5 Claims. (Cl. 189-73)

The present invention relates to improvements in bus or car window construction, and particularly in the vertical side channels within which the window sash is supported at its vertical edges and adapted to be raised and lowered. An object of the invention is to provide a pressure member within the channel adapted to exert pressure on the edge of the window sash to yieldingly retain it against looseness and rattling, while at the same time permitting it to be easily raised and lowered, and further to provide in combination with such pressure member a rack and locking means with which the sash lock of the window is adapted to cooperate. Another object is to provide a pressure member having locking means with which the sash lock is engaged in the closed position of the window sash, and which will relieve the pressure member of the pressure of the sash lock in such closed position, to the end that the pressure member will remain in uniform pressure exerting relation with the edge of the window throughout its length, thereby insuring an effective weather seal and cushion support for the window in the closed position of the window, when such weather seal and support is most desirable.

With the above and other objects in view an embodiment of the invention is shown in the accompanying drawing, and this embodiment will be hereinafter more fully described with reference thereto, and the invention will be finally pointed out in the claims.

In the drawing:

Fig. 1 is a fragmentary front elevation showing the lower corner of a window construction having a side channel incorporated therein, according to the exemplary illustrated embodiment of my invention.

Fig. 2 is a vertical longitudinal sectional view, the sash lock plunger and sash glass being shown in elevation.

Fig. 3 is a vertical transverse sectional view, taken along the line 3-3 of Fig. 2.

Fig. 4 is a horizontal sectional view, taken along the line 4-4 of Fig. 2.

Fig. 5 is a horizontal sectional view, taken along the line 5-5 of Fig. 3.

Fig. 6 is a perspective view of the lower end portion of the pressure member according to my invention.

Similar reference characters indicate corresponding parts throughout the several figures of the drawing.

Referring to the drawing, the window sash, with which the side channel, according to my in-

vention is incorporated, comprises a glass 1, having a top rail (not shown), a bottom rail 2, and a pair of vertical side straps 3 connecting the top and bottom rails, only one of these side straps being shown.

The side strap is of U-shape channel form in cross section, to receive the vertical edge of the glass, its vertical edges being bent outwardly and rearwardly, as at 4-4, to engage the edge of the U-shape piece of facing material 5, which is cemented, riveted or otherwise suitably secured about the side strap, this material being of suitable composition, similar to felt or leather as regards its wearing and sealing qualities, and adapted to have easy sliding engagement in the side post channel.

The lower end of the side strap has secured to it a tubular casing member 6, of rectangular cross section, a pair of angle brackets 7-7 being spot-welded or otherwise suitably secured to the sides of the tubular casing member and to the sides of the lower portion of the side strap, which is contracted, as indicated by the offset bends 8-8 Fig. 3, so that the inner surface of the side strap is substantially flush with the inner vertical surfaces of the casing member 6, and the outer side surfaces of the side strap are substantially flush with the outer surfaces of the angle brackets 7-7, so that the facing material 5 will extend about this lower portion of the side strap uniformly with the remaining portion and without bulging. The casing 6 and the angle brackets 7 at each side are engaged and secured within a longitudinal passage 9 in the bottom rail 2, and within the tubular casing there is disposed a longitudinally slidable sash lock plunger 10, of any suitable type adapted to be projected by spring pressure and to be manually retracted as by the operating handle 11 mounted upon the bottom rail. A tie bolt 12 is secured between the two sides of the bottom rail and extends through a slot 13 in the plunger to secure the casing member in place and to limit the projection of the plunger. The plunger is projected at its nose end through slots 14 and 15 respectively provided in the side strap 3 and in the facing material 5, and engages the pressure member, according to my invention, and as will presently more fully appear.

The channel within which the side strap of the sash is mounted is of generally U-shape in cross section and comprises an outside stop of generally right angular form in cross section having a flange 16 constituting the outer leg of the channel, a base 17, and a relatively narrow flange 18 at its inner end, parallel to the flange 16 and having

a recess 19 at its inner side, the inside stop 20 adapted to be engaged over this flange 18 and within the recess 19 to complete the channel, the inside stop being provided with an offset flange portion 21 which embraces the outer side of the flange 18. The particular construction of the outside and inside stops constituting the side channel form no part of the present invention, and it will be understood that any suitable construction may be employed.

A channel strip 22 is disposed within the side channel and has its forward edges bent inwardly, as at 23—23, to engage the facing material 5, these edges being spaced apart to provide a vertical slot through which the sash lock plunger 10 projects and is adapted to have vertical movement as the window is raised and lowered. A pressure spring is secured to the rear side of the channel strip and comprises a right angular base portion 24, spot-welded or otherwise suitably secured to the rear face and one side face of the channel strip, an intermediate spring leaf portion 25 bent from one vertical edge of said base, and a spring leaf abutment portion 26 bent back from the edge of the spring leaf portion 25, this spring leaf portion 26 preferably having a convex engaging surface 27 for engaging the base of the side channel. In the assembled relation this spring is compressed between the base 17 of the side channel and base of the channel strip 22 and presses the latter inwardly against the facing material 5 to yieldingly retain the edge of the window sash against looseness and rattling and at the same time permit it to be easily raised and lowered. The spring member extends from a point immediately above the upper edge of the sash lock plunger to the top of the channel strip. It will be understood that other suitable types of spring means than that illustrated may be employed, if desired.

Within the base of the channel strip there is provided a slot 28 in line with the sash lock plunger 10 in the closed position of the window sash and within which the plunger engages in such closed position. A rack member 29 is secured to the inner face of the base of the channel member, as by spot-welding, riveting or other suitable means, and extends from a point immediately above the slot 28 to a point along the channel member sufficiently high to engage the sash lock plunger at the maximum raise of the window sash.

In the closed position of the window sash it will be seen that the engagement of the plunger 10 with the slot 28 provides a locking means for the window which will prevent it from being raised, except by retraction of the plunger through operation of the operating member 11. In this position the side channel member is entirely relieved of the pressure of the sash lock plunger, so that there is no tendency for the channel member to be pressed away from the facing material 5 at its lower end, as would be the case if the plunger pressed upon the channel member. The channel member spring is therefore permitted to uniformly press the channel member against the facing material throughout its height, so that an even tight closure of the window is maintained. The spring is also prevented from becoming unevenly set, as would be the case if there was an uneven pressure applied to it for any considerable length of time. Upon retraction of the plunger the window sash may be raised, and the plunger thereupon ratchets along the rack 29 and may be retained at any point of

adjustment through engagement with the teeth of the rack. One position of adjustment is indicated by the dot-and-dash lines in Fig. 2 showing the engagement of the sash lock plunger with the rack.

The channel member 22 may be readily assembled or removed simply by removing the inside stop of the side channel from the outside stop. The construction provides an effective and uniform weather seal means, which also prevents looseness and rattling of the window sash and permits it to be easily raised and lowered. It furthermore provides a convenient and automatic lock for the closed position of the window and rack means for retaining the window at any desired open point. The rack is concealed and protected against the lodgement therein of dirt and extraneous matter, and a side channel is provided which is very compact and narrow in width and which provides maximum clear vision through the window.

I have illustrated and described a preferred and satisfactory embodiment of the invention, but it will be obvious that changes may be made therein, within the spirit and scope thereof, as defined in the appended claims.

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

1. In a window construction, a side channel, a window sash having vertical sliding movement at its edge in said side channel, a spring pressed sash lock plunger carried by said window sash and engaging in said side channel in its projected position, a pressure member disposed in said side channel, spring means pressing said pressure member into engagement with the edge of said window sash, a rack carried by said pressure member adapted in the raised position of said window to be engaged by said lock plunger, said lock plunger having a normal unobstructed projection beyond the vertical plane of said rack member whereby it engages said rack member in partially projected position and under spring pressure, there being an opening in horizontal alignment with said plunger in the closed position of said window sash and in vertical alignment with said pressure member adapted to be engaged by said plunger through projection of said plunger beyond its rack engaging position whereby the spring pressure of said plunger is not applied to said pressure member.

2. In a window construction, a side channel, a window sash having vertical sliding movement at its edge in said side channel, a spring pressed sash lock plunger carried by said window sash and engaging in said side channel in its projected position, a pressure member disposed in said side channel, spring means pressing said pressure member into engagement with the edge of said window sash, a rack carried by said pressure member adapted in the raised position of said window to be engaged by said lock plunger, said lock plunger having a normal unobstructed projection beyond the vertical plane of said rack member whereby it engages said rack member in partially projected position and under spring pressure, there being an opening in said pressure member in horizontal alignment with said plunger in the closed position of said window sash adapted to be engaged by said plunger through projection of said plunger beyond its rack engaging position whereby the spring pressure of said plunger is not applied to said pressure member.

3. In a window construction, a side channel, 75

5 a window sash having vertical sliding movement
 at its edge in said side channel, a spring pressed
 sash lock plunger carried by said window sash
 and engaging in said side channel in its pro-
 10 jected position, a pressure member disposed in
 said side channel, spring means pressing said
 pressure member into engagement with the edge
 of said window sash, a rack carried by said pres-
 15 sure member adapted in the raised position of
 said window to be engaged by said lock plunger,
 said lock plunger having a normal unobstructed
 projection beyond the vertical plane of said rack
 member whereby it engages said rack member
 20 in partially projected position and under spring
 pressure, there being an opening in the lower end
 portion of said pressure member in horizontal
 alignment with said plunger in the closed posi-
 tion of said window sash adapted to be engaged
 by said plunger through projection of said plun-
 25 ger beyond its rack engaging position whereby the
 spring pressure of said plunger is not applied to
 said pressure member.

4. In a window construction, a side channel,
 25 a window sash having vertical sliding movement
 at its edge in said side channel, a spring pressed
 sash lock plunger carried by said window sash
 and engaging in said side channel in its pro-
 30 jected position, a pressure member of channel
 form in cross-section disposed in said side chan-
 nel, spring means disposed between the base of
 said pressure member and the base of said side
 channel pressing said pressure member into en-
 35 gagement with the edge of said window sash,
 a rack disposed within said pressure member
 adapted in the raised position of said window to
 be engaged by said lock plunger, said lock plun-
 ger having a normal unobstructed projection be-
 yond the vertical plane of said rack member

whereby it engages said rack member in partially
 protected position and under spring pressure,
 there being an opening in the base of said pres-
 5 sure member in horizontal alignment with said
 plunger in the closed position of said window
 sash adapted to be engaged by said plunger
 through projection of said plunger beyond its
 rack engaging position whereby the spring pres-
 10 sure of said plunger is not applied to said pres-
 sure member.

5. In a window construction, a side channel,
 10 a window sash having vertical sliding movement
 at its edge in said side channel, a spring pressed
 sash lock plunger carried by said window sash
 and engaging in said side channel in its pro- 15
 jected position, a pressure member of channel
 form in cross-section disposed in said side chan-
 nel, spring means secured to the outer side of the
 base of said pressure member and engaging the 20
 base of said side channel pressing said pressure
 member into engagement with the edge of said
 window sash, a rack secured to the inner side
 of the base of said pressure member adapted in
 the raised position of said window to be engaged
 by said lock plunger, said lock plunger having a 25
 normal unobstructed projection beyond the ver-
 tical plane of said rack member whereby it en-
 gages said rack member in partially projected
 position and under spring pressure, there being
 an opening in the base of said pressure member 30
 in horizontal alignment with said plunger in the
 closed position of said window sash adapted to
 be engaged by said plunger through projection
 of said plunger beyond its rack engaging posi-
 35 tion whereby the spring pressure of said plunger
 is not applied to said pressure member.

THOMAS G. CONWAY.