

June 5, 1934.

A. G. STEINMAYER ET AL

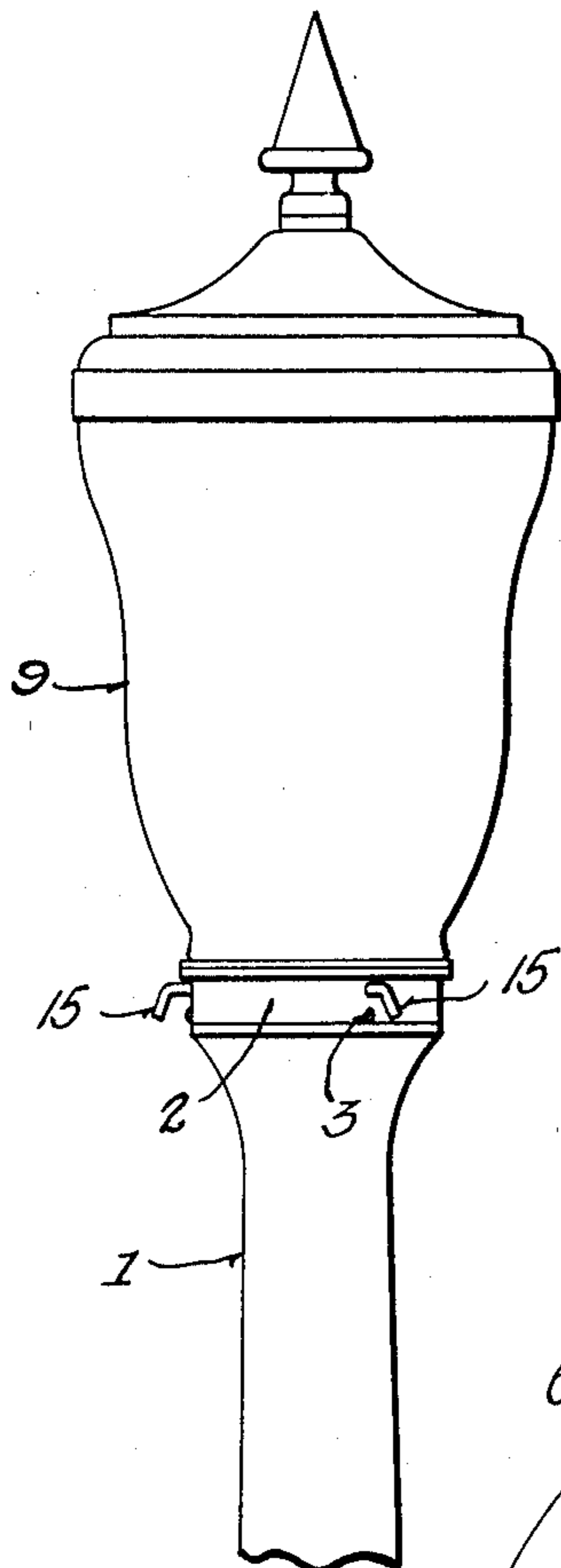
1,961,462

GLOBE HOLDER

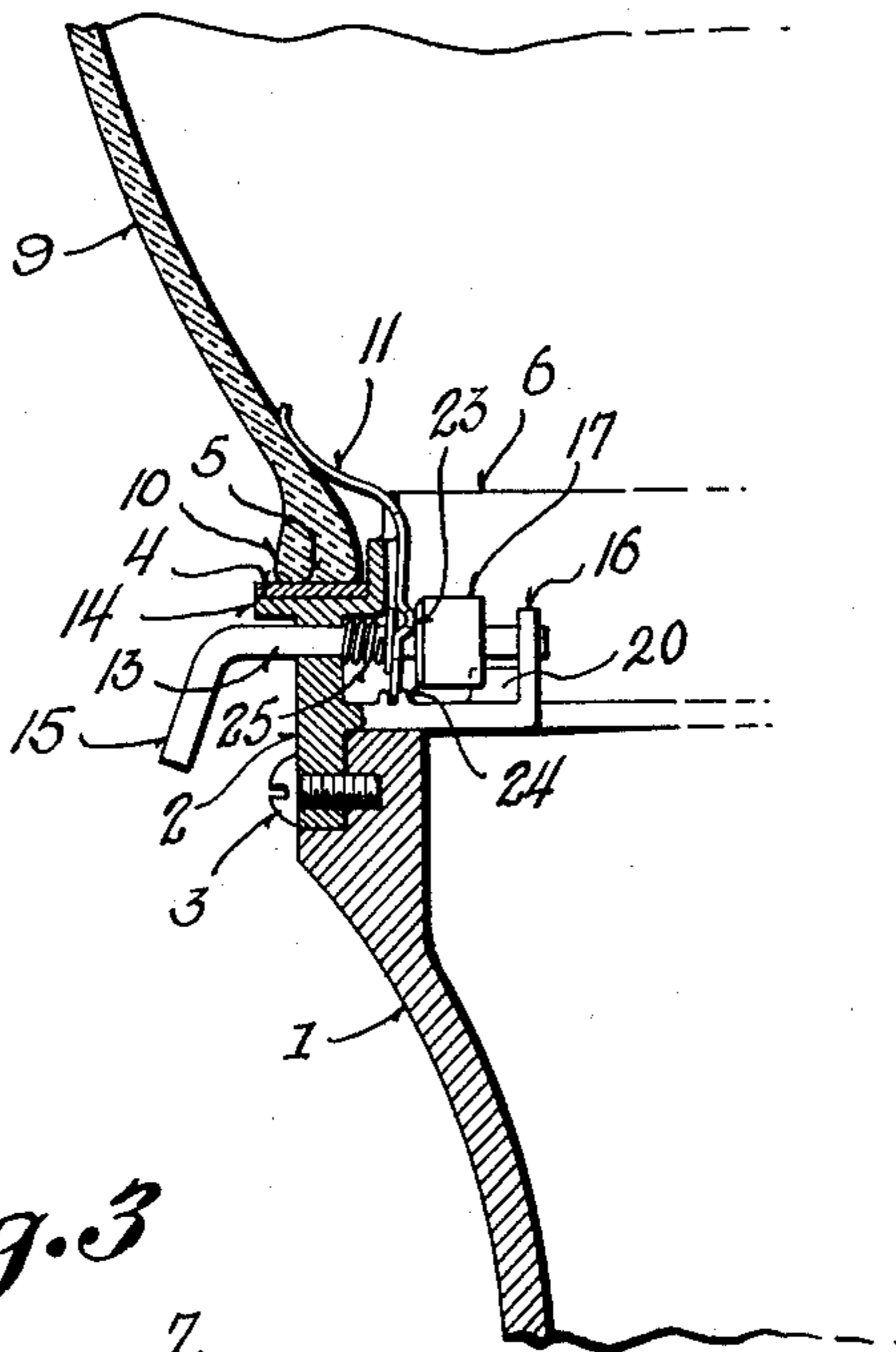
Filed Dec. 10, 1932

2 Sheets-Sheet 1

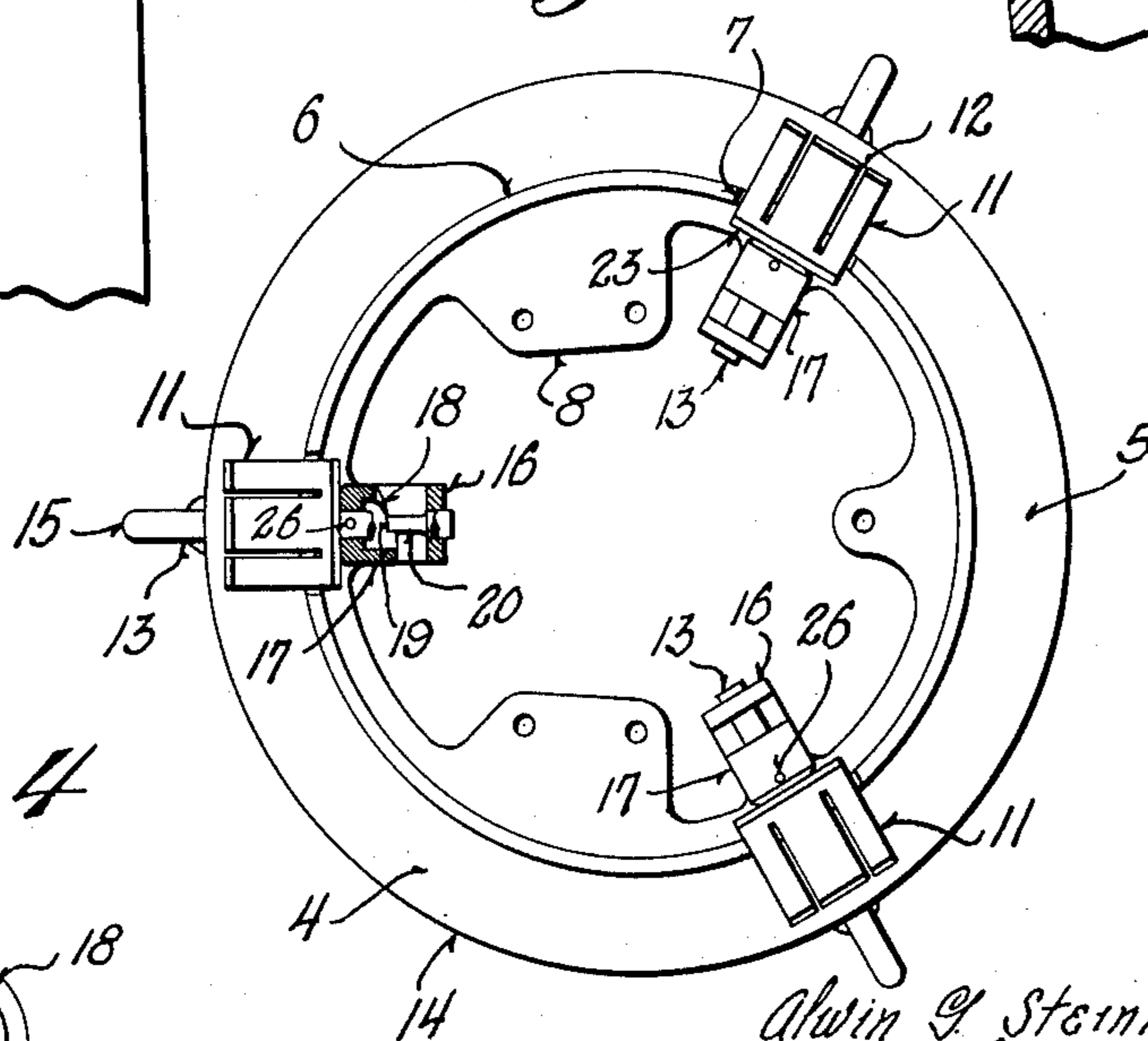
*Fig. 1*



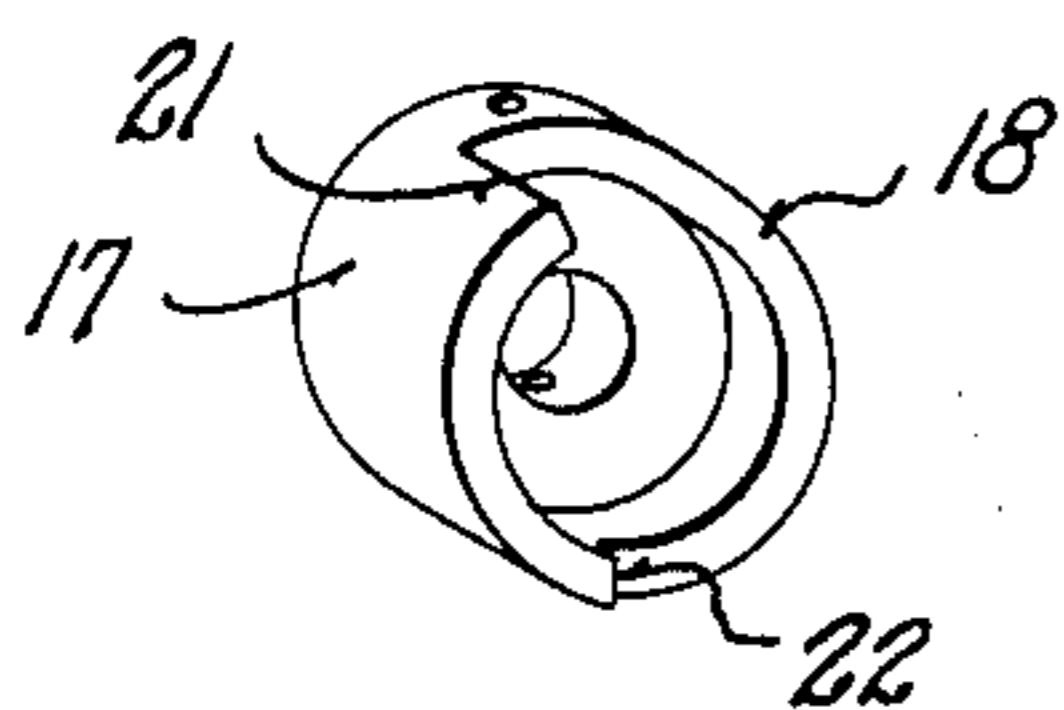
*Fig. 2*



*Fig. 3*



*Fig. 4*



Inventors  
Alwin G. Steinmayer  
Robert L. Smythe

By  
Arthur R. Woolfork  
Attorney

June 5, 1934.

A. G. STEINMAYER ET AL

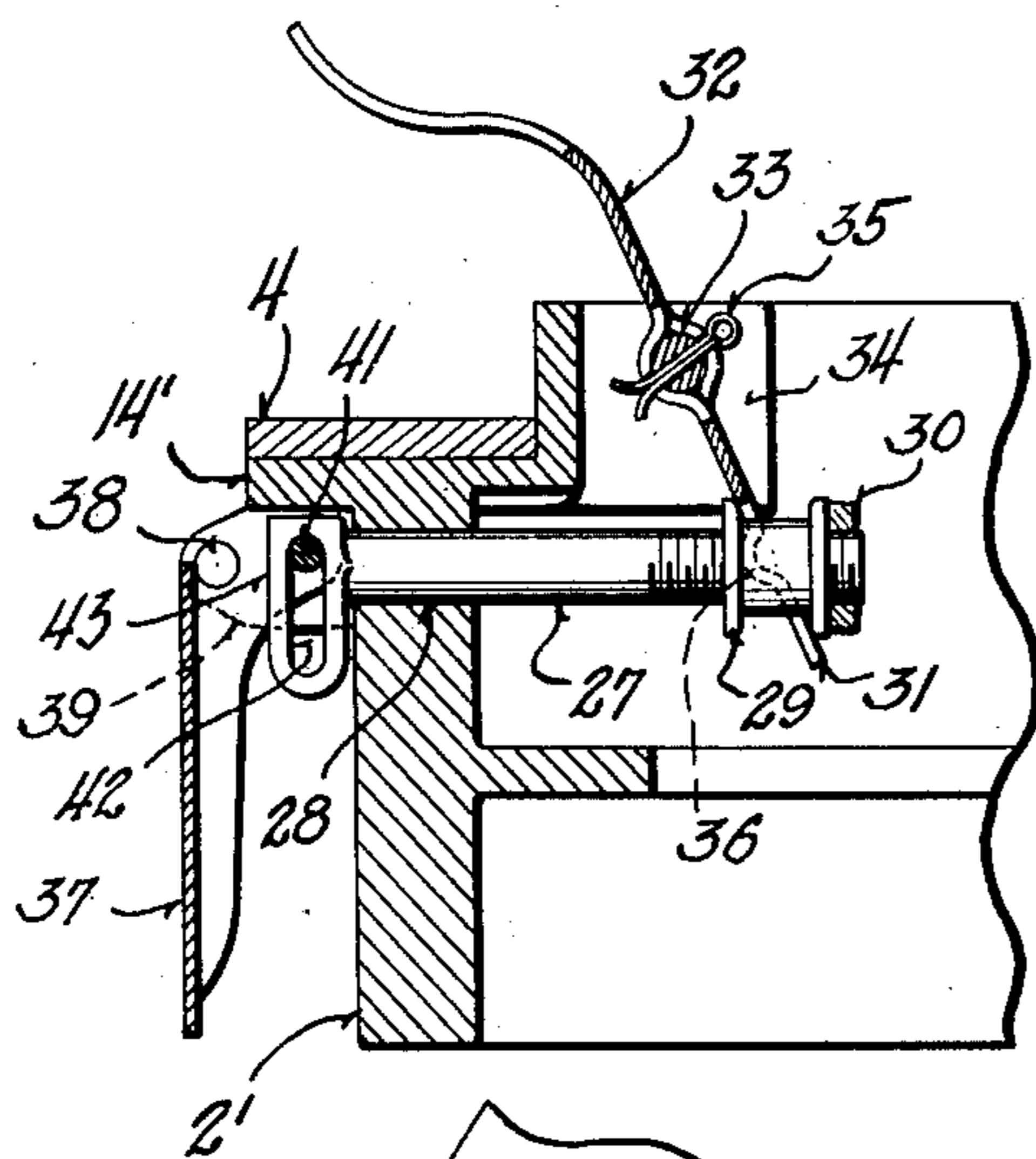
1,961,462

GLOBE HOLDER

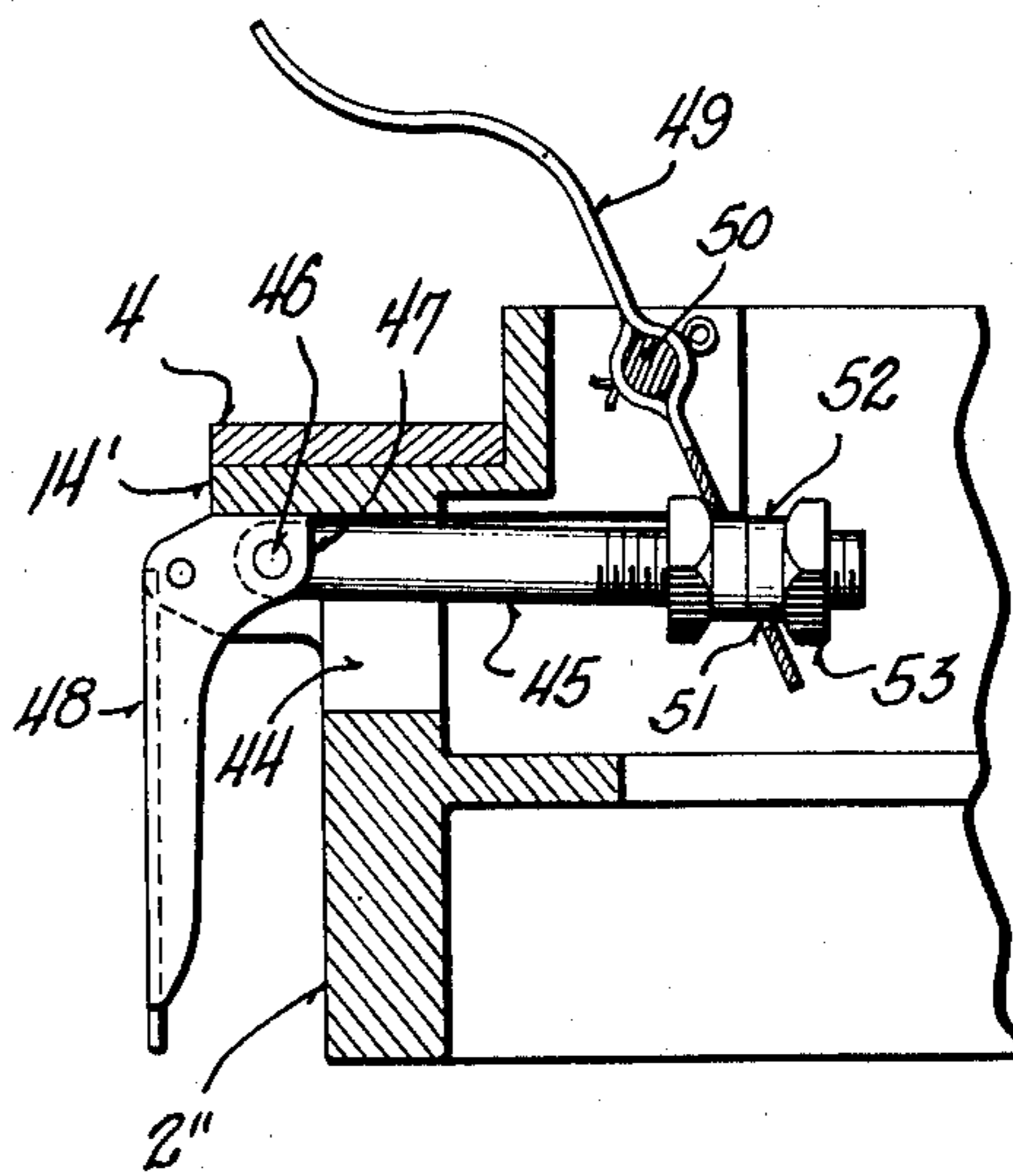
Filed Dec. 10, 1932

2 Sheets-Sheet 2

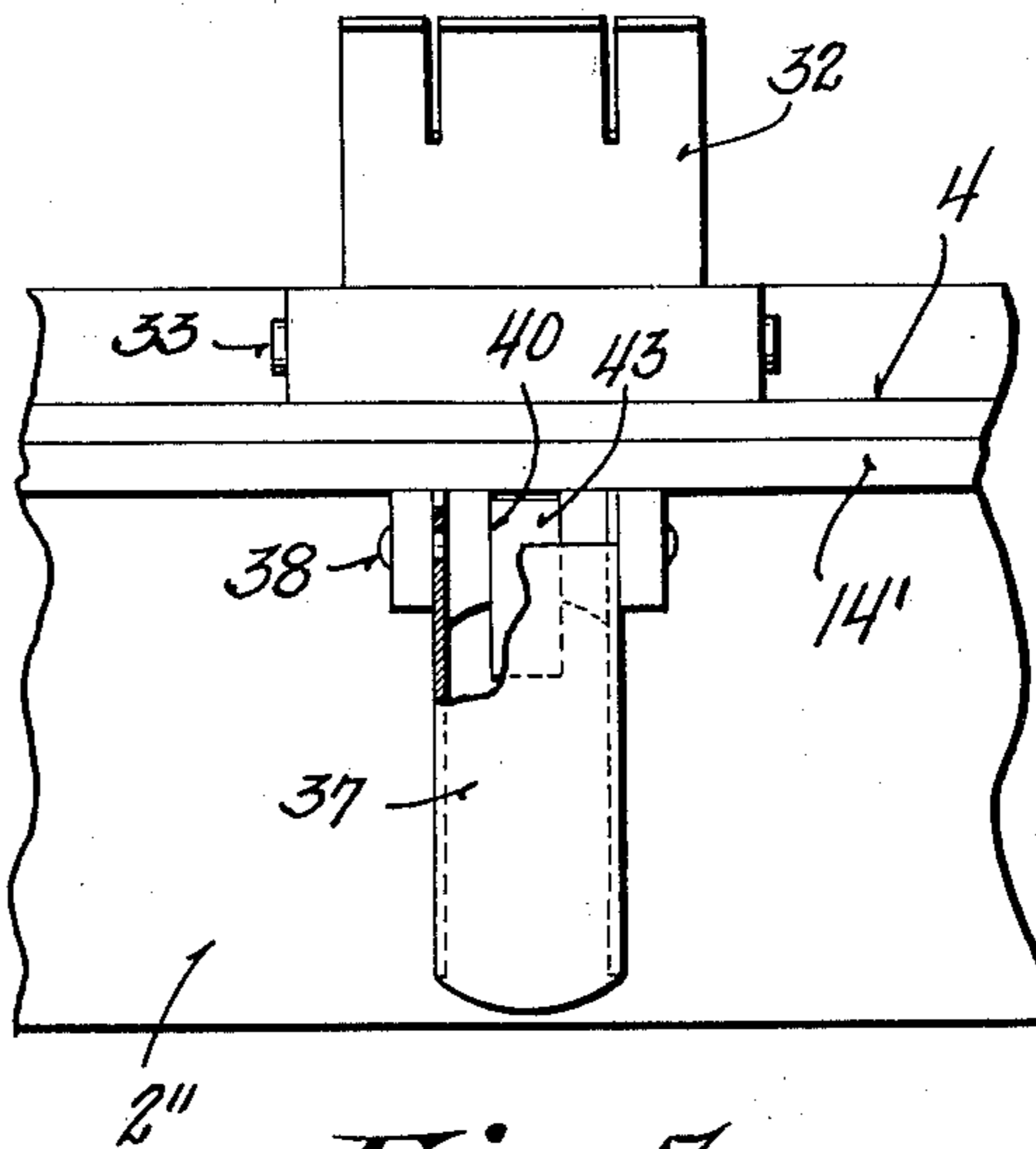
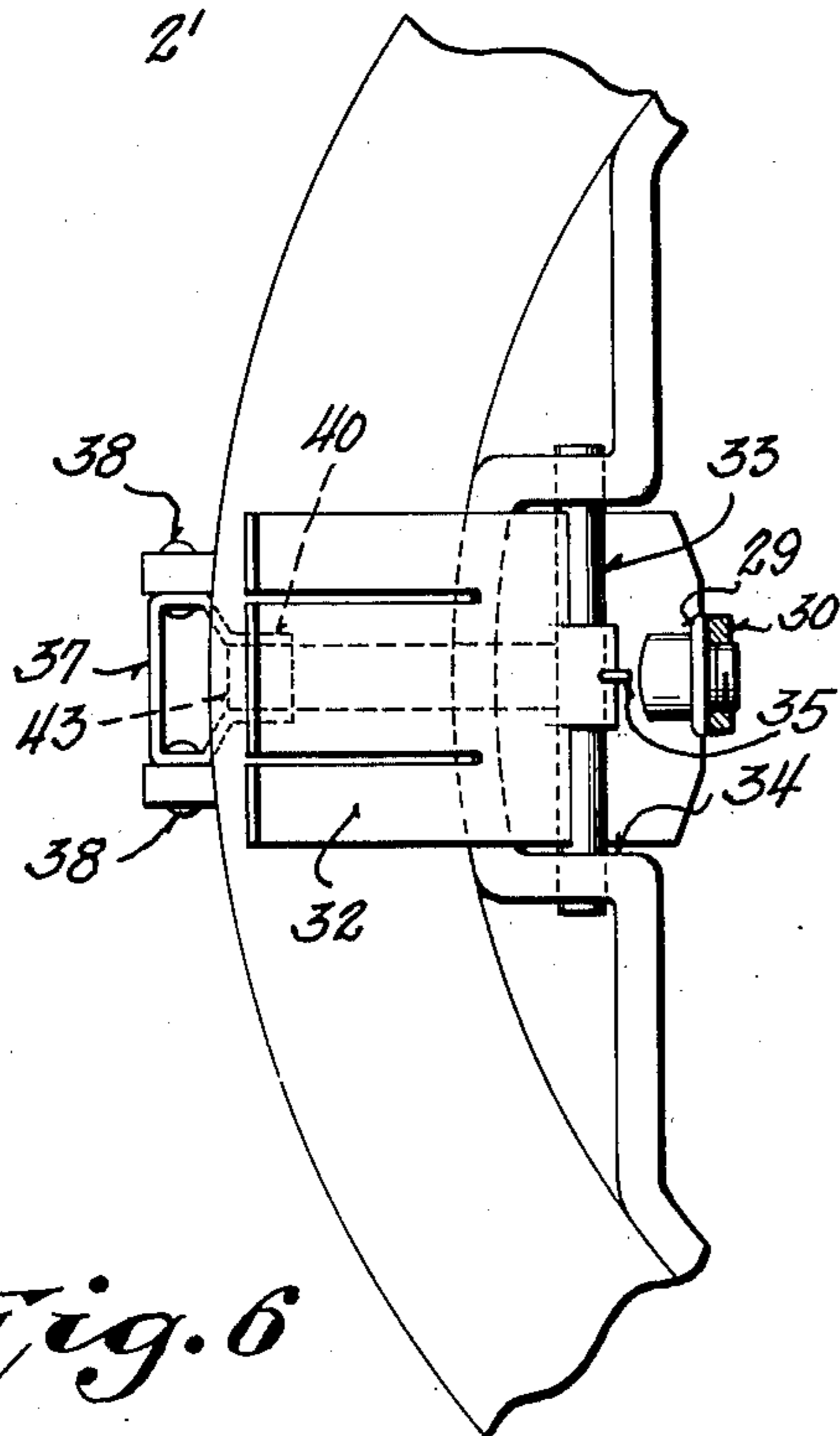
*Fig. 5*



*Fig. 8*



*Fig. 6*



*Fig. 7*

Inventor's  
*Alwin G. Steinmayer*  
*Robert L. Smythe*  
 By  
*Arthur R. Woolfson*  
 Attorney

## UNITED STATES PATENT OFFICE

1,961,462

## GLOBE HOLDER

Alwin G. Steinmayer and Robert L. Smythe,  
Milwaukee, Wis., assignors to Line Material  
Company, South Milwaukee, Wis., a corpora-  
tion of Delaware

Application December 10, 1932, Serial No. 646,589

10 Claims. (Cl. 240—135)

This invention relates to globe holders and is particularly directed to globe holders adapted to be positioned on the upper end of an ornamental pole for holding a transparent globe in place.

Objects of this invention are to provide a novel form of globe holder which is so made that it is impossible for water to enter the apparatus or for the water to freeze and lock the mechanism against operation, or for the water to freeze and lock the globe in place against removal.

Further objects are to provide a novel form of globe holder in which there is a minimum of exposed portions, the manipulating part of the locking means being substantially the only exposed part of the mechanism, and in which a construction is provided which precludes the entrance of dirt or rain into the apparatus or into the globe.

Further objects are to provide a construction in which an actual sealing effect is produced between the globe and the gasket or other member carried by the globe holding apparatus, in which yielding pressure means are provided for directly engaging the globe so as to prevent any chance of cracking or unduly stressing the globe adjacent the attaching means.

Further objects are to provide a construction which is of very simple form, which is cheap to make, and which may be very quickly and easily operated.

Embodiments of the invention are shown in the accompanying drawings, in which:

Figure 1 is a side elevation of the upper part of a pole with the globe in place.

Figure 2 is a fragmentary sectional view showing the details of one form of the invention.

Figure 3 is a plan view of the structure shown in Figure 2, with parts of the structure in section.

Figure 4 is a perspective view of one of the cams.

Figure 5 is a fragmentary view showing a further form of the invention.

Figure 6 is a plan view of the structure shown in Figure 5.

Figure 7 is a fragmentary face view, partly broken away, of the structure shown in Figure 5.

Figure 8 is a sectional view of a still further form of the invention.

Referring to the first form of the invention, particularly Figures 1, 2 and 3, it will be seen that the pole 1 is provided with an upper finishing ring 2, the ring being held in place in any suitable manner, as by means of screws 3, which are threaded through the ring and which fit into a groove or into apertures formed in the upper end of the pole. Preferably a groove is formed in the upper end of the pole.

The ring is provided with an upper face upon which a cork or other gasket 5 is positioned and preferably cemented to the upper face of the ring. The ring is provided with an inner upwardly projecting annular flange 6, which is notched at a plurality of equally spaced points, as indicated at 7 in Figure 3. Preferably a plurality of lugs 8 project inwardly from the ring to support the socket, not shown.

The globe 9 of transparent material rests upon the cork or other gasket 5 and is preferably provided with an enlarged reinforcing or beaded lower portion 10. It is to be noted that the inner surface of the globe adjacent its lower portion slopes outwardly, as shown in Figure 2.

The holding means for the globe comprises a plurality of resilient fingers 11 which are preferably slotted, as indicated at 12 in Figure 3, so as to allow the parts of each finger to separately adjust themselves to the inner curvature of the globe when the fingers are forced into locking position, as shown in Figure 2, the fingers being relatively stiff but nevertheless being somewhat yielding so as to prevent cracking or unduly stressing the globe. The fingers when rocked into their locking position, as shown in Figure 2, very securely lock the globe in place and also force the globe downwardly into binding engagement with the gasket, thus effecting a water-tight joint.

At this point, it is to be noted also that the globe is exterior of the flange 6 and consequently there is no outer flange inside of which the globe is positioned and within which water could collect. Therefore, it is clear that the solid freezing of the parts together due to collecting water is avoided by this construction. Instead, the construction is such that the water is readily shed and does not enter the apparatus, nor does it accumulate around the lower portion of the globe.

A further feature in this connection is the fact that the manipulating shaft 13 for operating the fingers is housed or shielded by the overhanging flange 14 of the ring 2, such locking shaft being  
5 provided with a manipulating handle or outwardly turned portion 15.

The shaft 13 extends through the ring 2 and also through an inwardly positioned bearing support 16 formed integrally with the ring. A cam  
10 17 is pinned, as indicated in Figure 3, to the shaft 13, the shaft being, however, free to slide and rotate within its bearings.

The cam 17, see Figure 4, is provided with a slanting face 18 which may terminate in a flat portion indicated at 19 in Figure 3. The cam  
15 bears against an upwardly projecting rib or member 20 formed integrally with the ring and, therefore, as the shaft is rotated, it is caused to move forwardly by means of the cam. The cam  
20 is provided with a pair of stops or shoulders, indicated by the reference characters 21 and 22, see Figure 4, so as to limit its rotation in either direction.

Each spring finger is provided with an aperture  
25 through which its corresponding shaft 13 projects to thereby prevent unseating or removal of the finger. Each finger is provided with a transverse rearwardly projecting rib 23, see Figures 2 and 3, which bears against the front of  
30 the cam, the front of the cam being a plane surface as shown in Figures 2 and 3. Thus as the shaft is rotated, the finger is pressed forwardly. However, the lower end of the finger is loosely pivoted within a slot between a pair of  
35 upstanding lugs 24, see Figure 2, formed integrally with the ring 2 and constituting, therefore, a fulcrum for the spring finger.

The spring finger is forced rearwardly by means of a spring 25 loosely surrounding the  
40 shaft 13 and bearing at one end against the ring and at the other end against a washer contacting with the spring finger, see Figure 2.

In assembling the device, it is a simple matter to position the parts and slip the shaft 13 there-  
45 through subsequently forcing a pin 26, see Figure 3, through each cam and its corresponding shaft.

In the form of the invention shown in Figures 5, 6 and 7, it will be seen that a reciprocatory  
50 plunger or rod 27 is provided and reciprocates through an aperture 28 formed in the ring 2'. This rod is threaded at its inner end and is provided with a spool-shaped member 29 which is  
55 screwed onto the rod and locked in place in any suitable manner, as by means of the lock nut 30. This member 29 is provided with relatively widely spaced flanges, as may be seen from Figure 5, between which arms 31 of the forked end of a  
60 spring finger 32 are positioned. This spring finger is pivoted upon a shaft or pivot member 33 carried by inwardly projecting portions 34 formed integrally with the ring 2' and are preferably secured to such pivot member by means  
65 of a cotter pin or split pin 35. It is preferable to provide the forked arms 31 of the spring finger with forwardly projecting ribs indicated at  
36 in Figure 5, so that the forward flange of the member 29 will bear against such ribs when the rod or plunger 27 is forced inwardly.

70 The means for forcing the rod inwardly comprise a small lever or finger piece 37 which is pivoted as indicated at 38 to a bracket 39 formed integrally with the ring 2'. This finger piece is preferably made of sheet metal and is of the  
75 order of a channel-shaped bell crank lever. It

has inwardly projecting arms indicated at 40 in Figure 6 which carry a transverse pin 41, see Figure 5. The pin 41 slides within a vertical slot 42 formed in the head 43 of the rod 28.

80 It is to be noted from reference to Figure 5 that when the rod is forced all the way in and the finger piece is in the position shown in Figure 5 that the pin 41 is above the center of the pivot pin 38 and consequently the rod 27 is locked against outward motion. 85

It is obvious that the member 29 may be very readily adjusted so as to provide the necessary spring pressure for the finger and may be locked in place by the lock nut 30.

In the form of the invention shown in Figure 90 8 very much the same idea as that shown in Figures 5, 6 and 7 is followed. However, the ring 2'' is provided with a slot 44 within which the reciprocatory rod 45 moves. This rod has a slight rocking motion as it is pivoted, as indi- 95 cated at 46, directly to the inner arm 47 of the bell crank lever or finger piece 48. It does not slide in a horizontal line inwardly and outwardly as does the rod or plunger 27. It has a slight rocking motion as well as the sliding motion, the 100 rocking motion being provided for by the slot 44 formed in the ring 2''.

The spring finger 49 is pivoted upon the mem-  
ber 50 in a manner similar to that previously described and is provided with an opening 51 105 through which the reduced ends 52 of locking nuts 53 pass. These locking nuts are screwed into their correct adjusted position and are locked against each other, their reduced ends 52 freely passing through the opening 51 of the 110 spring finger 49. It is apparent, therefore, that when the finger piece 48 is rocked upwardly and outwardly that the pressure on the spring finger is relieved and its upper end is rocked inwardly. However, when the finger piece is pressed in the 115 position shown in Figure 8, it is apparent that the spring finger is pressed into engagement with the inner side of the globe, not shown.

In each of the last two forms of the invention it is clear that the overhanging flange 14' shields 120 the outwardly projecting portion of the mechanism.

The form shown in Figure 5 is practically sealed and prevents the entrance of water.

The form shown in Figure 8 is substantially 125 closed against the entrance of rain, but it is possible that some dust may find its way into the device. However, in both the first and second form of the invention the device is substantially sealed against the entrance of dust or of rain. 130

In the form shown in Figures 5 and 8 it is apparent that the inwardly projecting arms of the finger pieces contact with the end portion of the flanges 14' and consequently limit the inward rocking motion of the finger pieces. 135

In the form shown in Figure 1, it is apparent that the stop is provided by the shoulder 22 of the cam 17, see Figure 4.

In each form of the invention it will be seen that it is practically impossible for rain to enter 140 the apparatus and consequently there is practically no chance of water freezing and locking the parts of the mechanism against operation.

Also it is apparent that the manner in which the globe is positioned and the relative associa- 145 tion of the parts, see particularly Figure 2, is such that water is shed very readily from the apparatus and consequently there is practically no chance of the freezing of the globe tightly to the apparatus. 150

In all forms of the invention it will be seen that very simple mechanisms have been provided and that these devices may be very readily constructed and are relatively cheap to make. Also that they are very quick to operate as there is merely a quarter or half turn necessary for any one of the manipulating members.

Although this invention has been described in considerable detail, it is to be understood that such description is intended as illustrative rather than limiting, as the invention may be variously embodied and is to be interpreted as claimed.

We claim:

1. A globe holder comprising a ring upon which a globe is adapted to rest, a plurality of individual clamping means for said globe, each means comprising a shaft extending outwardly through said ring, a finger pivotally mounted upon said ring and adapted to engage the inner side of the globe, and a cam carried by said shaft and forcing said finger outwardly against said globe.

2. A globe holder comprising a ring upon which a globe is adapted to rest, said ring having a flat outer surface and being free of vertical flanges exterior of said globe, a plurality of individual clamping means for said globe, each means comprising a shaft extending outwardly through said ring, a finger pivotally mounted upon said ring and adapted to engage the inner side of the globe, and a cam carried by said shaft and forcing said finger outwardly against said globe.

3. A globe holder comprising a ring upon which a globe is adapted to rest, said ring having an upwardly extending flange located interiorly of said globe, a plurality of individual clamping means for said globe, each means comprising a shaft extending outwardly through said ring, a finger pivotally mounted upon said ring and adapted to engage the inner side of the globe, and a cam carried by said shaft and forcing said finger outwardly against said globe.

4. A globe holder comprising a ring having an upper flat surface, a gasket carried by said surface, said ring being adapted to support a globe, a vertical flange forming a portion of said ring and located interiorly of said globe, a plurality of fingers pivotally mounted and supported from said ring and adapted to engage the inner surface of said globe, a plurality of shafts projecting radially through said ring, each shaft having a cam for rocking the corresponding finger outwardly, and a spring bearing against each finger and tending to rock the fingers inwardly.

5. A globe holder comprising a ring having an upper substantially horizontal flange adapted to support a globe and having a vertical flange located interiorly of the globe, a plurality of fingers adapted to engage the interior of the globe and tending to force said globe downwardly, each finger being pivotally supported adjacent its lower end from said ring, a shaft projecting loosely through each finger, and extending radially outwardly through said ring, a cam carried by each shaft and having a flat forward face engaging the corresponding finger and having a cam surface located on its inner side, a projection rigid with said ring and engaging the cam surface of said cam, and springs loosely surrounding said shafts and bearing against the outer face of said fingers.

6. A globe holder comprising a ring having an upper substantially horizontal flange adapted to support a globe and having a vertical flange

located interiorly of the globe, a plurality of fingers adapted to engage the interior of the globe and tending to force said globe downwardly, each finger being pivotally supported adjacent its lower end from said ring, a shaft projecting loosely through each finger, and extending radially outwardly through said ring, a cam carried by each shaft and having a flat forward face engaging the corresponding finger and having a cam surface located on its inner side, a projection rigid with said ring and engaging the cam surface of said cam, and springs loosely surrounding said shafts and bearing against the outer face of said fingers, each finger having a transverse rib formed on its inner side and contacting with the forward face of said cam.

7. A globe holder comprising a ring adapted to support a globe, said ring having an inwardly located flange, a plurality of fingers pivotally carried by said ring and adapted to engage the inner surface of the globe, a horizontally slidable plunger operatively coupled to each finger and projecting outwardly through said ring, and a bell crank manipulating lever for each plunger, each bell crank lever having a short inner arm slidably connected with its corresponding plunger.

8. A globe holder comprising a ring having a vertical downwardly projecting flange, a substantially horizontal flange adjacent its upper portion adapted to support a globe and having an inwardly spaced upwardly projecting flange adapted to be located interiorly of the globe, a plurality of fingers adapted to engage the inner surface of the globe and pivoted to said last mentioned flange, each finger having a lower portion, a horizontally reciprocable plunger passing through the lower portion of each finger, each plunger having a threaded portion, a coupling member screwed upon said threaded portion and engaging the lower portion of the corresponding finger to adjustably operatively connect the finger to its corresponding plunger, each plunger having a slotted head located outwardly of said ring and beneath said substantially horizontal flange, and a manipulating bell crank lever for each plunger having a long manipulating arm and having a short arm slidably connected with the head of its corresponding plunger.

9. A globe holder comprising a ring having a vertical downwardly projecting flange, a substantially horizontal flange adjacent its upper portion adapted to support a globe and having an inwardly spaced upwardly projecting flange adapted to be located interiorly of the globe, a plurality of fingers adapted to engage the inner surface of the globe and pivoted to said last mentioned flange, each finger having a lower portion, a horizontally reciprocable plunger passing through the lower portion of each finger, each plunger having a threaded portion, means engaging the lower portion of the corresponding finger and screwed upon said threaded portion to adjustably operatively connect the finger to its corresponding plunger, each plunger having a slotted head located outwardly of said ring and beneath said substantially horizontal flange, and a manipulating bell crank lever for each plunger having a long manipulating arm and having a short arm slidably connected with the head of its corresponding plunger.

10. A globe holder comprising a ring having an upper substantially horizontal flange adapted

to support a globe and having a vertical flange located interiorly of the globe, a plurality of fingers adapted to engage the interior of the globe and tending to force said globe downwardly, each finger being pivotally supported adjacent its lower end from said ring, a shaft projecting loosely through each finger and extending radially outwardly through said ring, said shaft being guided for longitudinal motion

and restrained against motion tending to shift the axis of the shaft, means carried by each shaft for engaging the corresponding finger, and externally operable means for causing said shafts to move longitudinally whereby said fingers are rocked into engagement with the interior of the globe.

ALWIN G. STEINMAYER.  
ROBERT L. SMYTHE.

10

85

15

90

20

95

25

100

30

105

35

110

40

115

45

120

50

125

55

130

60

135

65

140

70

145

75

150