

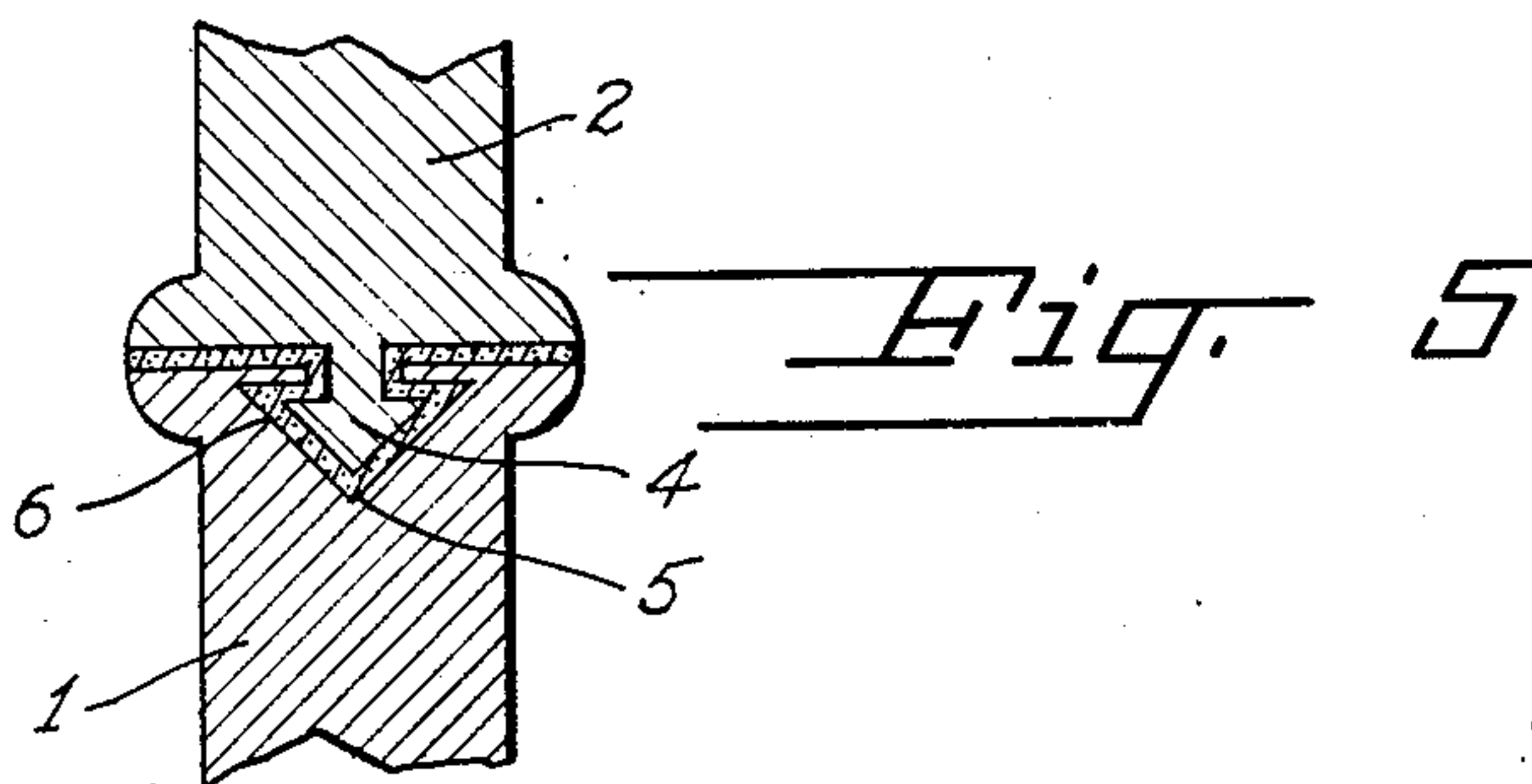
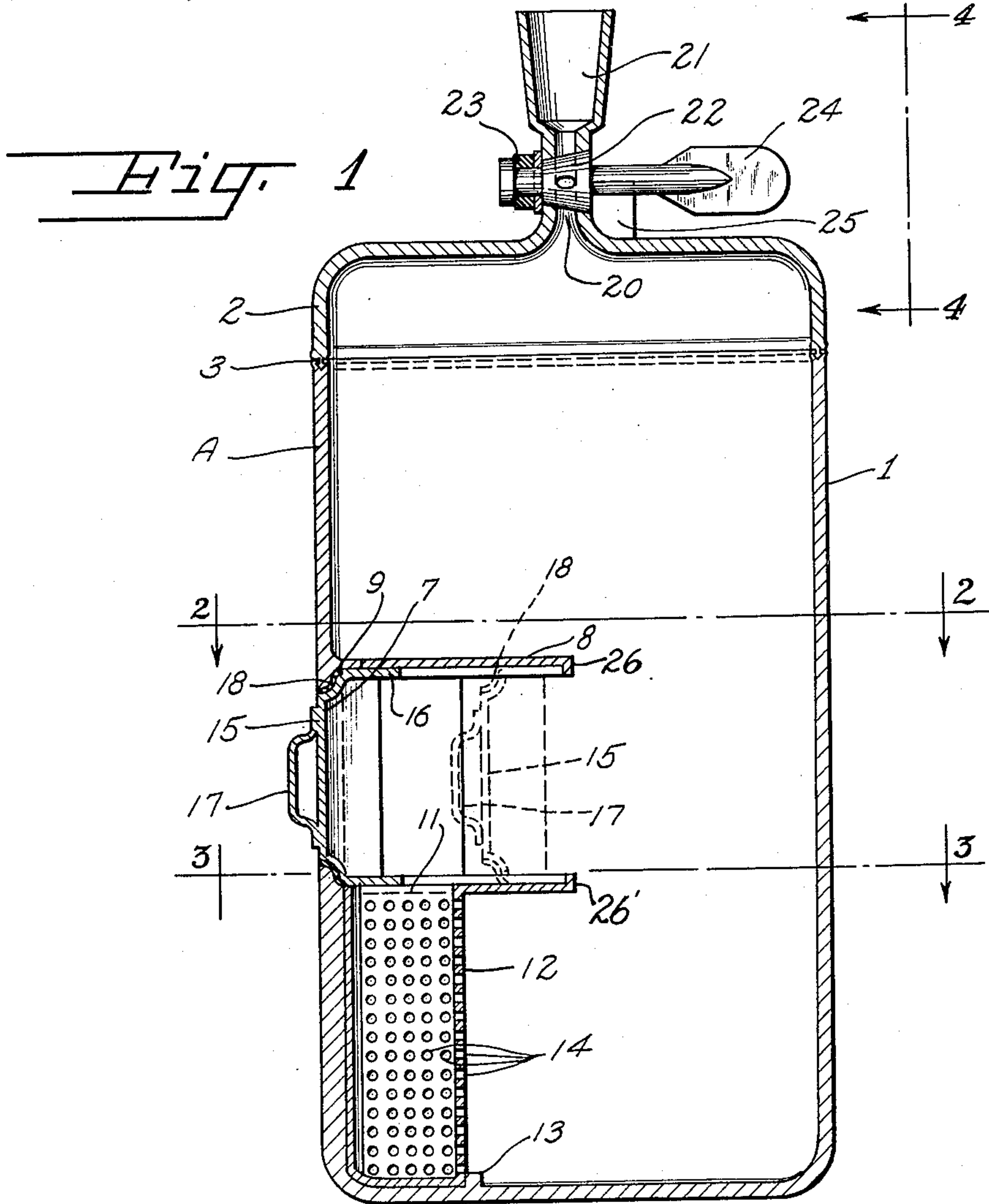
Feb. 6, 1951

C. G. OKSAS  
FIRE EXTINGUISHER

2,540,544

Filed Dec. 6, 1946

2 Sheets-Sheet 1



INVENTOR.  
Casimir G. Oksas

BY

*McMorrow, Berman & Davidson*  
Attorneys

Feb. 6, 1951

C. G. OKSAS  
FIRE EXTINGUISHER

2,540,544

Filed Dec. 6, 1946

2 Sheets-Sheet 2

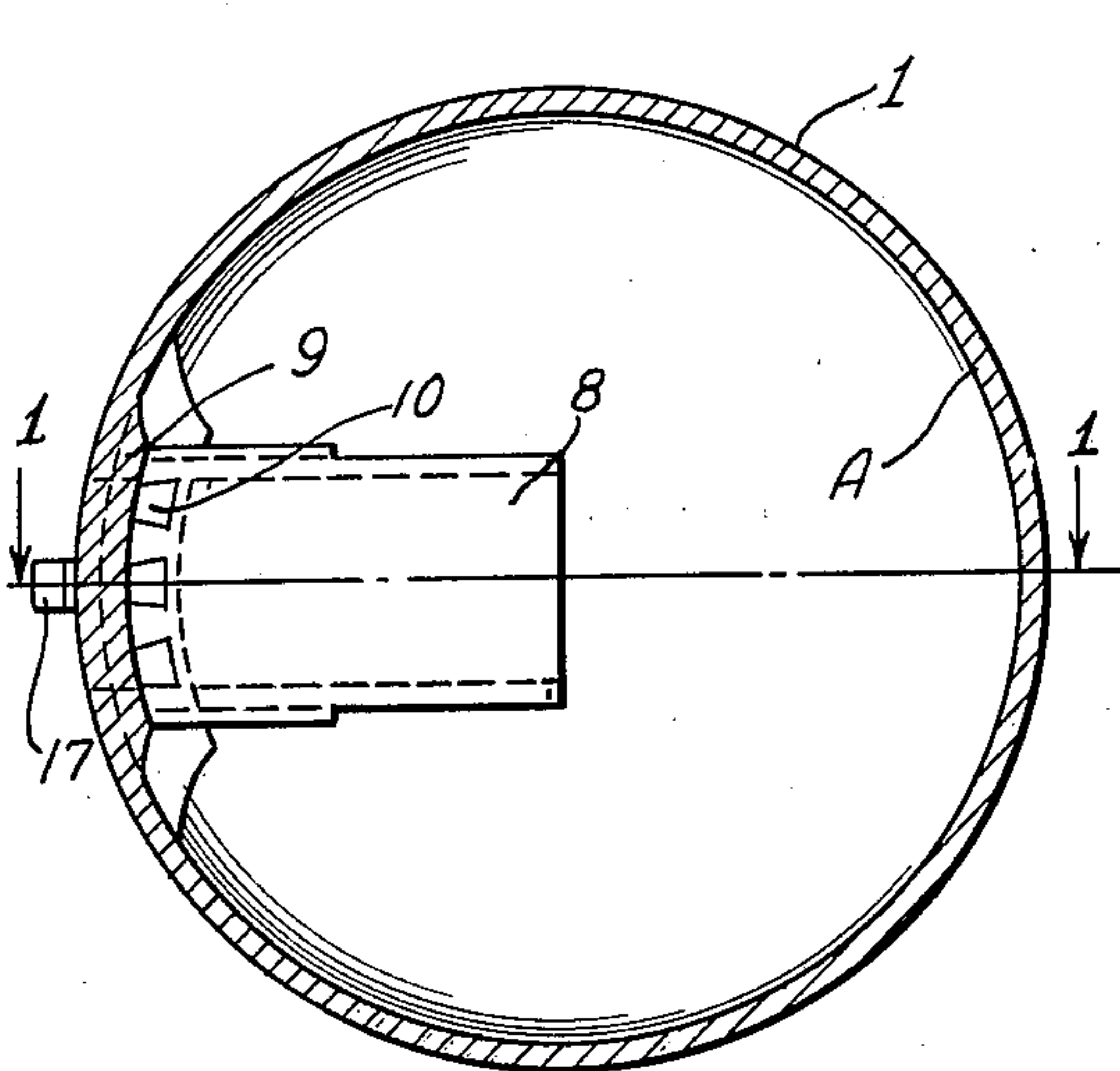


Fig. 2

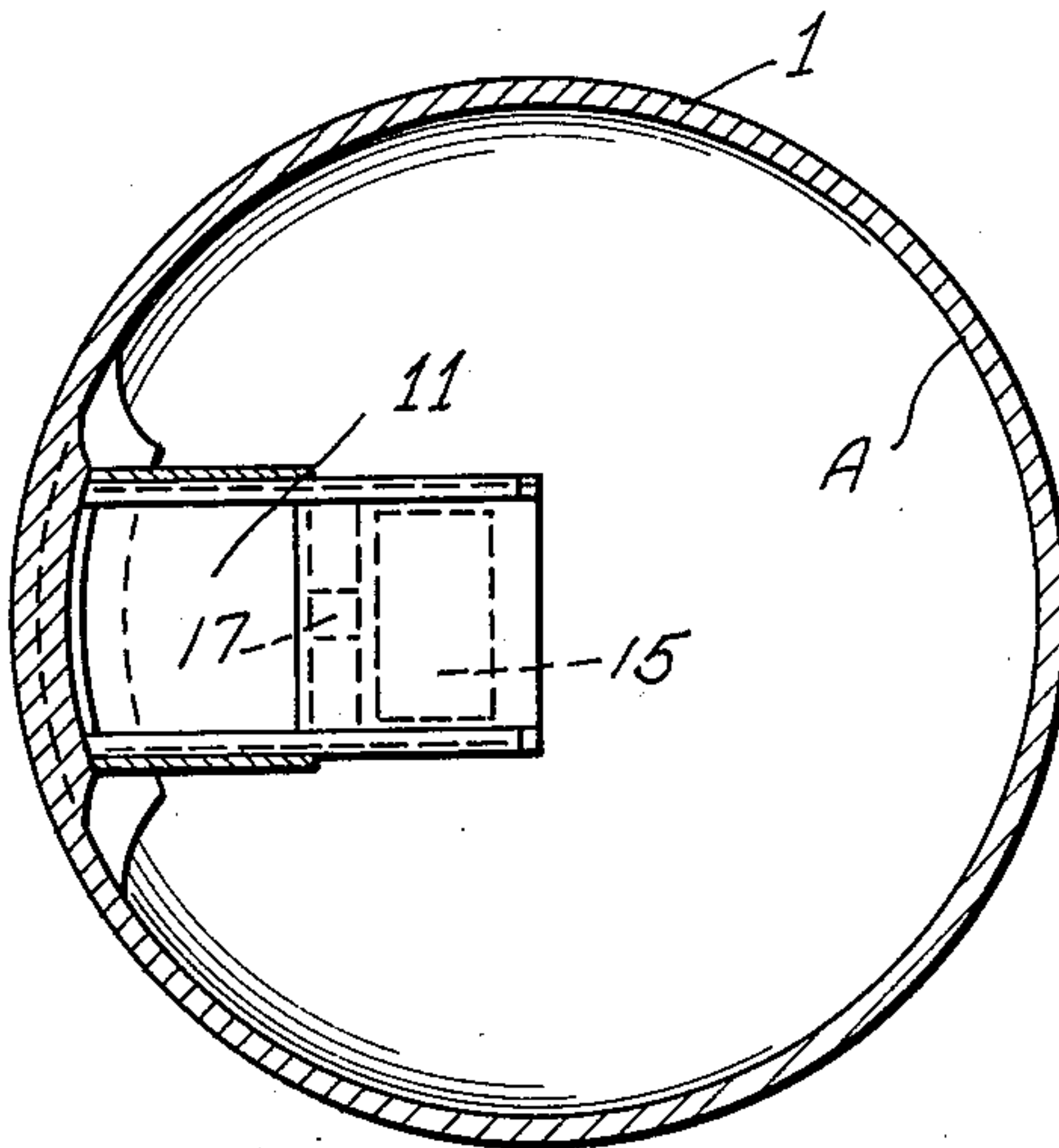


Fig. 3

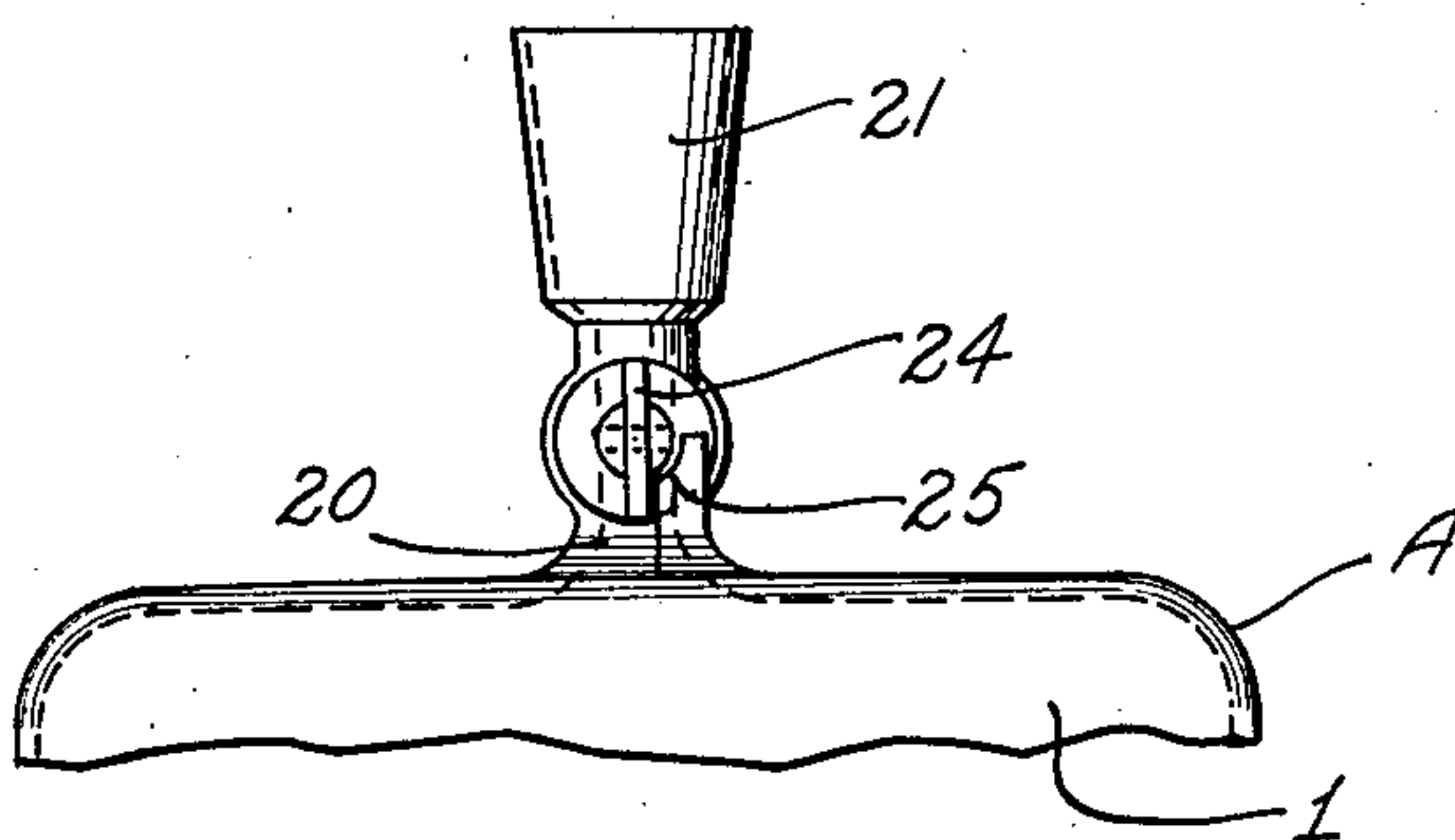


Fig. 4

INVENTOR.  
Casimir G. Oksas

BY

*McMorrow, Berman & Davidson*  
Attorneys



# UNITED STATES PATENT OFFICE

2,540,544

## FIRE EXTINGUISHER

Casimir G. Oksas, Troy, N. Y.

Application December 6, 1946, Serial No. 714,440

4 Claims. (Cl. 169—31)

1

This invention relates to a new and improved fire extinguisher of which the following is a specification.

The primary object of this invention resides in the provision of a new and improved portable fire extinguisher which may be quickly and easily recharged from without the container of said extinguisher to place the extinguisher in a safe usable condition.

Another object of this invention resides in the provision of a new and improved carbon dioxide (CO<sub>2</sub>) fire extinguisher which is quickly and easily portable to the scene of a fire, and quickly and easily operated for the purpose of extinguishing the fire.

Still another object of this invention is the provision of such an extinguisher which may be quickly and easily recharged as described safely and properly by a novice who merely follows the instructions of the required steps of first discharging the container through provided discharge means prior to refilling the extinguisher with its charging elements.

Still another object of this invention is the provision of a fire extinguisher of the character described which requires only the placing of Dry Ice in a provided housing therein, available from without the container, where the Dry Ice sublimates to form a high pressure CO<sub>2</sub> gas content within the extinguisher casing adapted for use for extinguishing fires in the conventional manner.

Still a further improvement and advantage of this invention is the provision of such a fire extinguisher which is of extremely simple and inexpensive design, and which is readily available for use to the general public on an extremely economic, safe, and reliable basis.

Further improvements and advantages of this invention will readily appear to those skilled in the art when the following description is read in the light of the accompanying drawings in which:

Fig. 1 is a vertical cross section of a side elevation of the extinguisher.

Fig. 2 is a vertical cross section taken on line 2—2 of Fig. 1.

Fig. 3 is a vertical cross section taken on line 3—3 of Fig. 1.

Fig. 4 is a side elevation taken on line 4—4 of Fig. 1.

Fig. 5 is an enlarged view of the casing joint.

Referring now to the accompanying drawings which illustrate the preferred embodiment of this invention and in which like numerals indi-

2

cate similar parts throughout, A designates a cylindrical housing or container composed of two separate sections the bottom half 1 and the top section 2 which is secured to the section 1 by an interlocking joint 3, as illustrated in Fig. 5, comprising triangular shaped tongue 4 freely inset into a triangular cut groove 5, and a complete lining layer of an adhesive glue 6 or the like retaining said tongue and groove in their interlocked position. Thus an air tight casing A is formed to house the gaseous fire extinguisher.

A rectangular opening 7 is provided at one point in the circumference of the lower section 1 and a box-like member 8 is projected horizontally inward said casing being secured to an inwardly projected flange 9 about the opening 7 by means of a dove-tail 10 or the like.

A rectangular opening 11 is provided in the bottom of the box-like member 8 adjacent the casing opening 7 to open downward into a receptacle 12 which rests adjacent the casing and is positioned by a raised flange 13 on the casing bottom. This housing is provided on its three exposed walls with a patterned plurality of apertures 14 opening into the interior of the casing.

A rectangular plate or cover 15 with projected perpendicular sides 16 is slidably mounted within the box-like member to and away from the casing opening selectively making available the opening to the housing 12. A handle 17 is provided on the outer face of the plate 12 to facilitate the inward and outward movement thereof, and a sealing material 18 is provided about the edge of said plate so as to contact the edge of said opening to retain an air-tight joint.

It will be noted that the box-like member is provided with stops at 26, 26' engageable with the cover. The stops limit the movement of the rectangular plate or cover 15 so that when the cover is out of sealing contact with said container opening, the cover blocks access to the interior of said container 1. It is thus impossible to insert an excess of the solid gasifiable material in the container since the amount inserted is limited by the size of open top receptacle 12. This will prevent overloading of the fire extinguisher and consequently keep the gas pressure within safe limits and reduce the danger of bursting of the container.

The arrangement as described provides for the inward movement of the closure plate 15 to permit the deposit of Dry Ice in the housing 12, and the plate is then returned to a sealing position against the casing wall. The Dry Ice then sub-



3

limates filling the casing with CO<sub>2</sub> gas and causing a pressure increase with the sublimation which forces the plate 15 against the casing hermetically sealing the joint and providing sufficient pressure for a rapid and complete discharge of the CO<sub>2</sub> from the casing by the construction now to be described.

The center of the top of the top section 2 is provided with an integrally formed throat 20 which projects outwardly from the top where it expands to form a nozzle 21. The throat 20 provides an outlet for the gas. A tapered rotary plug valve 22 is mounted in the throat 20 and is provided on one projected end without the throat with a spring washer 23 which provides for the secure positioning of the valve, the second extended end being provided with a wing handle 24 which is mounted adjacent a right angular stop 25 which limits the valve rotation to 90 degrees providing for the positive opening and closing of the valve for permitting the emission of the CO<sub>2</sub> gas through the nozzle 21 and the positive stoppage thereof.

Thus it may be seen that a new and improved easily recharged fire extinguisher has been provided which is durable, safe, and simply constructed.

It may also be seen that it is necessary to safely eliminate any possible gas in the casing before opening the casing for addition of dry ice.

Having thus described and explained the function and construction of this invention and with full belief that modifications in size, shape and general characteristics would not constitute departure from the spirit of this invention what I desire to claim is:

1. In a fire extinguisher having a gas tight casing, the improvement of means for introducing solid gasifiable material into the interior of the casing comprising a filling opening formed in a wall of said casing, a cover positioned within said casing for fitting said filling opening, guide means mounting said cover for movement toward and away from said casing wall into and out of closing relation to said filling opening, said cover in open position enabling introducing solid gasifiable material through said opening into the interior of said casing to gasify therein so as to exert sufficient pressure within said casing when said cover is in closed position to maintain said cover in gas tight closing relation to said filling opening, said guide means comprising a box-like form projecting radially inwardly from the casing wall and surrounding said filling opening, said box-like form having a side opening communicating with the interior of said casing through which solid gasifiable material can be passed into the interior of said casing through said filling opening, said cover comprising a plate extending across the interior of said box-like form having a peripheral flange slidably engaging the interior of said box-like form, said flange being arranged to close said side opening in said box-like form while said cover is in closed position and to uncover said side opening in the open position of said cover.

4

2. In a fire extinguisher having a gas tight casing, the improvement of means for introducing solid gasifiable material and positioning the same within the interior of said casing comprising a filling opening formed in a wall of said casing, guide means comprising a box-like form open to and registered with said filling opening, a perforated container within said casing adjacent to said box-like form, said box-like form being provided with an opening providing access through said box-like form to the interior of said perforated container, and a cover for said filling opening slidably confined in said box-like form for inward movement from a closed position within said filling opening to an open position inwardly beyond said access opening whereby solid gasifiable material can be introduced into said perforated container only while said cover is in open position.

3. A fire extinguisher comprising a container having an outlet in one end, there being an opening extending through a side of said container intermediate the ends thereof for the introduction therethrough of a solid gasifiable material, a cover positioned within said container adjacent to said container opening and mounted in said container for movement into and out of sealing contact with said opening, and an open top receptacle positioned within said container and below said opening in said container and fixedly positioned in the latter for receiving the solid gasifiable material introduced through said container opening.

4. A fire extinguisher comprising a container having an outlet in one end, there being an opening extending through a side of said container intermediate the ends thereof for the introduction therethrough of a solid gasifiable material, a transversely disposed slideway positioned in said container and having one end surrounding said container opening, a cover arranged longitudinally of said slideway and mounted in said slideway for movement into and out of sealing engagement with said opening, means on the other end of said slideway and engageable with said cover when the latter is in its position of movement out of sealing contact with said container opening to thereby block access to the interior of said container, and an open top receptacle positioned within said container and below said opening in said container and fixedly positioned in the latter for receiving the solid gasifiable material introduced through said container opening.

CASIMIR G. OKSAS.

## REFERENCES CITED

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

## UNITED STATES PATENTS

Number	Name	Date
1,887,020	Hassensall	Nov. 8, 1932
1,957,640	Grison	May 8, 1934
2,412,434	Thompson	Dec. 10, 1946