

G. I. RAWSON & L. B. SHULTZ.

MINER'S LAMP.

APPLICATION FILED MAR. 7, 1910.

996,675.

Patented July 4, 1911.

Fig. 1.

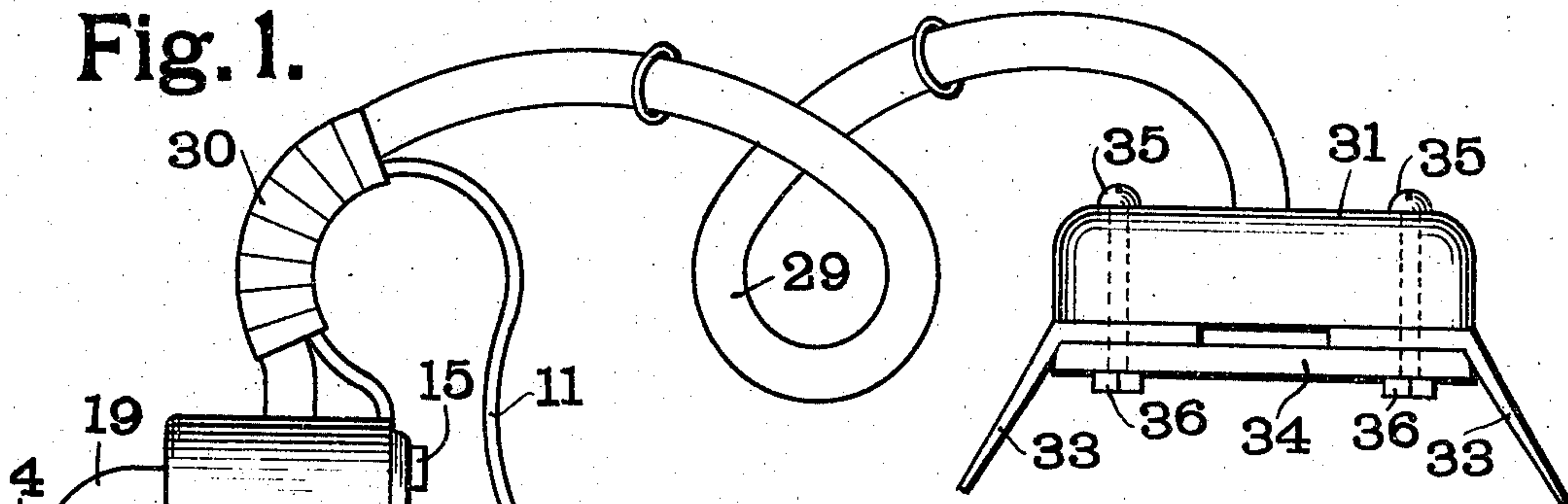


Fig. 2.

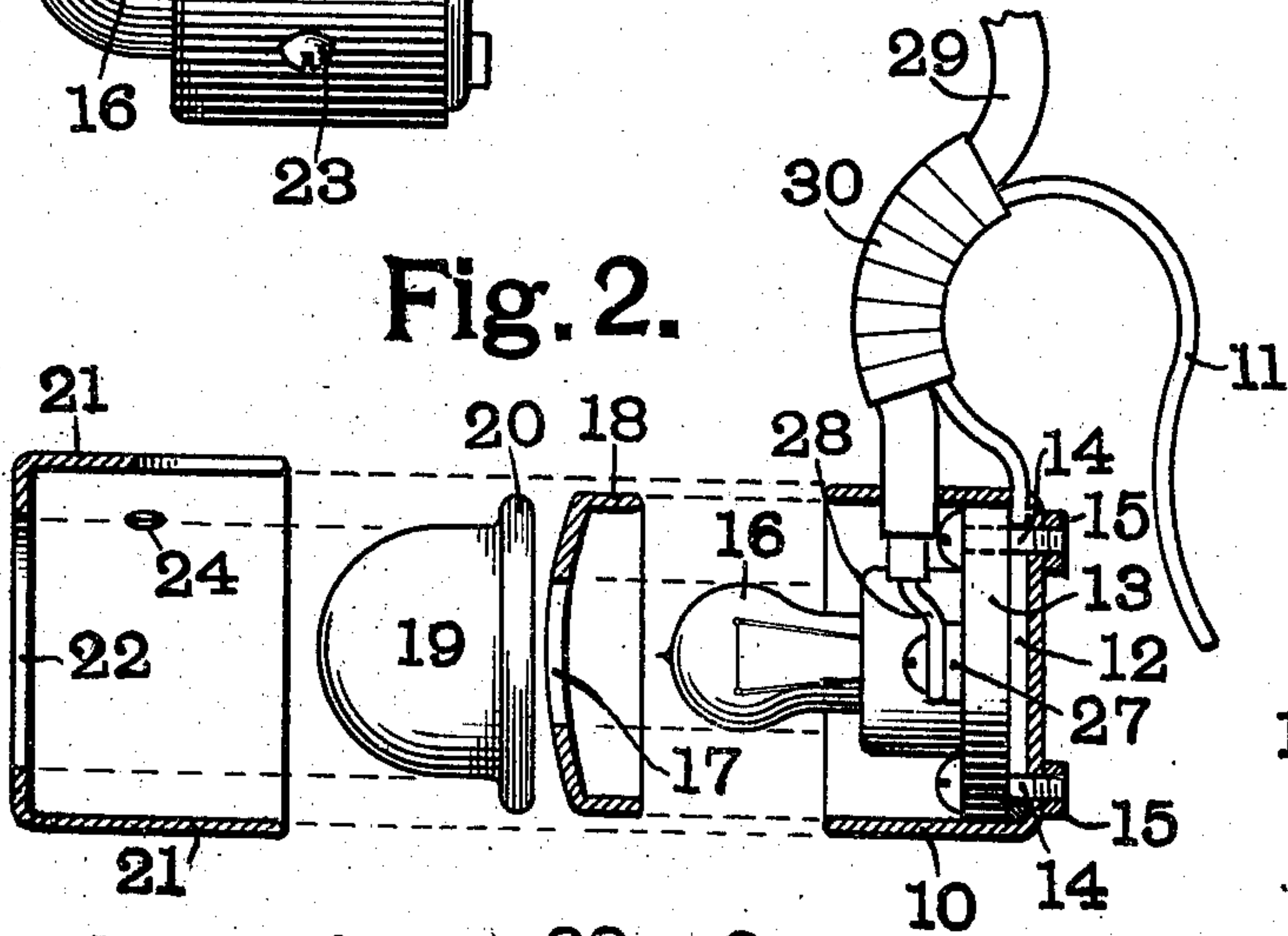


Fig. 3.

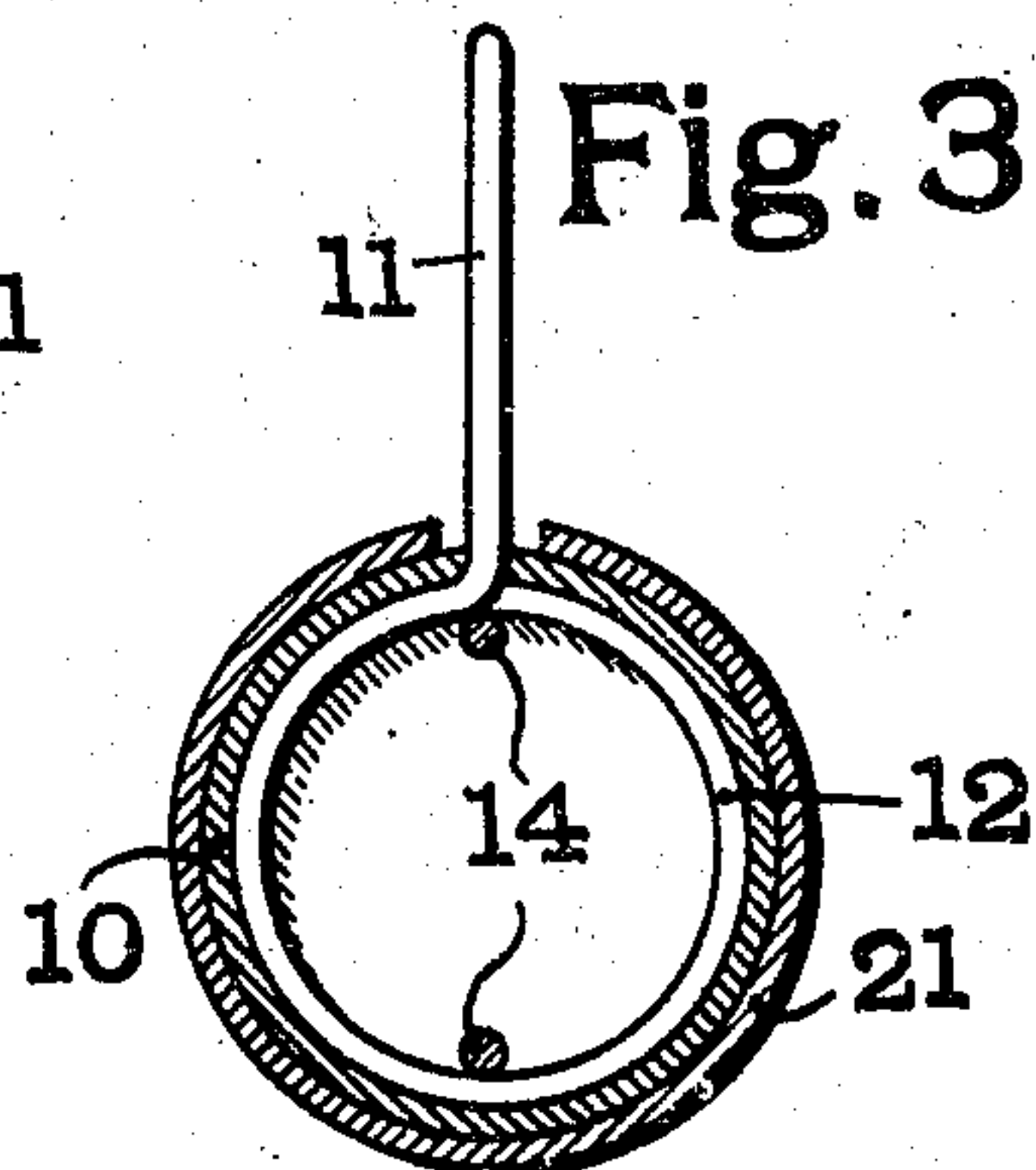


Fig. 4.

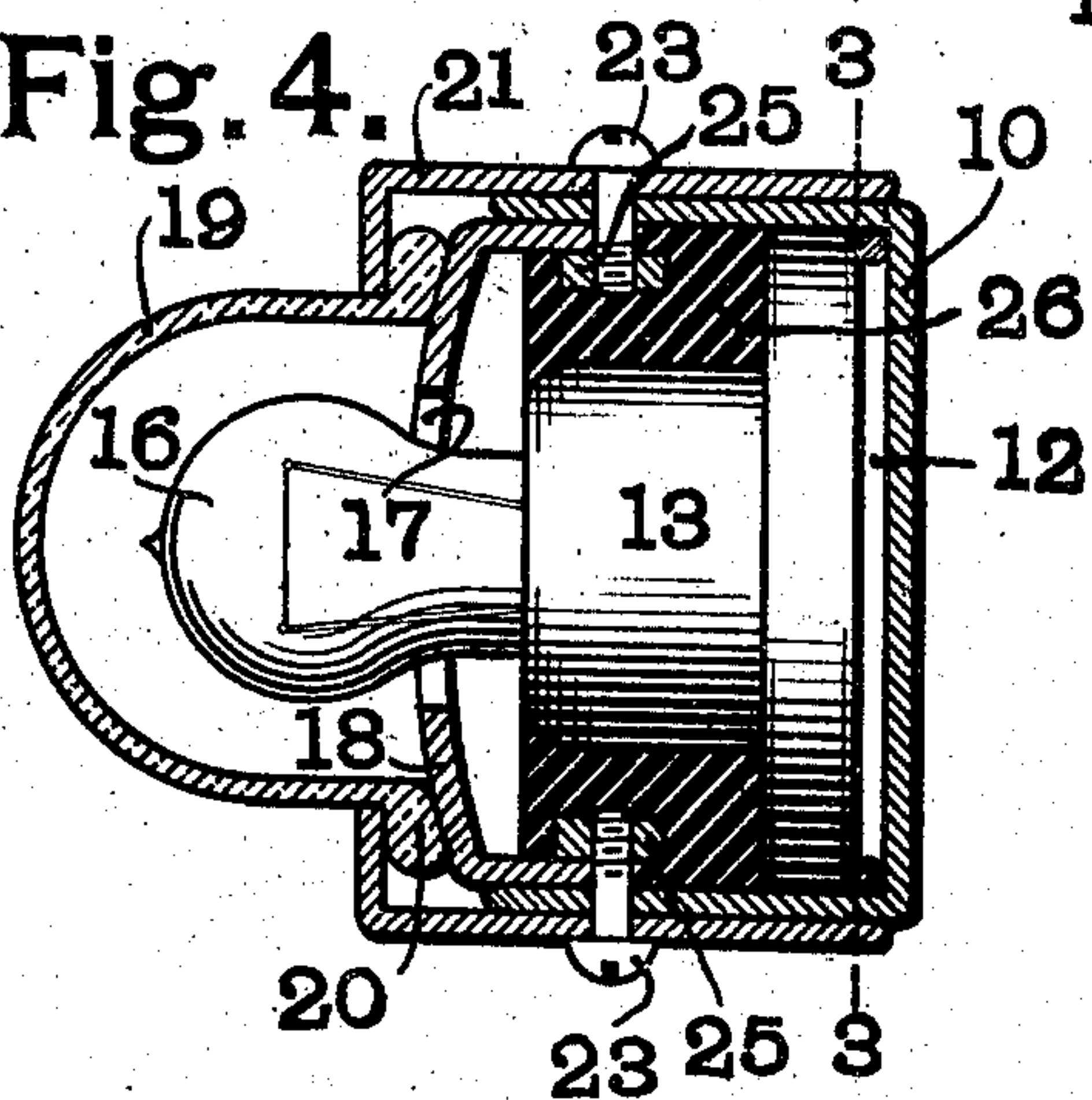
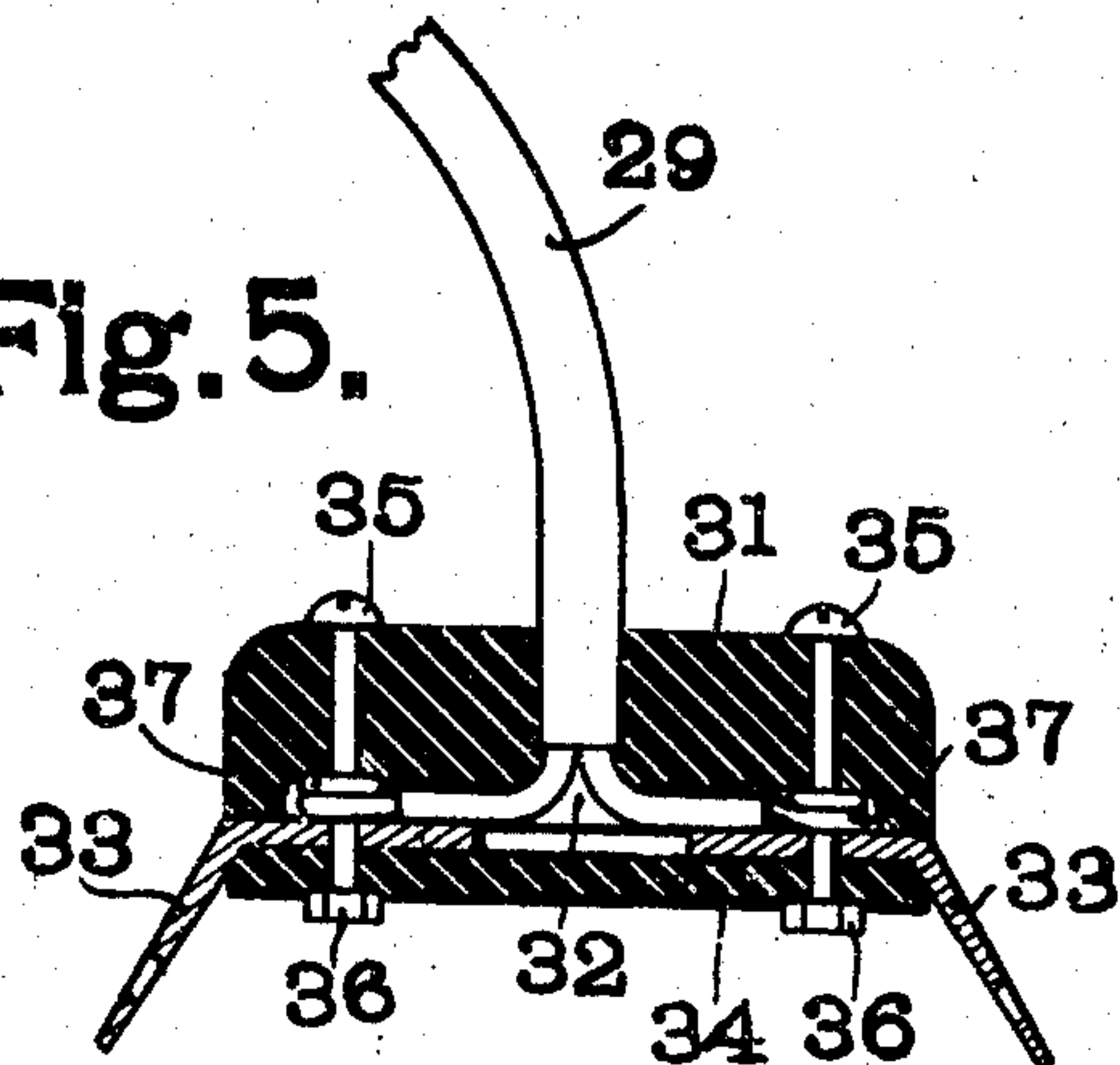


Fig. 5.



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UNITED STATES PATENT OFFICE.

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MINER'S LAMP.

996,675.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed March 7, 1910. Serial No. 547,831.

To all whom it may concern:

Be it known that we, GRANT I. RAWSON and LLEWELLYN B. SHULTZ, both citizens of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Miner's Lamp, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates to a miner's lamp and more particularly to an electrical lamp which may be used in lieu of the ordinary oil lamp usually carried by miners.

The object of our invention is to provide a lamp of the class above referred to which will be small and compact in form and simple and strong in construction.

In the accompanying drawings which illustrate one form of lamp made in accordance with our invention, Figure 1 is a side view of the complete lamp and attached battery clip; Fig. 2 is a sectional view of the lamp only, the parts being shown separated; Fig. 3 is a section on the line 3—3 of Fig. 4; Fig. 4 is a section on the line 4—4 of Fig. 1 and Fig. 5 is a sectional view of the battery clip.

Like marks of reference refer to similar parts in the several views of the drawings.

10 is a casing forming the body of the lamp. This casing 10 is cup-shaped in form and is preferably made of sheet metal.

11 is a wire hook similar to the hooks usually attached to miners' lamps and adapted to be inserted in the band of the wearer's cap. This hook 11 projects through the casing 10 near the bottom thereof and is provided on the interior of the casing with a loop 12. The wire of the hook 11 is formed of strong metal and the loop 12 is made slightly larger than the interior of the casing 10 so that the loop must be compressed to be inserted into the casing. By this means the loop 12 is held firmly against the sides of the casing 10 by its own elasticity. This loop 12 is clamped against the bottom of the casing 10 by means of a lamp socket 13. This socket 13 is of the usual form and is held in position by means of screw-headed bolts 14, and nuts 15. In this manner the hook 11 is firmly secured in po-

sition by the same means which secures the lamp socket 13. In the lamp socket 13 is a lamp 16. This lamp 16 projects through an opening 17 in an inner cap 18 which is placed in the interior in the casing 10, as best shown in Fig. 4.

The face of the cap 18 is curved, as best shown in Fig. 2, so that the said cap forms a convex reflector for the lamp so as to disperse the light from the lamp. Bearing against the face of the cap 18 is a substantially semi-spherical glass cover 19 for protecting the lamp 16 and also for diffusing the light from the said lamp. This cover 19 is provided with a flange 20 which is clamped between the inner cap 18 and an outer cap 21 adapted to slip over the casing 10, the cap 21 being provided with an opening 22 for the passage of the cover 19. The outer cap 21 is held in position on the casing 10 by means of screw-headed bolts 23 passing through openings 24 in the said cap and engaging with nuts 25 in the interior of the casing 10. These nuts are embedded in an insulating filling 26 surrounding the lamp socket 13. This filling 26 surrounding the lamp socket may be formed of asphaltum or any other suitable non-frangible material. The terminals 27 of the lamp socket 13 are secured to the strands 28 of a cable 29 forming the electrical connection from the battery to the lamp. This cable 29 is preferably secured to the hook 11 by means of a wrapping of tape 30 as shown in Fig. 1. The opposite end of the cable 29 passes through an insulating block 31 and the strands 28 thereof are divided and lie in a pocket 32 in the face of said block, as shown in Fig. 5.

33 are spring contacts for attaching the cable to the battery. These contacts are placed between the block 31 and a second insulating block 34 and the two blocks are secured together by means of screw-headed bolts 35 and nuts 36. The bolts 35 pass not only through the blocks 31 and 32 and the spring contacts 33 but also through loops 37 formed in the ends of the strands 28 so as to make good electrical contact between the ends of said strands and the said contacts. This construction also prevents injury to the strands of the cable 29 at the point where the strands are divided.

The operation of our lamp will be evident

from the above description. The lamp is supported in the miner's cap by means of the hoop 11 in the same manner as an ordinary oil lamp. By means of the spring contacts 33 the lamp may be attached to a suitable battery carried in the miner's pocket or in any convenient place about his person.

Having fully described our invention, what we claim as new and desire to secure by Letters Patent of the United States is:

1. In a miner's lamp, the combination with a casing, of a hook passing through said casing and provided with a loop situated within said casing, a lamp socket clamped against said loop, and a lamp in said socket.

2. In a miner's lamp, the combination with a casing, of a hook carried by said casing, a lamp socket in said casing, a lamp in said socket; an inner cap for said casing having an opening for said lamp, a flanged transparent cover for said lamp and an outer cap for said casing clamping the flange of said cover against said inner cap.

3. In a miner's lamp, the combination with a casing, of a hook carried by said casing, a lamp socket in said casing, a non-frangible insulating filling in said casing

and surrounding said socket, an inner cap for said casing having an opening for said lamp, a flanged transparent cover for said lamp, and an outer cap for said casing clamping the flange of said cover against said inner cap.

4. In a miner's lamp, the combination with a casing, of a hook passing through said casing and provided with a loop situated within said casing, a lamp socket clamped against said loop, a lamp in said socket, and a non-frangible insulating filling within said casing and surrounding said socket.

5. In a miner's lamp, the combination with a casing, of a hook passing through said casing and provided with a spring loop situated in said casing and held against the sides thereof by its elasticity, and a lamp carried by said casing.

In testimony whereof we have hereunto set our hands and affixed our seals in the presence of the two subscribing witnesses.

GRANT I. RAWSON. [L. S.]

L. B. SHULTZ. [L. S.]

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."