

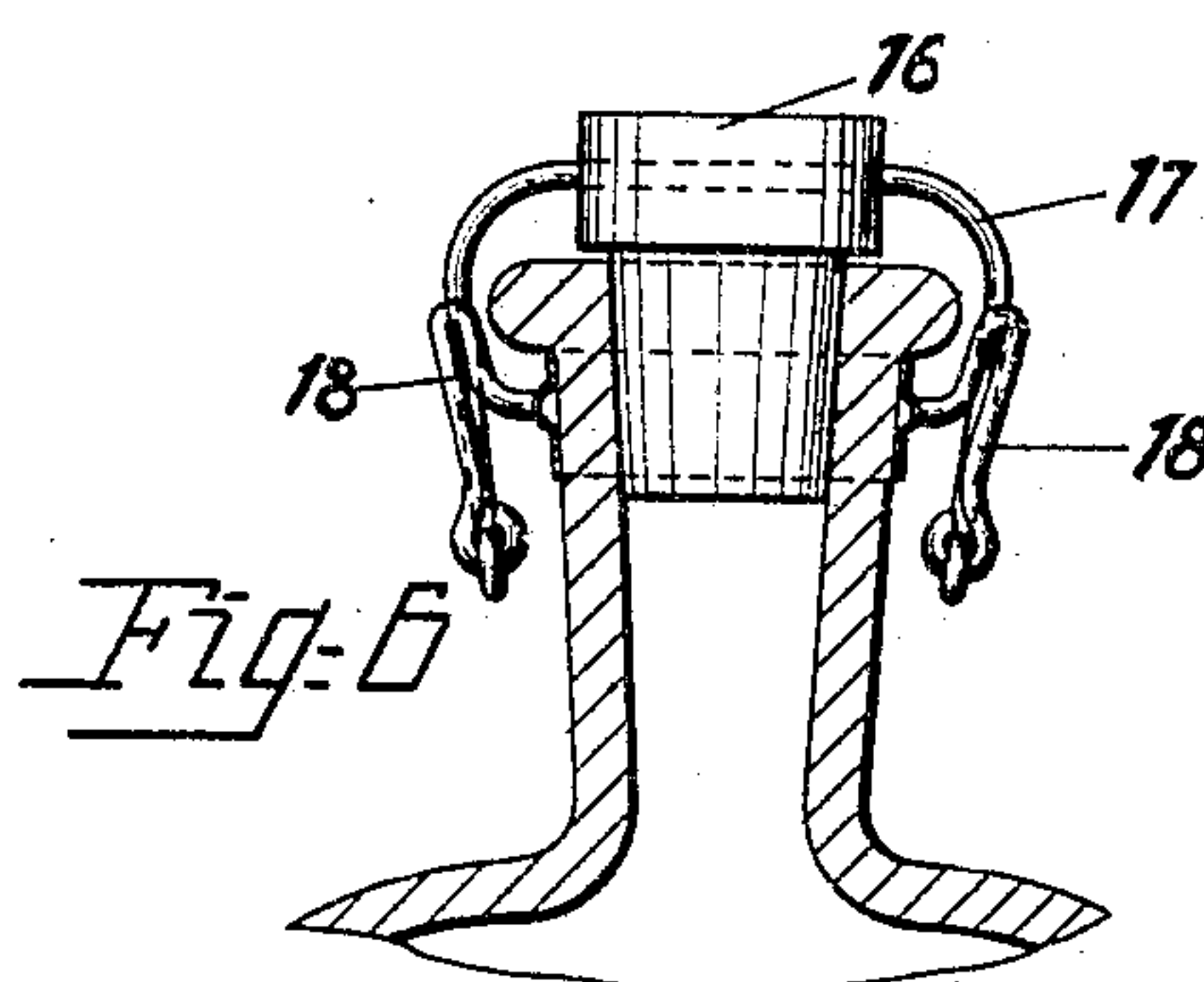
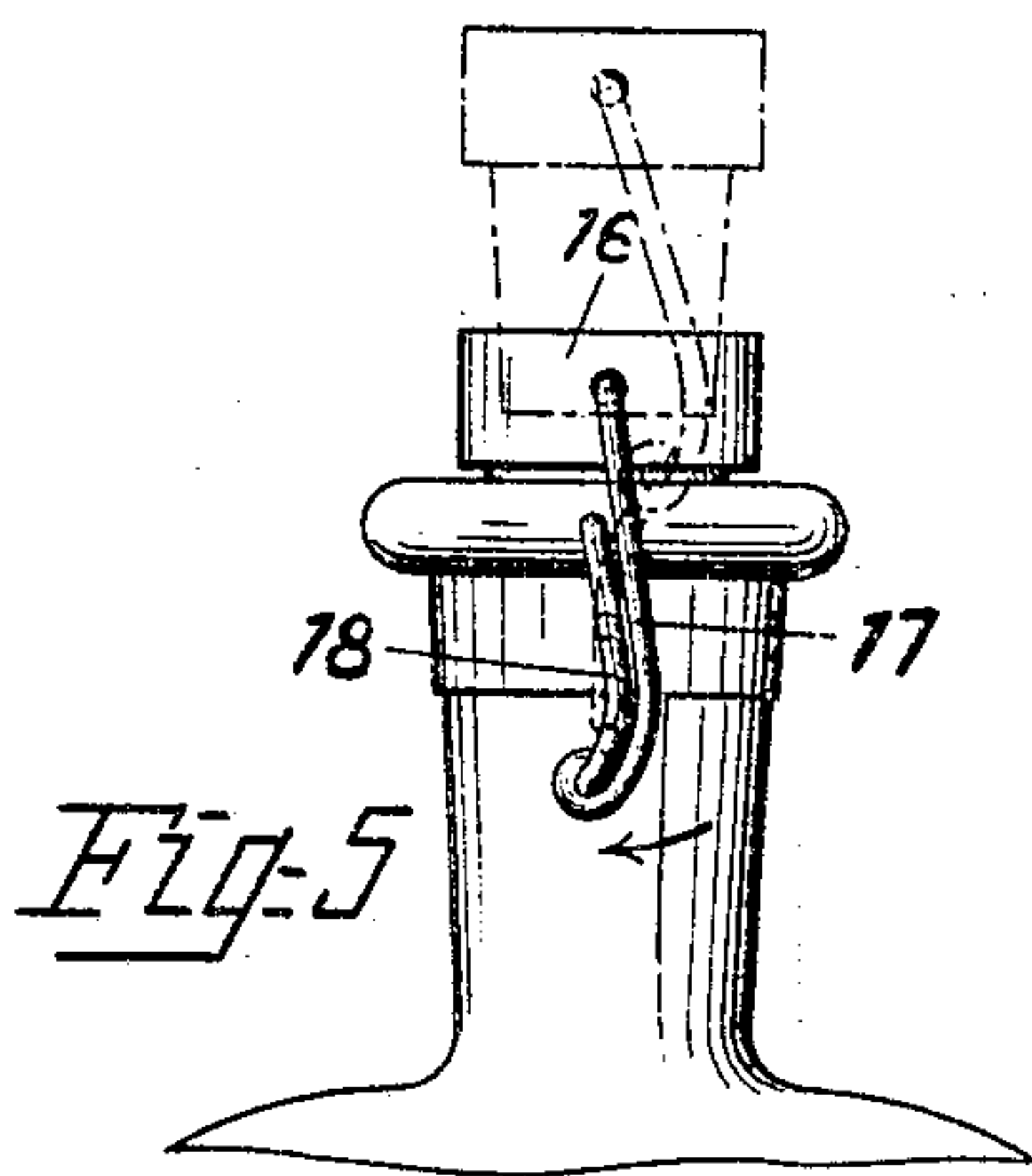
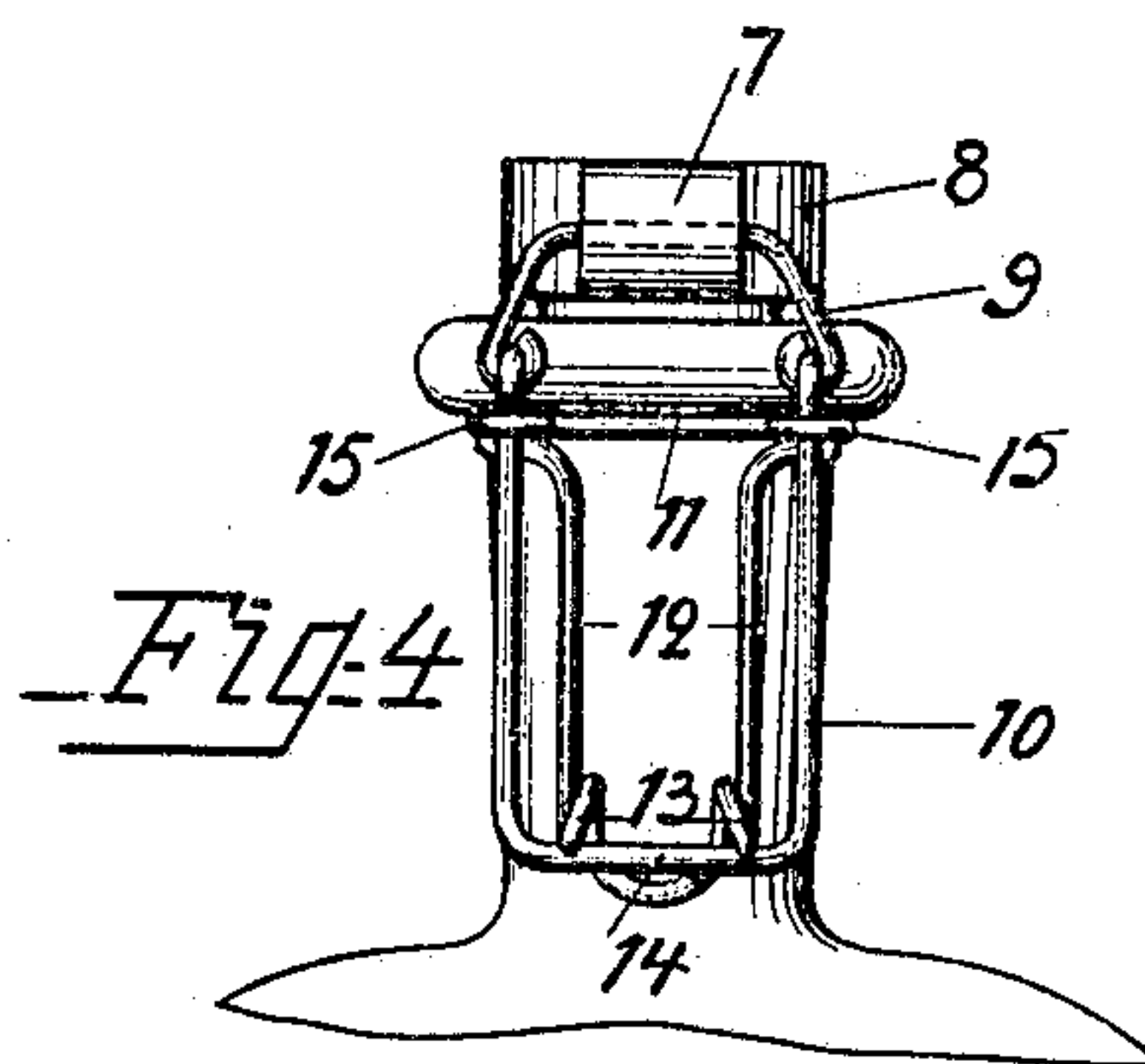
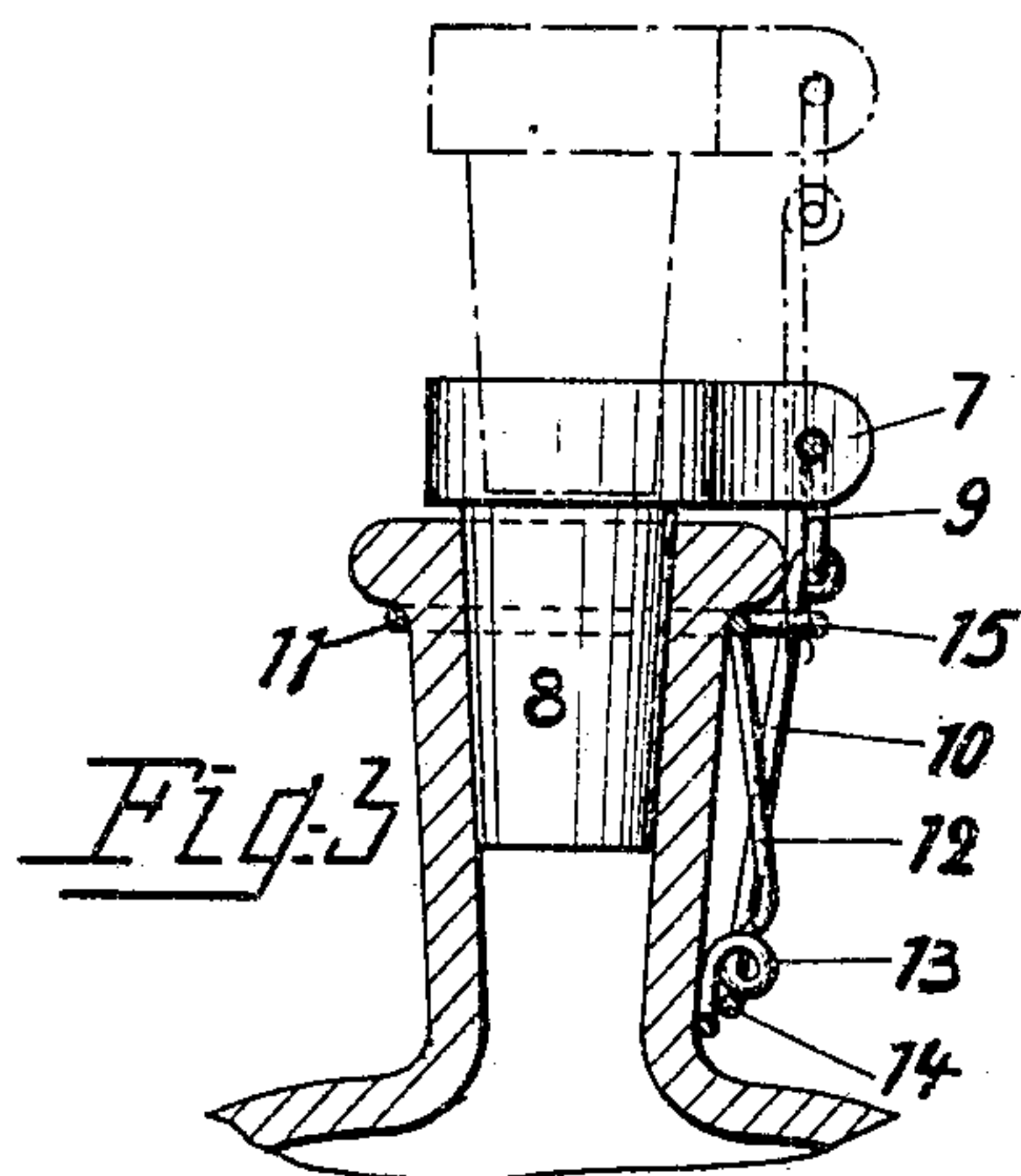
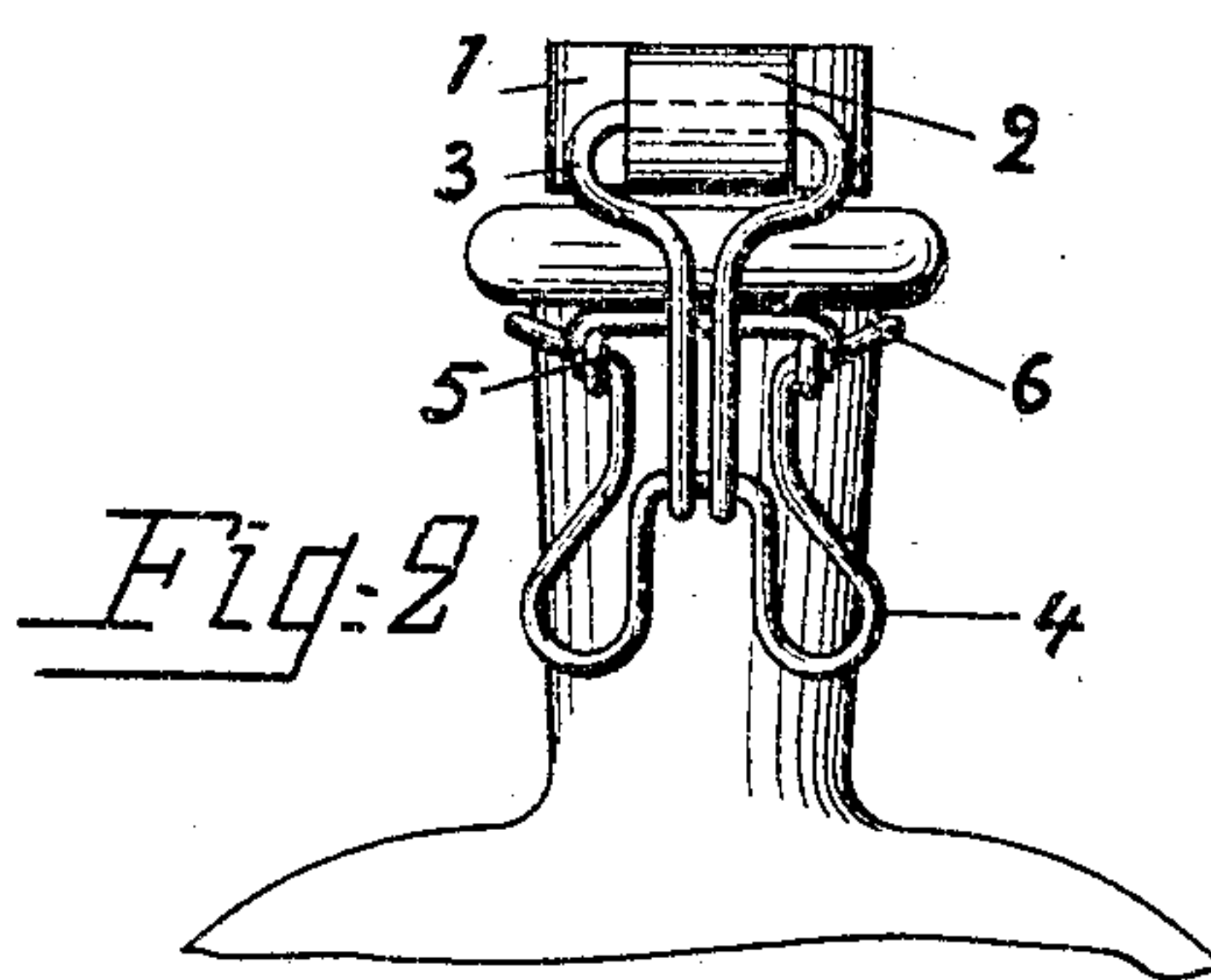
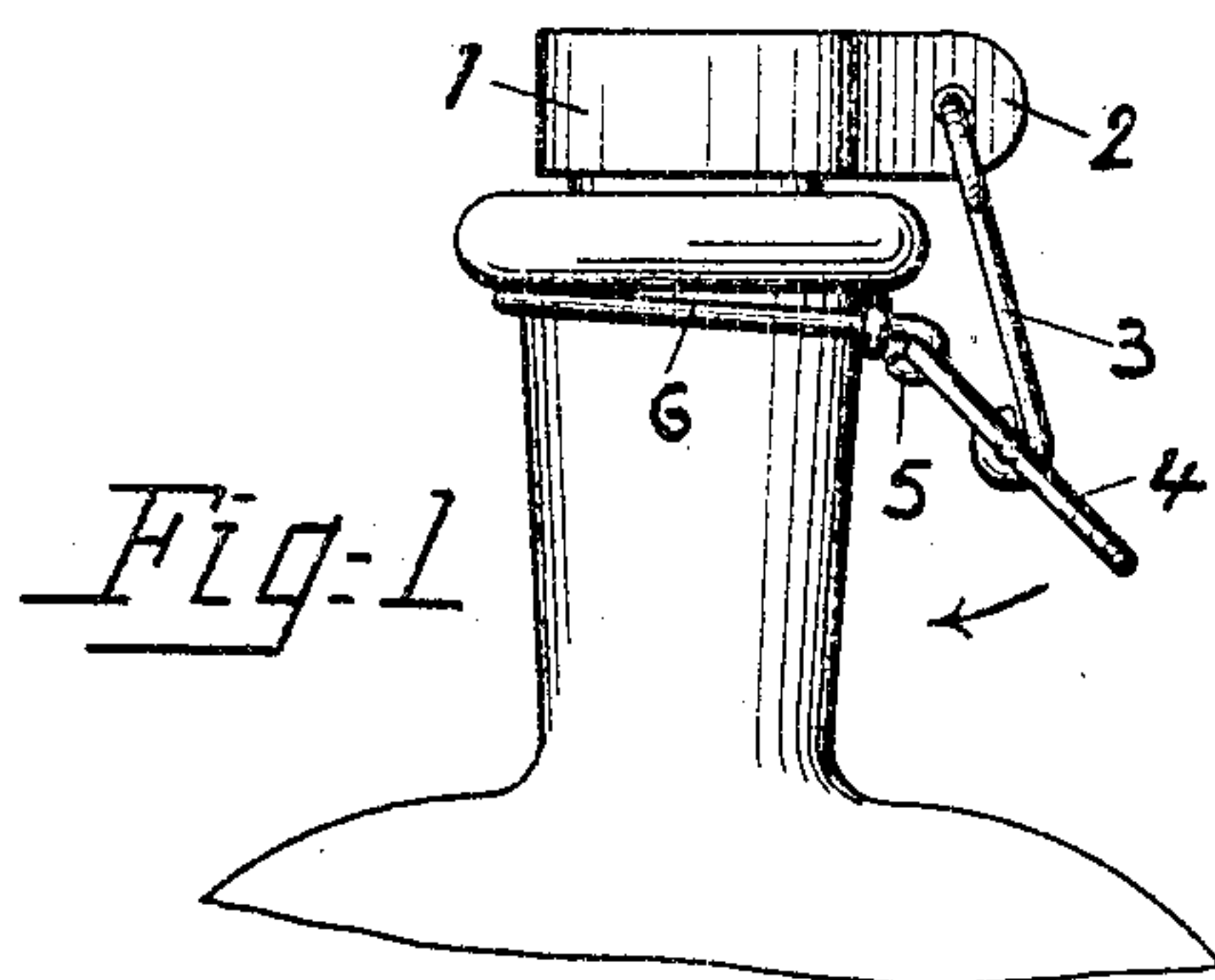
No. 788,128.

PATENTED APR. 25, 1905.

J. ANDERSSON.

BOTTLE OR OTHER VESSEL WITH GROUND STOPPER.

APPLICATION FILED JULY 14, 1904.



Attest
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UNITED STATES PATENT OFFICE.

JÖNS ANDERSSON, OF BRUNSHÖG, NEAR LUND, SWEDEN.

BOTTLE OR OTHER VESSEL WITH GROUND STOPPER.

SPECIFICATION forming part of Letters Patent No. 788,128, dated April 25, 1905.

Application filed July 14, 1904. Serial No. 216,597.

To all whom it may concern:

Be it known that I, JÖNS ANDERSSON, farmer, a subject of the King of Sweden and Norway, and a resident of Brunshög, near Lund, in the Kingdom of Sweden, have invented certain new and useful Improvements in Bottles or other Vessels with Ground Stoppers, of which the following is a specification, reference being made to the accompanying drawings.

As is well known, a stopper of glass or any other substance inserted in the neck of a bottle or any other vessel closes the vessel exceedingly well, while at the same time it is able to sit fast in the neck even if a certain amount of overpressure exists in the vessel; but on the transport of such a vessel it can happen, however, that the stopper comes loose in consequence of the shaking arising from the transport. In order to prevent this inconvenience, such stoppers are, according to this invention, combined with a device which keeps the stoppers immovably in their position in the necks of the vessels during transport. Another advantage conferred by this device for holding stoppers fast or securing them is that every stopper is permanently attached to its vessel, so that the stopper will always be used in that bottle (or other vessel) neck for which it was originally ground—an advantage which is not conferred by other devices for securing stoppers used in combination with ground stoppers.

The accompanying drawings show ground stoppers combined with devices for securing stoppers, which devices are different forms constructed in accordance with this invention.

Figures 1 and 2 show the one securing device, a bottle-neck to which the device is fastened, and the stopper placed in the neck of the bottle, seen from positions at right angles to each other. Fig. 3 shows a vertical section of another securing device made in accordance with this invention, as well as of the bottle-neck to which the device is attached, (the stopper is shown from the side,) while Fig. 4 shows this second device, the bottle-neck, and the stopper as seen from the side and from a position different to that in Fig.

3. Figs. 5 and 6 show a third securing device made in accordance with this invention as seen from two positions at right angles to each other. In Fig. 6 the bottle-neck is shown in section.

In a projection 2 on stopper 1, and thus lying out of the axial line of the stopper, is pivotally fastened a wire link 3, which is hinged to a lever 4, consisting of bent wire, said lever being, as before known, fastened to the bottle-neck, so as to be pivotally connected with the neck—for example, by means of a wire 6, stretched around the upper part of the bottle-neck and forming loops 5, in which the lever is journaled. The connection between the link 3 and the lever 4 is a permanent one, so that said parts are always united to each other, whether the stopper be in or out of the neck of the bottle.

In order to lock the stopper when it is in the neck of the bottle, so that it shall remain securely in the neck during transport, the lever 4 is pressed inward toward the bottle-neck, whereby a tension arises in the link 3. The lever will remain in its inward-pressed position, in which the stopper is secured in consequence of the tension just mentioned, because the link tends to turn the lever, whose line of connection with the link then lies within the plane which goes through the line of connection of the stopper and the link and through the line of connection of the lever and the loops 5 in the direction of the arrow in Fig. 1, but is prevented from doing so by the neck of the bottle. In Fig. 1 the lever is shown turned outward, so that the stopper can be taken out of the neck of the bottle.

In the form of the securing device shown in Figs. 3 and 4 a wire 9 is pivotally mounted in a projection 7 on the stopper 8, and the downward-directed ends of this wire are hinged to the upward-bent shanks of a U-shaped wire or bow 10. A wire 11 is stretched around the upper part of the bottle-neck. A part 12 of this wire is bent downward along the neck of the bottle and is then bent upward again to that part of the wire going round the neck. At the bottom of this U-formed part 12 of the wire 11 the part of the wire in question is bent in such a way that it

forms two loops 13, which, together with the middle part 14 of the bow 10, constitutes that part of the device which secures or locks the stopper, for the loops 13 have such a position that when the stopper which is inserted in the neck of the bottle is to be secured the middle part 14 can be pushed below and past the loops only on the arise of tension in the shanks of the bow, and this tension in the bow-shanks remains after the middle part has come into its locking position—that is to say, in the spaces between the loops and the lowest curved part of the wire 12—so that every tendency of the stopper to lift itself from its place in the neck of the bottle is counteracted by the bow.

In order to prevent the middle part 14 of the bow 10 from coming against the upper sides of the loops 13 when the stopper is being inserted into the neck of the bottle, and thus hindering this operation, the shanks of the U-formed wire 12 are bent outward from the neck of the bottle, as is shown by Fig. 3.

At the upper end of the U-formed wire 12 the wire 11 forms two loops 15, which serve as guides for the shanks of the bow 10 and which also prevent the bow from separating itself from the wire going round the bottle-neck, so that the stopper always remains attached to the bottle.

It is evident that the device shown in Figs. 3 and 4 can be modified, while still retaining its characteristic features. Thus, for example, the loops 13 can be replaced by projections (or one projection) or some similar arrangement placed on the neck of the bottle or vessel.

In the form of the securing device shown in Figs. 5 and 6 a wire bow 17 is, as before known, pivotally mounted in the stopper, and at two diametrically opposite places on the neck of the bottle are pivotally attached, by means of a strip of sheet-iron stretched round the neck of the bottle or by some such means, two arms of recurved wires 18, independent of each other, one end of each of which is hinged to the corresponding free end of the shanks of the bow.

In order to lock the stopper which has been

inserted in the bottle-neck so that it shall remain there securely during the transport of the bottle, the arms 18 are turned in the direction of the arrow shown in Fig. 5 to the position shown in the figure just mentioned. A tension thereby arises in the shanks of the bow, and the stopper is consequently held securely in the neck of the bottle. The device will remain in this position in consequence of the tendency of the bow-shanks to turn the arms 18 in the direction indicated by the arrow in Fig. 5. This the shanks cannot do, as they are themselves in the way of the arms.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a bottle, of a glass stopper having a portion projecting to the outside of the neck and a part rigid with said projecting portion extending laterally therefrom, a link pivotally connected to said laterally-extending part, a locking member pivotally connected to the bottle-neck, and a connection between said locking member and the lower end of the link, substantially as described.

2. The combination with a bottle, of a glass stopper having a portion projecting upon the outside of the neck and a part rigid therewith extending laterally from said projecting portion, a link pivotally connected to said laterally-extending part, a locking member connected to the bottle-neck, and engaging parts on said member and link for locking the stopper in place, substantially as described.

3. The combination with a bottle, of a stopper of vitreous material having a head provided with a rigid lug extending beyond the edge of the neck, a link permanently connected at one end to the lug, a locking member secured to the bottle-neck, and a connection between the lower end of the link and said member, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JÖNS ANDERSSON.

Witnesses:

CARL TH. SUNDHOLM,
ELLS. GÖTHE.