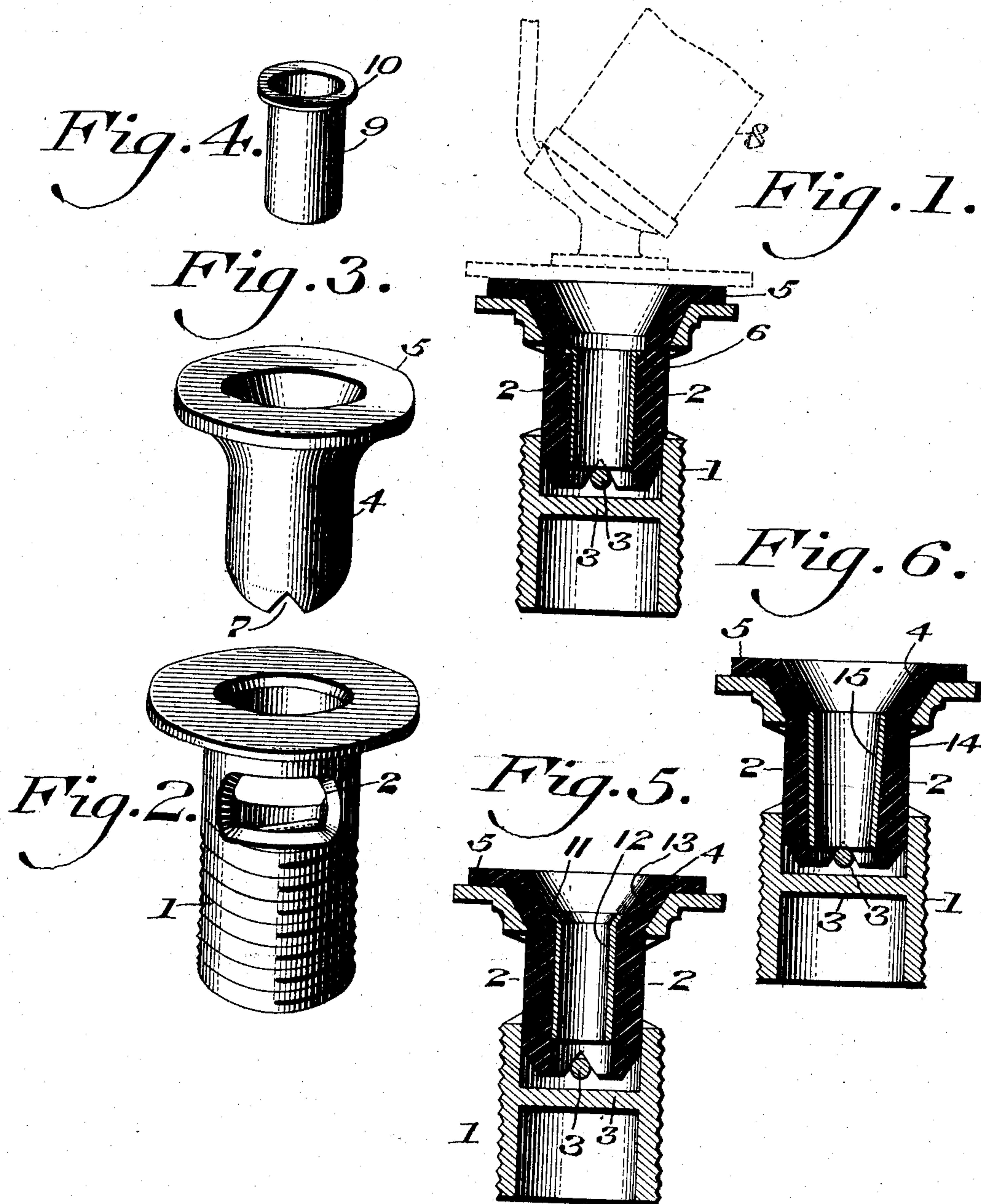


E. NOPPEL.
OVERFLOW STOP FOR LIFT AND FORCE PUMPS.
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UNITED STATES PATENT OFFICE.

EMIL NOPPEL, OF PHILADELPHIA, PENNSYLVANIA.

OVERFLOW-STOP FOR LIFT AND FORCE PUMPS.

No. 905,567.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EMIL NOPPEL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Overflow-Stop for Lift and Force Pumps, of which the following is a specification.

My invention relates to a new and useful overflow stop for lift and force pumps and consists in providing means for preventing the air from reaching the overflow in a sink, basin, etc., whereby the action of the pump will be positively directed to the drain pipe.

It further consists in preventing the collapse of the said stop.

It further consists of other novel details of construction, all as will be hereinafter fully set forth.

Figure 1 represents a sectional view of a drain outlet with the overflow stop in position and showing a portion of a lift and force pump in dotted lines. Fig. 2 represents a perspective view of the drain outlet. Fig. 3 represents a perspective view of a portion of the overflow stop. Fig. 4 represents a perspective view of the sleeve removed from the stop. Figs. 5 and 6 represent sectional views showing forms of overflow stops which may be employed.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings: I have found in practice that in lift and force pumps such as is shown and described in my patent granted April 3, 1900, No. 646,668, that it is necessary to prevent the air from the pump from reaching the overflow outlet of the sink, basin, etc. and in the drawings I have shown a construction for this purpose, but it will be evident that other instrumentalities may be employed and the arrangement of the parts may be varied and I do not therefore, desire to be limited in every instance to the exact construction herein shown and described but wish to make such changes as may be necessary and which will come within the scope of my invention.

1 designates one form of drain outlet used in sinks, basins, etc., which is provided with openings 2 in the sides thereof which lead to the overflow of the sink, basin, etc. and which is provided with the bars or stop 3 or other suitable means for preventing solid bodies from entering the drain.

4 designates the overflow stop which is preferably formed with a body portion of

rubber or other resilient material, having the flange 5 at its upper end and provided on the interior with a shoulder 6, it being understood that said stop is formed of a suitable size to enter the drain outlet a suitable distance in order to close the openings 2 and that the flange 5 is adapted to be seated upon the upper wall of the drain outlet 1, as will be seen in Figs. 1, 5 and 6.

In the lower portion of the stop I provide the recesses 7 which are adapted, should occasion arise, to seat one of the cross bars 3 should the said stop enter the drain outlet a sufficient distance therefor, these recesses being provided as the said bars 3 are sometimes situated at different points, in the drain outlet and by this means I provide a stop which will accommodate itself to the various drain outlets. By inserting the overflow stop in the drain outlet and applying the pump as 8, it will be seen that the same holds the stop in suitable position and the air from the pump passes through the bore of the stop and is directed to the drain.

When the pump is used as a force pump, the air therefrom tends to force the walls of the stop against the walls of the drain outlet in a suitable manner but I have found that when the pump is used as a lift pump in some instances the walls of the stop will tend to collapse or be removed from the walls of the drain outlet 1, thus permitting the air to enter the recesses 2 from the drain outlet. In order to overcome this I provide the sleeve 9 which is preferably formed of metal and which is provided with a flange 10 which is adapted to seat upon the shoulder 6, said sleeve thus preventing the collapse of the overflow stop in all instances and I preferably employ the sleeve 9 at all times and form the same of such size with respect to the bore of the stop that it will be securely and firmly held preferably by friction, in position when inserted in said stop.

As shown in Fig. 5 I may dispense with the shoulder 6 and form the flange 11 on the sleeve 12 slightly inclined in order to engage with the inclined wall 13 of the stop 4 to prevent displacement of said sleeve.

In the construction shown in Fig. 6 I have dispensed with the shoulder 6 and the flange 10 on the sleeve 9 and have formed the inner wall of the stop 4 tapered as at 14 and I have formed a tapered sleeve 15 to be inserted in said bore, it being seen that in this manner the said sleeve 15 will be firmly and securely

held in position in the stop 4 in a similar manner to that already described.

In the drawings I have shown the stop and sleeve as formed separately from the pump so
5 that the said stop can be inserted in the drain outlet before the pump is placed in position but if desired or necessary, I may attach the stop directly to the pump in any
10 suitable manner so that when the pump is placed in position the stop 4 will be in a suitable position within the drain outlet 1.

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

15 1. In a device of the character described, a stop formed of resilient material having an unobstructed bore and a solid wall and adapted to be inserted in a drain outlet, to close the overflow openings in said drain out-
20 let in all positions of said stop.

2. In an overflow stop, a body formed of resilient material having a bore therethrough, a flange on said body, and recesses in the lower portion of said body.

25 3. In a device of the character described, a hollow body formed of resilient material and adapted to be inserted in a drain outlet, a flange thereon, recesses in the lower wall thereof, and means carried by said body for
30 preventing the collapse thereof.

4. In a device of the character described, a body formed of resilient material adapted to be inserted in a drain outlet, to close the overflow openings therein, a flange on said body, recesses on the lower portion of said
55 body and a sleeve carried by said body for stiffening and strengthening the same.

5. In an overflow stop for lift and force pumps, a resilient body adapted to be inserted in a drain outlet, and means carried
40 by said body for stiffening the same.

6. In an overflow stop for lift and force pumps, a resilient body adapted to be inserted in a drain outlet, and a sleeve suitably carried by said body for stiffening the
45 same.

7. In a stop for lift and force pumps, a resilient hollow body, a flange thereon, a shoulder in said body, a sleeve seated in the bore of said body and a flange on said sleeve
50 abutting said shoulder.

8. In an overflow stop for lift and force pumps, a resilient body, a sleeve suitably carried by said body for stiffening the same, and a flange on said sleeve for preventing
55 improper entrance of said sleeve in said body.

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