Feb. 28, 1939. A. L. CONE 2,148,535

REMOVABLE TIP FOR FIRE NOZZLES

Filed April 16, 1937

Fig. 1.

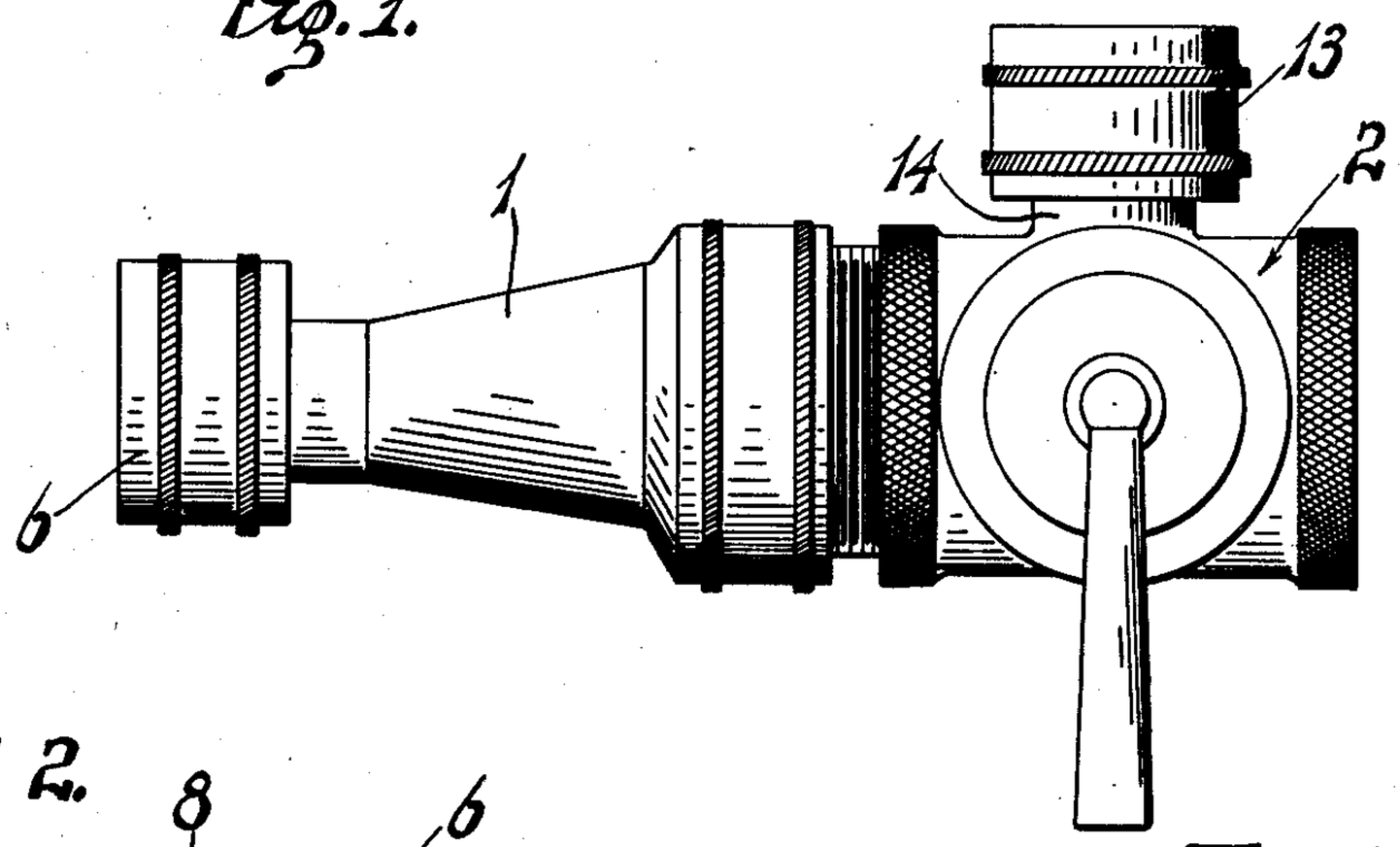


Fig. 2.

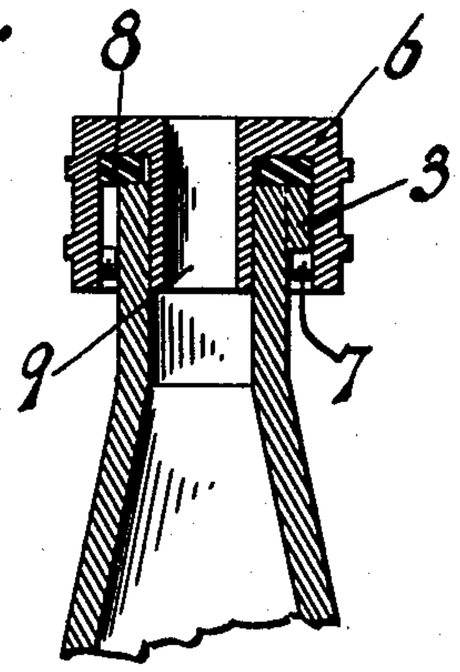


Fig. 5.

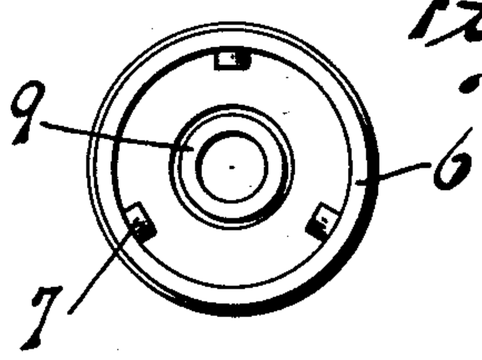


Fig. 6.

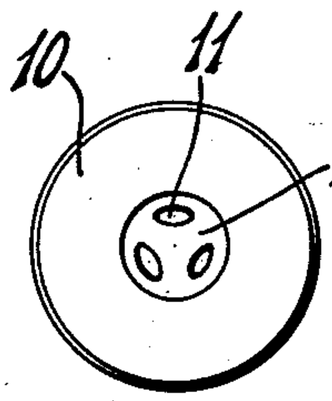


Fig. 3.

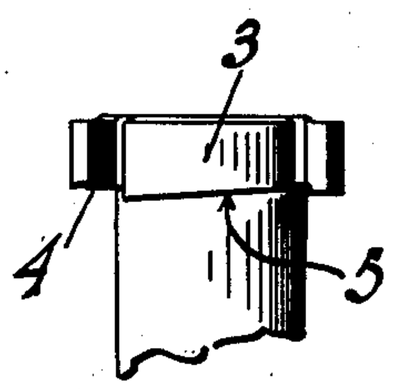
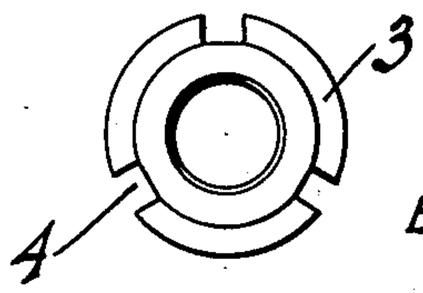


Fig. 4.



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REMOVABLE TIP FOR FIRE NOZZLES

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Application April 16, 1937, Serial No. 137,272

4 Claims. (Cl. 299—137)

This invention relates to a removable tip for nozzles and particularly for fire nozzles, whereby the stream of water thrown by the nozzle can be changed in character to suit various conditions.

An object of my invention is to provide a removable tip for nozzles which can be quickly and easily attached or detached from the nozzle. When the tip is in position it will be securely held on the nozzle against the water pressure passing therethrough.

Another object is to provide a novel nozzle tip construction including a tube which extends into the end of the nozzle, thereby reducing the diameter of the water stream.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claims.

In the drawing

Figure 1 is a side elevation of a fire nozzle with a tip mounted on the end thereof.

Figure 2 is a fragmentary horizontal sectional view of the removable tip and the nozzle.

Figure 3 is a fragmentary side elevation of the discharge end of the nozzle.

Figure 4 is a plan view of the discharge end of the nozzle.

Figure 5 is an end elevation of a removable tip.

Figure 6 is an end elevation of a removable tip illustrating a different type orifice.

Referring more particularly to the drawing, the numeral 1, indicates a nozzle preferably a fire nozzle, the construction of which is usual and well known. A control valve 2, screws into the nozzle 1, and the construction and arrangement of this valve is also usual and well known. At the outer end of the nozzle 1, I provide a flange 3, through which a plurality of slots 4 are cut. The inner face 5, of the flange is tapered between adjacent slots 4, the purpose of which will be further described.

The removable tip 6 is larger in inside diameter than the outside diameter of the nozzle. A plurality of pins 7, project inwardly from the tip 6 and are positioned adjacent the lower end thereof. The number of pins 7, correspond to the number of grooves or slots 4. In mounting the tip on the nozzle, the pins 7 are passed through the co-acting slots 4 and the tip is then rotated relative to the nozzle. The pins 7 engage the inclined or cam surfaces 5, thereby drawing the nozzle tip tightly against the end of the nozzle. A suitable, yieldable packing 8 is arranged inside of the tip 6 and this packing bears against the end of the nozzle as shown in Figure 2, thereby preventing water leakage. A sleeve 9 is integrally formed with the tip 6 and this sleeve accurately fits the bore of the nozzle. The discharge orifice of the nozzle will thus be reduced in diameter by an amount corresponding to the thickness of the wall of the sleeve 9. The sleeve 9 also performs the function of providing a smooth and undisturbed stream of water, due to the fact that there are no abrupt shoulders immediately adjacent to the discharge point of the water and therefore a smooth stream will be emitted. If it is desired to provide a spray, a tip 10 is mounted on the nozzle and this tip is provided with a plurality of inwardly inclined openings 11, the openings being provided in a concavity 12. Additional tips 13 are carried on a boss 14, which boss projects from the valve body 2.

Having described my invention, I claim:

1. A tip and nozzle comprising a flange at the discharge end of the nozzle, said flange having a plurality of transverse slots therein, the rear face of said flange being tapered between adjacent slots, a removable tip, a plurality of pins projecting inwardly from the tip, said pins being adapted to bear against the inclined surfaces of the flange, and a packing ring in the tip, said packing ring bearing against the outer end of the nozzle, and a sleeve on the tip, said sleeve extending into the bore of the nozzle, said sleeve being of lesser diameter than the tip.

2. A tip and nozzle comprising a flange at the discharge end of the nozzle, said flange having a plurality of transverse slots therein, the rear face of said flange being tapered between adjacent slots, a removable tip, a plurality of pins projecting inwardly from the tip, said pins being adapted to bear against the inclined surfaces of the flange, and a packing ring in the tip, said packing ring bearing against the outer end of the nozzle, and a sleeve integrally formed on the tip, said sleeve accurately fitting the bore of the nozzle and projecting into the bore, said sleeve being of lesser diameter than the tip.

3. A tip and nozzle comprising a flange at the discharge end of the nozzle, said flange having a plurality of transverse slots therein, the rear face of said flange being tapered between adjacent slots, a removable tip, a plurality of pins projecting inwardly from the outer wall of the tip, said pins being adapted to bear against the inclined surfaces of the flange, a packing ring in the tip bearing against the outer end of the nozzle, a sleeve on the tip, said sleeve forming the outlet for the water, said sleeve and the outer wall of the tip being annularly arranged, and

said sleeve extending into the bore of the nozzle.

4. A tip and nozzle comprising a flange at the discharge end of the nozzle, said flange having a plurality of transverse slots therein, the rear face of said flange being tapered between adjacent slots, a removable tip, a plurality of pins projecting inwardly from the outer wall of the tip, said pins being adapted to bear against the inclined surfaces of the flange, a packing ring in the tip bearing against the outer end of the nozzle, a sleeve integrally formed on the tip, said sleeve forming the outlet for the water, said sleeve and the outer wall of the tip being annularly arranged, and said sleeve extending into the bore of the nozzle.

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