J. G. GLADDING.

HOSE NOZZLE.

APPLICATION FILED JULY 15, 1914.

1,203,607. Patented Nov. 7, 1916.

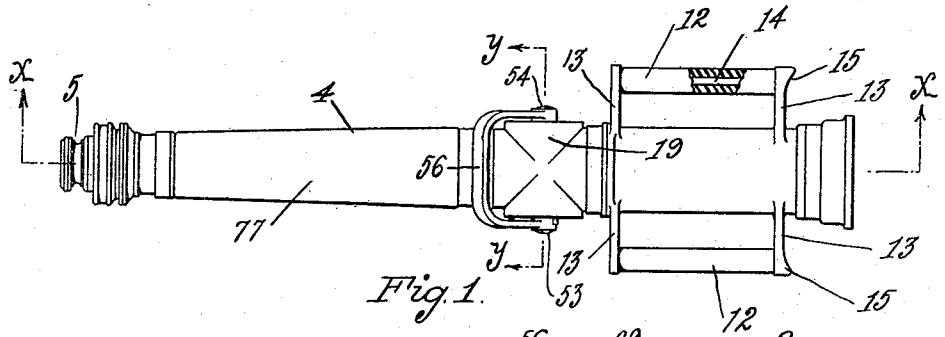


Fig. 1.

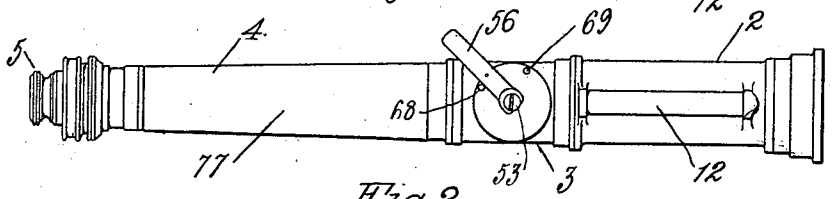


Fig. 2.

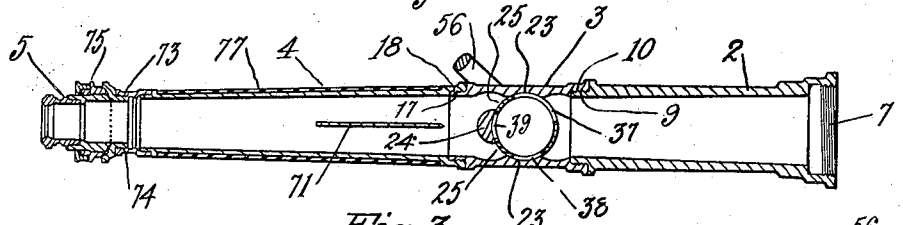


Fig. 3

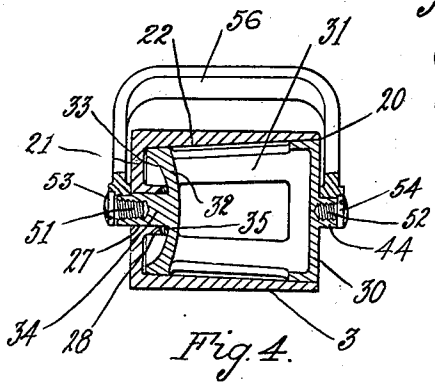


Fig. 4.

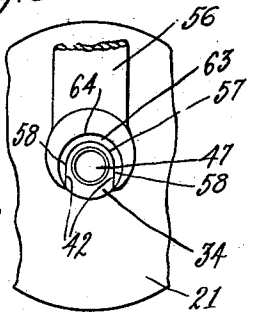


Fig. 5

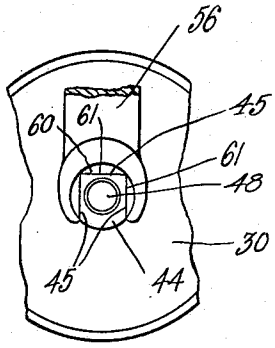


Fig. 6.

Witnesses.
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THE NORR'S PETERS CO., PHOTO LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JESSE G. GLADDING, OF PROVIDENCE, RHODE ISLAND.

HOSE-NOZZLE.

1,203,607. Specification of Letters Patent. Patented Nov. 7, 1916.

Application filed July 15, 1914. Serial No. 851,188.

To all whom it may concern:

Be it known that I, JESSE G. GLADDING, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Hose-Nozzles, of which the following is a specification.

My invention relates to fire hose nozzles, and has for its essential objects facile holding, especially under heavy pressures, the prevention of recoil; the avoidance of pinching by the bail; the compensation of wear upon the valve to prevent leaking; the dispensing with a spanner wrench in coupling the hose; the provision of self-supporting means for the structure; the protection of the operator against electrical currents; and the absolute control of the stream at all times.

To the above ends essentially my invention consists in the parts and combination of parts herein set forth and forming the subject matter of the appended claims.

In the accompanying drawings which form a part of this specification, Figures 1 and 2 are plan and side elevations respectively of my novel nozzle, a portion of a handle being shown broken away, Figs. 3 and 4, sections on lines x, x, and y, y, respectively of Fig. 1, Fig. 5 an enlarged elevation of one side of the valve section, the attaching screw being omitted, Fig. 6 a like elevation of the other side of the valve section. Like reference characters indicate like parts throughout the views.

My nozzle in its preferred form of embodiment consists of a body comprising a base pipe 2, a valve section 3, and end section 4. Upon the end of the last mentioned section is a nozzle head 5.

The base pipe has upon one end interior attaching threads 7 for engagement with a hose coupling, and upon its other end external threads 9 adapted to engage interior threads 10 upon one end of the member 3. Upon opposite sides of the base pipe or section are lateral handles comprising insulating tubes 12, arms 13 integral with the pipe, connected at their outer ends by rods 14 carrying preferably loosely the tubes 12. The outer of each of the two arms 13 have at their ends inclined projections 15, by means of which the structure may become hooked or engaged with a ladder round, window sill, or other projection.

The intermediate section 3 is provided at its upper end with external threads 17 adapted to engage internal threads 18 upon the inner end of the section 4. The member 3 is, intermediate its length, transversely cylindrical in shape, as at 19; being provided at one side with a circular opening 20, and having a flat side wall 21 opposite the opening. The portion 19 has a frusto-conical bore 22 transversely of the section extending from the wall 21 to the opening 20 forming a frusto-conical seat comprising the opposite operating faces 23, and a transversely disposed web portion or operating face 24. At each side of the latter member are the ports 25 opening in toward the section 4. The wall 21 has a central opening 27 extending through an internal boss forming a resultant internal annular shoulder or seat 28 around the opening. Rotatably mounted in the portion 19 is a hollow frusto-conical plug valve comprising an exposed end wall 30; inclined side wall 31 and an inclosed end wall 32 having an annular concave exterior face 33 around a central end projection 34. A packing ring 35 surrounds the base of the latter upon the face 33, and bears against the seat 28. The valve has in its wall 31 three ports 37, 38, and 39, adapted to coöperate with the section 2 and with the ports 25. The projection 34 is journaled in the opening 27, and has squared or plane opposite lateral faces 42 upon its end portion. Integral with the wall 30 is a centrally disposed projection 44, also provided with plane or squared side faces 45. The projections 34 and 44 have respectively threaded openings 47 and 48 longitudinally disposed, and in which are located respectively an adjusting screw 51 and a screw 52, having heads 53 and 54 respectively. A bail 56 is provided having in one end a marginal recess 57 having plane side faces 58 to closely engage the faces 42 of the projection 47, and thus turn the valve when the bail is vibrated. The opposite end of the bail also is provided with a marginal recess 60 having plane side faces 61 adapted to register in contact with the faces 45.

The first mentioned end of the bail has a curved recess 63 at the margin of the recess 57, but of greater diameter forming a depressed seat or shoulder 64 for the screw head 53 to bear upon. As the end of the projection 34 does not extend quite to the plane of the shoulder 64, by turning the

screw 51, the face 33 and its ring 35 is brought toward the seat 28, thus compensating for wear upon the operating faces of the valve and seat and preventing leaking. The second mentioned bail end has a curved recess 60 to form a seat for the screw head 54. The bail, therefore, acts to vibrate the valve for opening and closing purposes, also permits transverse adjustment of the same, and is adapted to facilitate the assemblage and removal of the valve. Upon the margin of the exterior of the wall 21 are spaced lugs or pins 68 and 69 which form stops for the bail. The upper stop 68 is so positioned relatively to the valve that when the bail rests thereagainst the valve is in closed position, as shown in Fig. 3. This is advantageous because the discharge end of the nozzle is naturally depending while the operator descends a ladder, and by gravity the bail then naturally falls against the pin 68 into shut off position.

In the interior of the section 4 is fixed the separating plate 71. The forward end of the section 4 has internal threads 73 engaging the external threads 74 of the nozzle head 75 of any usual or preferred construction. A coating or tube 77 of rubber or other insulating material is fixed to the exterior of the section 4, and protects the hand of the operator from electric shocks.

It will be noted that by the arrangement of the projections 15 upon the lower portions of the handles, and by making them a constituent part thereof, they are practically inexpensive to form, are most effective in use and not liable to tear the hands of the operator as would be the case were the usual pointed hooks employed.

What I claim is,—

1. In a hose nozzle, the combination of a body provided with a large circular opening in its side, and with a small circular opening in its side opposite the large opening, a valve seat transversely disposed in the body extending to the large opening, a valve rotatably mounted in the seat extending to the large opening, a projection upon one end of the valve, a projection upon the opposite end of the valve extending through the small opening, each of said projections being provided with flat side faces, and with threaded openings, a bail provided with recesses having flat sides adapted to receive the flat faces of the projections, screws in the threaded openings, and heads on the screws engaging the bail.

2. In a hose nozzle, the combination of a body provided with a large circular opening in its side, and with a small circular opening in its side opposite the large opening, a transversely disposed frusto-conical valve seat in the body extending to the opening, an annular inwardly directed seat upon the side of the body concentric with the first mentioned seat and concentric with the small opening, a valve comprising an inclined side registering with the conical valve seat, an end wall bearing against the annular seat, a projection upon the first mentioned end wall, a projection upon the other end wall extending through the smaller opening, each of said projections being provided with flat side faces, and with threaded openings, a bail provided with recesses having flat sides adapted to receive the flat faces of the projections, cavities in the bail adjacent said recesses, screws in the threaded openings, and heads upon the screws registering in the cavities.

3. In a hose nozzle, the combination of a body provided with a frusto-conical valve seat, a frusto-conical valve mounted in said seat and having an exposed outer end wall and an inclosed inner end wall, said valve having coaxial projections, said projections being provided with longitudinally disposed threaded openings, an operating bail having bifurcated ends non-revolubly mounted on said projections, and adjusting means coöperating with said threaded openings.

In testimony whereof I have affixed my signature in presence of two witnesses.

JESSE G. GLADDING.

Witnesses:
CHARLES S. JENCKES,
HORATIO E. BELLOWS.

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