W. B. STREBIG.

PLAY PIPE PRESSURE EQUALIZER.

APPLICATION FILED MAR. 17, 1911.

1,048,004. Patented Dec. 24, 1912.

Fig. 1.

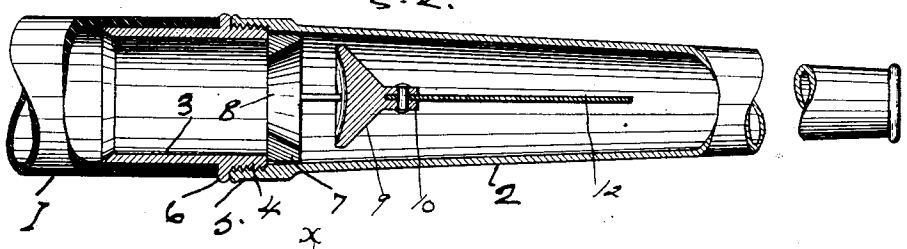


Fig. 2.

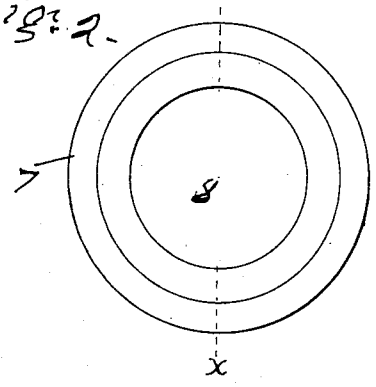


Fig. 3.

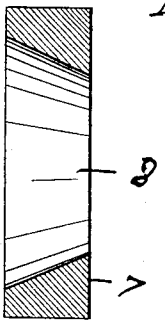


Fig. 4.

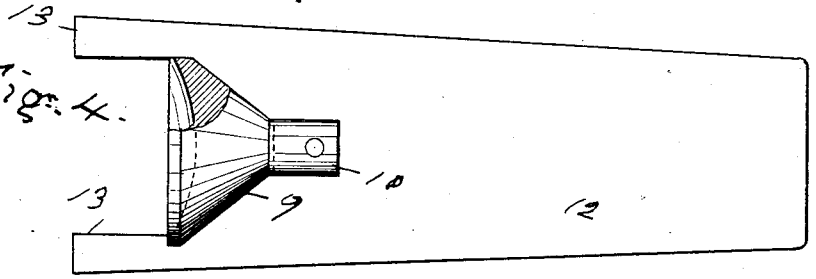
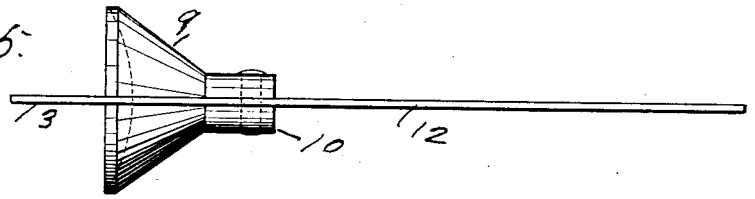


Fig. 5.



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PLAY-PIPE PRESSURE-EQUALIZER.

1,048,004. Specification of Letters Patent. Patented Dec. 24, 1912.

Application filed March 17, 1911. Serial No. 615,026.

To all whom it may concern:

Be it known that I, WILLIAM B. STREBIG, a citizen of the United States, residing at Fort Wayne, in the county of Allen, in the State of Indiana, have invented certain new and useful Improvements in Play-Pipe Pressure-Equalizers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings which form part of this specification.

My invention relates to improvements in play pipe pressure equalizers.

It is well known that in fighting fires the firemen who hold the play pipe nozzle are often required to stand upon ladders in an elevated position, and upon narrow walls and other insecure positions; that the water pressure through the hose nozzle is invariably so great that it requires several men to hold the nozzle in order to control the unequal lateral pressure therein which causes a violent movement of the hose in unexpected directions, thereby interfering with the proper application of the stream to the point desired and also endangering safety of the men by the violent and eccentric movement of the nozzle.

The object, therefore, of my invention is to provide a cheap, simple and efficient means for so controlling this unequal pressure of the water within the nozzle as to enable a single operator to readily and conveniently handle the same in use, and so constructed as to be readily adjusted or removed from an ordinary play pipe nozzle without any change of construction thereof so that the same nozzle can be employed with equal facility either with or without the use of my invention.

My invention consists of two coöperating parts, viz; a ring loosely mounted within the inner end of the nozzle and a concentrically arranged concaved disk adjacent to the outer face of the ring, and provided with a suitable guide or means for maintaining the same in its operative position and relation with the ring without contact of the disk with the adjacent side of the containing nozzle.

It is believed that the principal novel feature of my present invention resides in the construction whereby the same can be readily adjusted within or removed from any ordinary fire extinguishing play pipe nozzle without any structural modification thereof or addition thereto.

In the accompanying drawing illustrating my invention and in which similar reference numerals indicate like parts throughout the several views, Figure 1 is a fragmentary side view of an ordinary play pipe nozzle connected to an ordinary hose by means of an ordinary sleeve all shown partly in longitudinal section and also showing my invention in longitudinal central section in operative position therein. Fig. 2 is a plan view of the ring portion of my invention, and Fig. 3 is a cross section of the same on the line x—x Fig. 2. Fig. 4 is a side view partly in section of the pressure reducing disk with the means for securing the same in position. Fig. 5 is a side view of the same taken at right angles to Fig. 4.

Referring now particularly to Fig. 1 the hose 1 and the nozzle 2 are both of the usual or any other proper construction, and are united in the usual manner by common form of metallic sleeve 3 having its forward end externally screw-threaded at 4 to receive the internally screw-threaded annularly enlarged rear end 5 of the nozzle 2 and is provided with an external annular flange 6 to limit the forward adjustment of the hose 1. Adjacent to the forward end of the sleeve 3 and resting against the same is loosely mounted a metallic ring 7 having a beveled concentric opening 8 whose greatest diameter is upon the outer face of the ring. Within the nozzle at a proper distance from the outer face of the ring 7 is arranged a conical disk 9 having upon its forward end the concentric transversely slotted lug 10 to which is rigidly fixed an extended guide 12 consisting of a thin sheet metal plate whose upper end embraces the disk and is provided with a pair of diametric lugs 13 adapted to engage the adjacent face of the ring 7 and thereby hold the same firmly in position upon the seat on the inner end of the sleeve 3. The opposite edges of the guide plate 12 are slightly beveled to conform to the contour of the nozzle against the inner face of whose converging wall they loosely rest and thereby firmly support the disk in its operative position. Any desired adjustment of the disk 9 in its relation to the ring 7 is secured by varying the length of the lugs 13 and the width of the guide plate 12.

The object of my invention is obvious and

briefly stated is as follows: When the water enters the ring through the small end of the opening 8 it will be directed by the inclined sides of the opening against the concave face of the disk 7 and to the annular opening 14 which may be of any desired dimensions. As the stream is thus interrupted by the ring 7 and the disk 9 its force will be proportionately and materially reduced as it issues from the nozzle. While it may not be desirable to thus reduce the water pressure under all circumstances as where the stream is directed to a high point on the outside of the building and the operators can have a secure footing upon the ground, it is desirable to thus reduce such pressure when the stream is employed upon a lower point or when the men are upon a ladder, and particularly when the stream is directed upon some point upon the interior of a building where the very high pressure is not necessary.

While the mere form and contour of the operative parts of my invention may be modified at pleasure without departing from the spirit of my invention I prefer the specific construction herein shown and described. While the ring 7 may be omitted and the disk 9 alone employed in obvious manner such omission has been found by practical tests to interfere with the convenience and efficiency of my invention.

Having thus described my invention and the manner of employing the same what I desire to secure by Letters Patent is:

1. In a water-hose line, a play pipe; a nozzle united thereto by a screw-threaded connection; and water pressure regulating means loosely mounted within the said nozzle, and consisting of a ring having a beveled opening, and a winged concavo-convex disk arranged in coöperative relation to the said ring and spaced from the inner walls of the nozzle, the said disk being loosely supported in position by the impingement of the said wings against the inclined walls of the nozzle, the said wings coöperating with the play-pipe for firmly securing the said ring in position.

2. A water pressure regulator for play-pipes consisting of a converging nozzle; a ring having an opening with diverging walls and arranged within the inner end of the nozzle; a winged disk arranged adjacent to said ring with an annular opening about the same, and supported in position by the impingement of the disk wings against the walls of the nozzle; and means for securing the said ring against displacement in use.

3. A water-pressure regulator for play-pipes consisting of a water nozzle, a ring having an opening with diverging walls and loosely mounted at the inner end of the nozzle; a disk having a concave face and lateral wings whose rear ends normally bear against the adjacent face of the ring, and whose forward ends bear against the inner walls of the nozzle to secure the disk in operative position.

Signed by me at Fort Wayne, Allen county, State of Indiana, this 13th day of March, 1911.

WILLIAM B. STREBIG.

Witnesses:
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