Nov. 17, 1936. M. R. LIEB 2,060,943

NOZZLE

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Fig. 1.

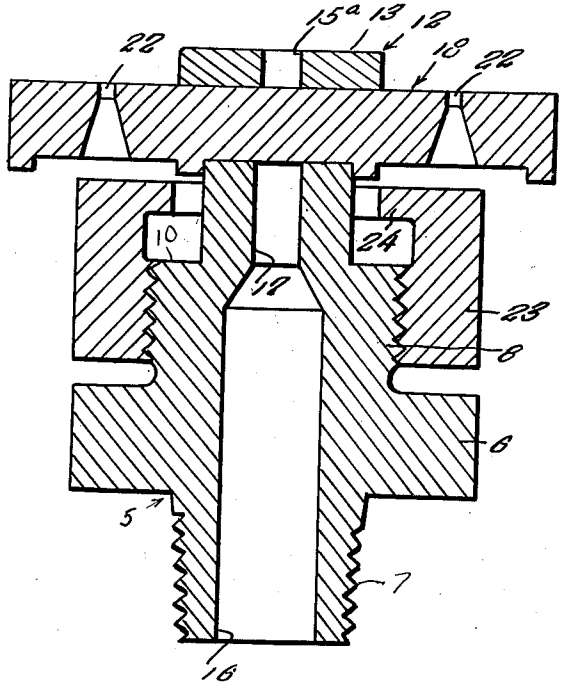
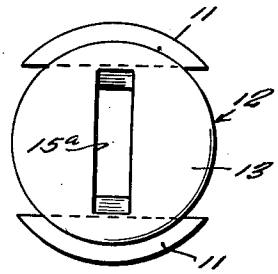


Fig. 2.



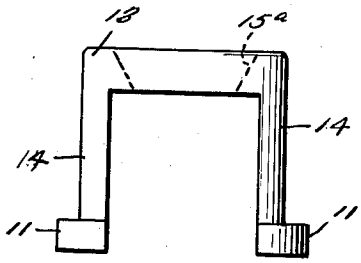


Fig. 4.

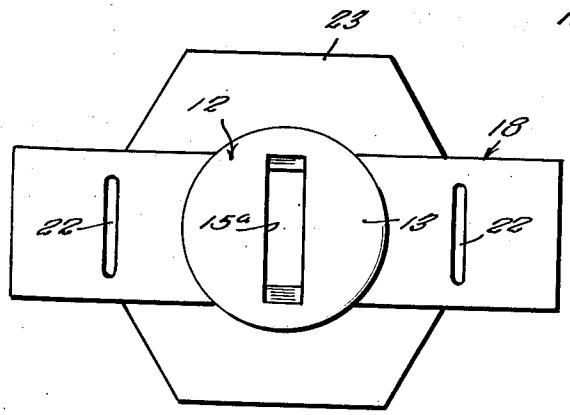


Fig. 3.

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NOZZLE

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Fig. 2.

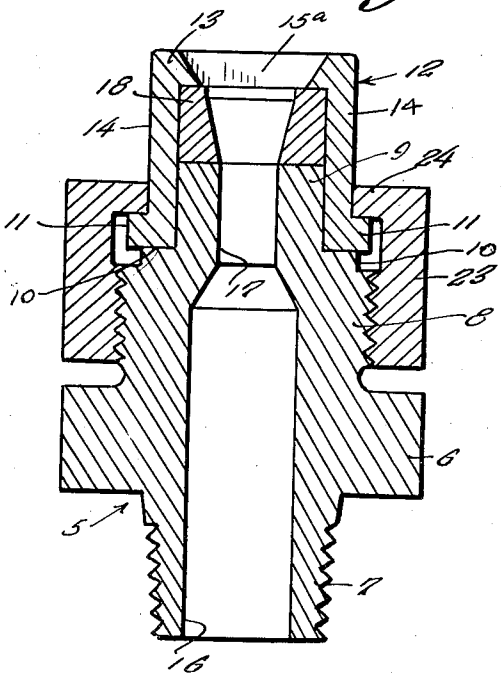
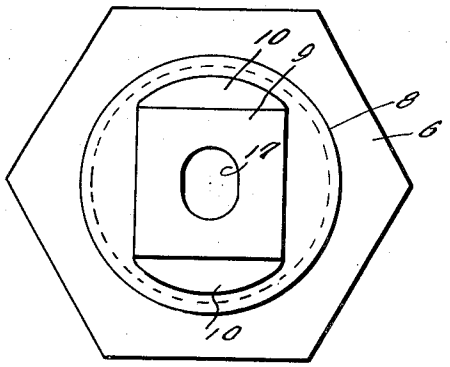


Fig. 4.



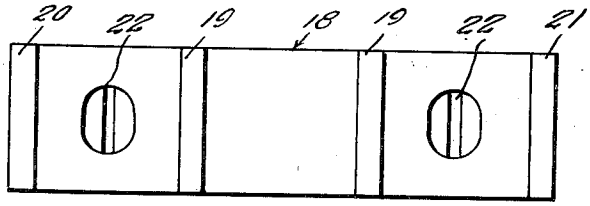


Fig. 5.

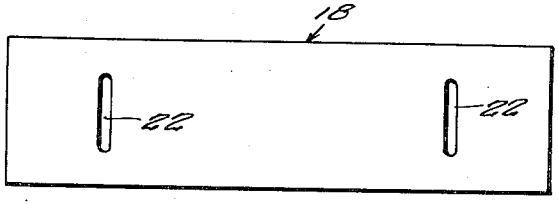


Fig. 6.

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2,060,943

UNITED STATES PATENT OFFICE

2,060,943

NOZZLE

Merril R. Lieb, Allentown, Pa.

Application June 4, 1936, Serial No. 83,568

3 Claims. (Cl. 299—139)

This invention appertains to new and useful improvements in nozzles and more particularly to nozzles for delivering water and other fluids under high pressure.

The principal object of the present invention is to provide a fluid nozzle especially adapted for use in the descaling of hot rolled metal and especially steel.

Another important object of the invention is to provide a nozzle of the character stated which is of sturdy construction and made up of the least number of parts practicable so as to lessen the likelihood of the development of defects.

These and various other important objects of the invention will become apparent to the reader of the following specification.

In the drawings:—

Figure 1 represents a vertical longitudinal sectional view through the nozzle.

Figure 2 is a vertical transverse sectional view of the device.

Figure 3 is a top plan view of the nozzle.

Figure 4 is a top plan view of the nozzle without the yoke and retaining nuts.

Figure 5 is a bottom plan view of the valve plate.

Figure 6 is a top plan view of the valve plate.

Figure 7 is a top plan view of the yoke.

Figure 8 is a side elevational view of the yoke.

Referring to the drawings wherein like numerals designate like parts, it can be seen that the nozzle consists of the body portion generally referred to by numeral 5 which consists of the polygonal-shaped enlargement 6 from which extends the threaded nipple 7. From the opposite side of the enlargement 6 extends the threaded cylindrical portion 8 from which extends the squared-shaped extension 9 defining shoulders 10—10 between itself and the cylindrical portion 8 upon which the foot portions 11—11 of the yoke generally referred to by numeral 12 rest as shown in Figure 2. The yoke is of U-shape including the bight portion 13 and leg portions 14—14. The bight portion of the yoke is provided with the slot 15a therein having the outwardly flaring end walls for spreading the spray or stream from the nozzle. The body portion 5 and cylindrical portion 8 has the bore 16 extending therethrough and meshing with a smaller bore 17 in the square extension 9.

Numeral 18 generally refers to the valve plate which is of rectangular shape and provided with a pair of transversely extending ribs 19—19 in spaced relation to each other at the intermediate portion of the plate while ribs 20—21 are provided at the opposite end of the plate. Between the ribs 19—20 and 19—21 are the elongated orifices 22, one of which is preferably larger than the other.

Numeral 23 is a retaining nut for the yoke 12, this nut being provided with an inwardly extending flange 24 for engagement over the feet portions 11 of the yoke. Obviously, by screwing the nut 23 downwardly toward the polygonal formation 6, the feet portions 11 of the yoke are clamped against the shoulder portions 10—10 of the body 8. If the intermediate portion of the valve plate 8 is that clamped over the discharge opening 17 of the nozzle, the nozzle will be in shut off position. However, if either one of the orifices 22 is located over the discharge opening 17 of the nozzle, the nozzle is opened for delivering a stream of water.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

What is claimed is:—

1. A nozzle of the character described comprising a body having a bore therethrough, one end of the body being provided with threads, a nut engageable over the threads and provided with an inwardly disposed portion, a yoke having foot portions adapted to be clamped against the body portion by the said inwardly disposed portion of the nut, and a valve plate for interposition between the bight portion of the yoke and the discharge end of the said body.

2. A nozzle of the character described comprising a body having a bore therethrough, one end of the body being provided with threads, a nut engageable over the threads and provided with an inwardly disposed portion, a yoke having foot portions adapted to be clamped against the body portion by the said inwardly disposed portion of the nut, and a valve plate for interposition between the bight portion of the yoke and the discharge end of the said body, said valve plate being provided with a plurality of discharge orifices therein, said yoke having a discharge opening in the bight portion thereof with which the orifices of the valve plate can register.

3. A nozzle of the character described comprising a body having a bore therethrough, one end of the body being provided with threads, a nut engageable over the threads and provided with an inwardly disposed portion, a yoke having foot portions adapted to be clamped against the body portion by the said inwardly disposed portion of the nut, and a valve plate for interposition between the bight portion of the yoke and the discharge end of the said body, said valve plate being provided with transversely extending ribs thereon for engaging opposite side portions of the body so that the said valve plate cannot slide between the yoke and the body when the yoke is in clamping engagement with the said valve plate.

MERRIL R. LIEB.