O. H. JUDSON.

SPRAYING NOZZLE.

APPLICATION FILED SEPT. 13, 1917.

1,293,108.

Patented Feb. 4, 1919.

Fig. 1

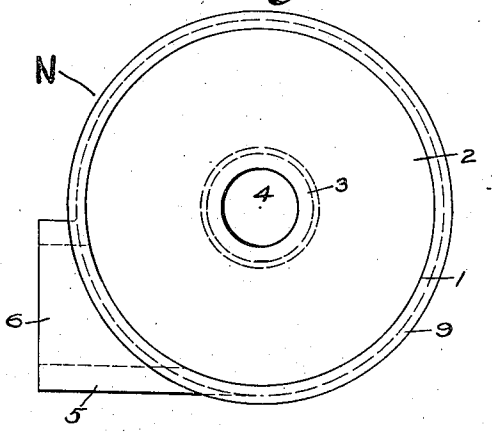


Fig. 2

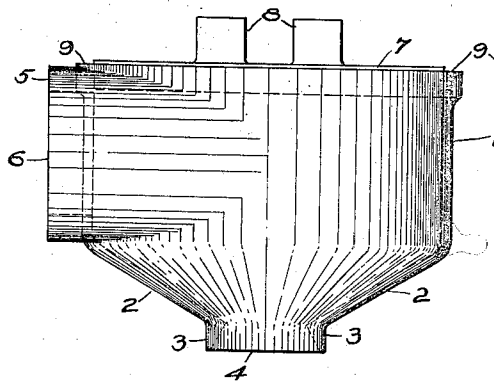
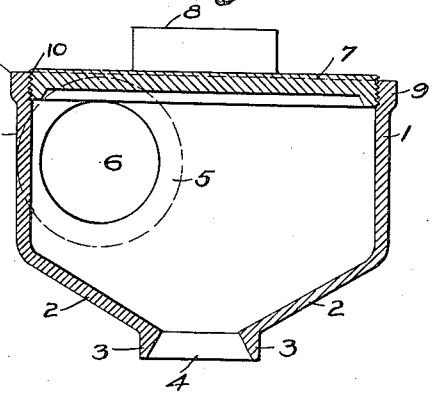


Fig. 3



INVENTOR,

Oscar H. Judson

BY

Edward M. Evarts

ATTORNEY

UNITED STATES PATENT OFFICE.

OSCAR H. JUDSON, OF CLEVELAND, OHIO, ASSIGNOR TO THE BARRETT COMPANY, A CORPORATION OF NEW JERSEY.

SPRAYING-NOZZLE.

1,293,108. Specification of Letters Patent. Patented Feb. 4, 1919.

Application filed September 13, 1917. Serial No. 191,286.

To all whom it may concern:

Be it known that I, OSCAR H. JUDSON, a citizen of the United States, residing at 1682 East 93rd street, Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Spraying-Nozzles, of which the following is a specification.

This invention relates to spraying nozzles, especially such as are used in spraying bituminous material in liquid form for dressing and protecting pavements, roads, etc. Hitherto difficulty has been experienced in the use of such nozzles as ordinarily constructed, due to the collection of solidified bituminous material and foreign matter, with consequent clogging up of the nozzle opening and resulting inefficiency or interruption of the spraying operation. The nozzles hitherto in use are not so constructed as to be readily cleaned, the cleaning operation being difficult and tedious, and generally incomplete.

The object of my invention is to provide a construction of spraying nozzle for bituminous materials in liquid form whereby it will be possible to readily and expeditiously remove the collected solidified bituminous material or foreign matter, and thoroughly clean the nozzle. I attain this desired end by making the large circular flat face of the spraying nozzle (generally present in nozzles of the kind now in use, which face is closed and integral with the rest of the nozzle structure in the nozzles commonly in use at present) entirely open. Into this opening, which is comparatively large and, therefore, affords ready access to every part of the interior of the nozzle, I fit a removable closure member. Such closure member is generally removably held in place by screw-threading the same into the open end of the body portion of the nozzle. In order to provide the open-ended portion of the nozzle with sufficient mechanical strength, I provide the same at the open end thereof with a reinforcing or strengthening portion.

Referring to the drawing wherein I have illustrated a preferred form of my invention,

Figure 1 is a top elevation of the nozzle with the closure member removed;

Fig. 2 is a side elevation of the nozzle with the closure shown in place;

Fig. 3 is a longitudinal central cross-section of the nozzle, the cover being shown in place.

Referring to the drawing, (N) indicates generally the spraying nozzle which is the object of my invention, and which comprises the substantially cylindrical body portion (1), having at one end thereof and integral with the same the conical member (2) provided with the projection (3). In the projection (3) is provided the flaring outlet (4). Extending transversely to the axis of the body portion (1) of the nozzle (N) so as to be substantially tangential to the same is the member (5) providing the inlet (6). The member (5) and its inlet (6) are arranged near the top of the nozzle (N) and the body portion (1) thereof. Such top is entirely open as indicated by reference character (10). Into the open top (10) of the body portion (1) is removably fitted, as by screw threading, the closure member (7) having means (8) on the outside thereof to permit the same to be removed, as by the application of a wrench. Since the substitution of the removable closure member (7) for the ordinary integral closure used in the spraying nozzles hitherto employed would have a tendency to weaken the nozzle, I provide the reinforcing or strengthening portion (9) adjacent the open end of the body portion (1) in order to give the nozzle the necessary and desired mechanical strength.

In use, the liquid bituminous material to be sprayed enters through the inlet (6) substantially tangentially to the main cavity of the nozzle and in a whirling motion passes out through the outlet (4). Should there result an undesired collection of solidified bituminous material, which would have a tendency to lower the efficiency of or interrupt the spraying operation, the nozzle can be readily and completely cleaned by removing the closure member (7) thereby affording access to every portion of the interior of the nozzle.

What I claim is:

A spraying nozzle for bituminous material in liquid form, consisting of a substantially cylindrical, unobstructed body portion whose diameter is greater than its length; a removable closure for one end of said cylindrical portion; said cylindrical portion merging at its other end into a conical portion whose altitude is less than the diameter

of said cylindrical portion; a short, unrestricted, tangentially disposed inlet whose diameter is over one-third the diameter of said body portion, disposed transverse to the axis of the cylindrical portion in proximity to said closure; and an unrestricted outlet at the apex of said cone, the distance from said inlet to said outlet being approximately equal to the diameter of said inlet, and the lower side of said inlet being near the plane of junction between said cylindrical and conical portions, whereby thick bituminous material may be freely admitted and expelled in a spray.

In testimony whereof I affix my signature.

OSCAR H. JUDSON.