

I. BROWN.

Watering Streets and Roads.

No. 144,055.

Patented Oct. 28, 1873.

FIG. 1.

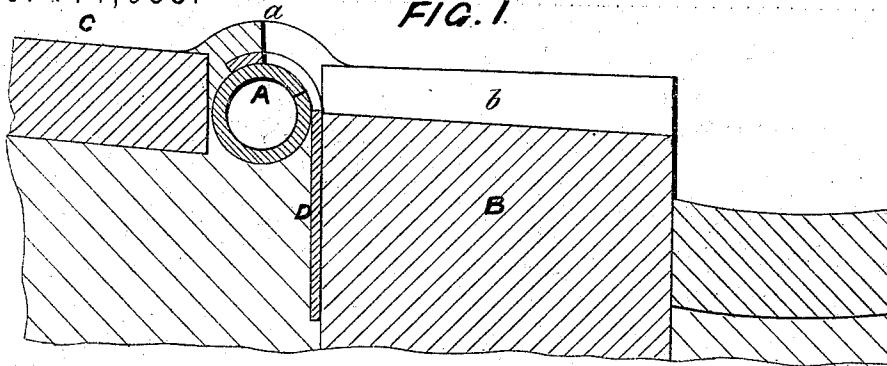


FIG. 2.

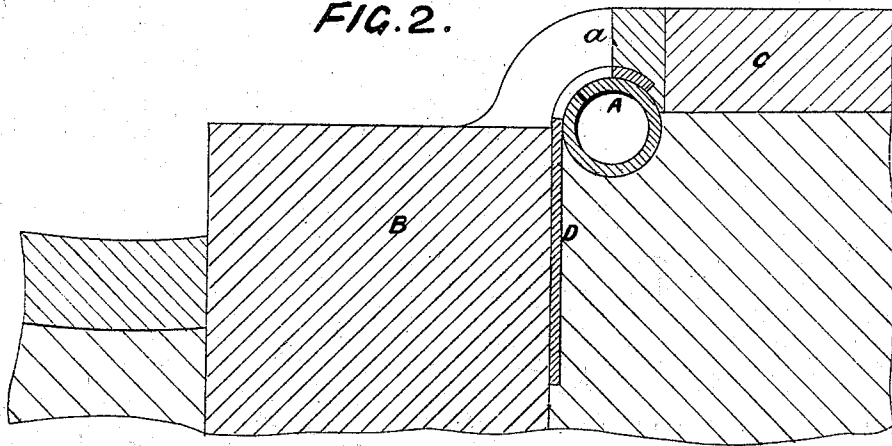
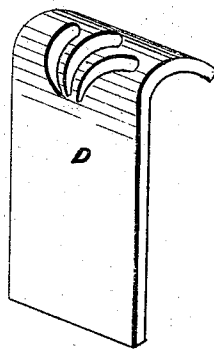


FIG. 3.



Witnesses, Harry Smith
Thomas McHain

Isaac Brown
by his Atty's.
Horsen and Son

UNITED STATES PATENT OFFICE.

ISAAC BROWN, OF EDINBURGH, NORTH BRITAIN.

IMPROVEMENT IN WATERING STREETS AND ROADS.

Specification forming part of Letters Patent No. **144,055**, dated October 28, 1873; application filed May 5, 1873.

To all whom it may concern:

Be it known that I, ISAAC BROWN, of Elm Croft Grange, Edinburgh, in the county of Mid-Lothian, North Britain, engineer, have invented Improvements in Watering Streets and Roads, and in the apparatus or means for effecting the same, for which Letters Patent were granted me in England 22d July, 1871, and of which the following is a specification:

My invention relates to improvements in that class of street-sprinklers consisting of perforated pipes arranged to discharge the water in jets upon the streets; and my invention consists of soft-metal pipes protected by guards, and having fine indentations or punched openings, which permit the water to flow without that friction which is caused by the rough sides of drilled openings.

In order that my said invention may be fully understood, I shall now proceed more particularly to describe the same, and for that purpose shall refer to the several figures on the annexed sheet of drawings, the same letters of reference indicating corresponding parts in all the figures.

Figure 1 of the drawings represents the application of my invention to existing pavements, and Fig. 2 its application to new pavements.

A is a finely perforated or punctured lead or other soft-metal pipe. B is the curb, and C the flagging or asphalt, of the foot-pavement. D is a perforated curved shield, (shown in perspective detached at Fig. 3,) which shield serves to protect the group of fine perforations or punctures made at suitable intervals along the soft-metal pipe A.

In Fig. 1 the pipe (which may be about one and a half inch in external diameter) is laid nearly level with the top of the curb, and is situate between the back of the curb and the front edge of the flagging or other pavement C, the non-punctured portions being covered with a layer of asphalt, *a*, which also assists in keeping the shields in their places. *b* represents a notch or nick made across the curb to allow of the free play of the jets at the most suitable angles into the roadway.

In Fig. 2 the pipe A may be raised about half its diameter above the top of the curb, thereby obviating the necessity for making

notches or nicks *b* across the curbs, as the jet-holes are above the surface of the curb. The flagging or other foot-pavement C should, in this case, be raised slightly above the level of the curb, as shown, so as to be about level with the top of the pipe A, which may be covered over with asphalt, as shown.

When using the curb-pipes, as in Figs. 1 and 2, they may be arranged either so as to cast their jets to the opposite side of the roadway, the jets crossing each other in the middle, or each side pipe may cast its jets over its own side of the roadway, the two sets of jets meeting in the middle, according to the width of the street or roadway to be watered.

When hard-metal pipes are used it is necessary to drill the holes therein. The holes are consequently rough, and, by friction, reduce the force and height of the streams. They readily catch and retain particles, by which they are soon clogged, and of necessity are of such large diameter that the water escapes in such quantities as to diminish unduly the pressure in the pipe and the extent to which the water is thrown.

By using a pipe of soft metal the openings may be punched either before or after the pipe is laid. The perforations are smooth and polished, and may be made by a smooth-pointed tool, and much less in diameter than it could be possible to drill them. Owing to the fineness of the perforations and to the softness of the metal, the slightest blow would close the openings; hence the necessity of guards so arranged as to prevent contact of vehicles with the pipes, or stones or other objects from striking the same.

I claim—

A soft-metal punctured pipe, A, arranged adjacent to a street-pavement, and protected by slotted guards D, as specified.

In witness whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ISAAC BROWN.

Witnesses:

A. GREIG,

Supt. Edinburgh Literary Institute.

I. BARING BROWN,

Elm Croft Grange, Edinburgh.