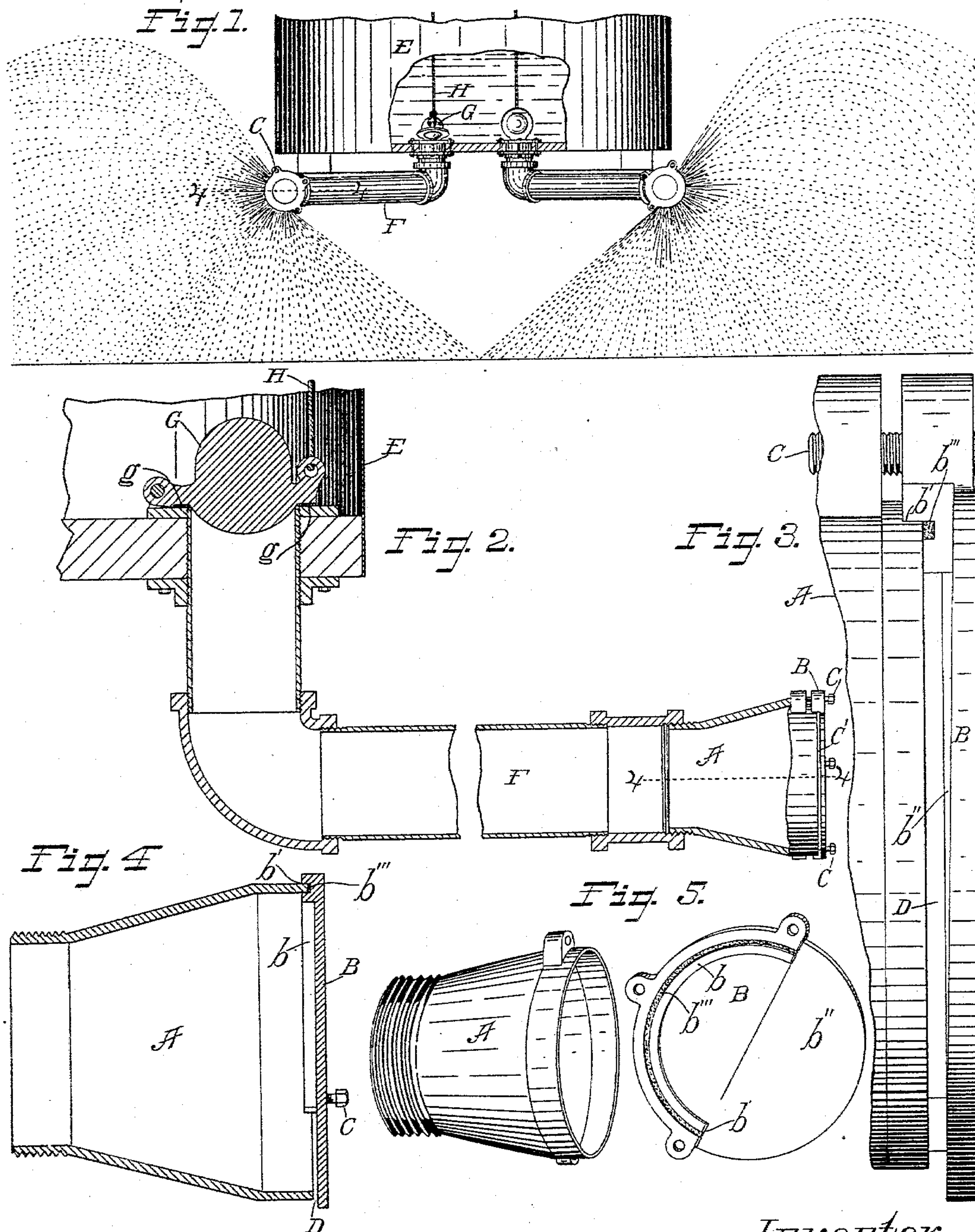


(No Model.)

A. P. CROSS & I. H. HILL.
STREET SPRINKLER.

No. 571,649.

Patented Nov. 17, 1896.



Witnesses
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UNITED STATES PATENT OFFICE.

ALBERT P. CROSS AND IRWIN H. HILL, OF LOS ANGELES, CALIFORNIA.

STREET-SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 571,649, dated November 17, 1896.

Application filed June 22, 1896. Serial No. 596,461. (No model.)

To all whom it may concern:

Be it known that we, ALBERT P. CROSS and IRWIN H. HILL, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Street-Sprinkler, of which the following is a specification.

The objects of our invention are to gain extreme simplicity and cheapness combined with superior sprinkling power, to avoid getting out of repair, and to avoid the liability of any wearing and cutting of the valve by sand and other grit contained in the water; also, to facilitate cleaning the valve from debris caught from the water; also, to make provision in the said simple and cheaply-constructed sprinkler for adjusting the outlet of the sprinkler to adapt it to different states of the weather or roads. That is to say, in dry hot summer weather a larger amount of water is required than in the cooler spring and fall weather, and in foggy damp weather less water is required than at other times. Our sprinkler is adapted for quick adjustment in this regard, and this without any complication of machinery.

An improved and valuable feature of our invention is its power to throw a great distance with a given head of water, our newly-invented valve being of such a character that the valve is bell-shaped, thus giving a hydrostatic pressure within it.

Another object of our invention is to provide for sprinkling the ground uniformly throughout the whole space over which the water is thrown.

The accompanying drawings illustrate our invention.

Figure 1 is a fragmental rear view of a sprinkling-cart provided with our invention in operation. Fig. 2 is a fragmental view, largely in section, showing our invention applied to the tank. The outlet end of the valve is shown in elevation and is not sectioned.

Fig. 3 is an enlarged fragmental detail elevation of the outlet end of the sprinkler-valve in the form in which the outlet tapers uniformly from top to bottom, whereby we produce a sprinkler which, with a given head of water in the tank, will throw a greater distance than other sprinklers and will distribute the water evenly across the entire space sprin-

kled. Fig. 4 is a plan section on line 4 4, Figs. 1 and 2. Fig. 5 is a perspective detail of the valve and cap detached from each other, the bolts not being shown. The inner face of the cap is shown.

A indicates a bell-shaped valve with plain end, and B a cap fastened to the valve and having a segmental collar *b*, in which is a socket *b'* to seat a portion of the end of the valve, the remainder of the collar being omitted to leave an open space between the free portion of the end of the valve and the inner face of said cap, said cap being flat where the collar is omitted and the seat for the end of the valve being in the collar above the face thereof, and thus arranged to hold the inner face of the cap away from the end of the valve. C indicates bolts which affords means for fastening the cap to the end of the valve. The inner face of said cap where the collar is omitted is plain and beveled oblique to the plane of the seat for the end of the valve, as at *b''*.

The rim of the cap along the space where the collar is omitted projects laterally beyond the periphery of the bell-shaped valve A. The segmental collar of the cap extends substantially half-way around the cap, and in practice the valve is set with the ends of the segmental collar arranged in a line which slants oblique to the horizon, so that the top of the outlet will be outside of a vertical drawn through the center of the cap and the lower end of the outlet will be inside of such vertical, and care is also taken that the wider portion of the outlet-space will be at the top. With this arrangement the outlet-opening D tapers uniformly from the top to the bottom, so that the amount of water discharged at various levels of the opening shows a uniform increase from bottom to top of the outlet. By this means the amount of water distributed over the ground sprinkled is uniform from end to end of the stream or sheet thrown from the outlet.

With this form of sprinkler, with bell-shaped valve, we are able, with the ordinary sprinkling-tank and two valves, to thoroughly and uniformly sprinkle at one trip a street thirty feet in width, the cart being driven along the mid-line of the street.

E indicates the sprinkler-tank, and F a pipe leading from the tank, the bell-shaped sprin-

kler-valve A being arranged on the outer end of such pipe.

G indicates a weighted clack-valve to close the inner end of the pipe, and H indicates the cord for raising and lowering such valve. This simple contrivance, together with the valve with cap, as shown, constitutes the whole of our newly-invented sprinkler and dispenses with the necessity of expensive ground-joints and valve-seats. *g* indicates a leather or other packing-ring on the under side of the clack-valve, and the valve is weighted sufficiently to completely shut off the water when lowered. The sprinkler-valve A is a casting requiring no machine-work excepting to provide holes for the bolts which hold the cap in place and to make the end of the valve smooth to seat in the socket in the collar. The cap is a casting and requires no machine-work.

b''' indicates packing in the seat in the collar to hold the inner face of the cap at a greater or less distance from the end of the valve.

To adjust the sprinkler for very dry weather and dusty roads a greater amount of packing may be used, and when the weather is damp or cooler and the roads require less water the teamster will unscrew the bolts and remove the packing, replacing it with a thinner packing or with none, and then the cap is again fastened in place. If any debris lodges in the sprinkler-valve it can be readily removed by taking off the cap.

In practical operation the sprinkler throws a vertical sheet of water extending from the mid-line of the cart laterally to such a distance as the head of water in the tank will throw the water from the top of the outlet.

Now, having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A street-sprinkler comprising a bell-shaped valve with plain end; a cap having a segmental collar, a socket being provided therein to seat a portion of the end of the valve, and the inner face of the cap being flat where the collar is omitted, such flat portion extending laterally beyond the bell, and the seat for the end of the valve in the collar being arranged to hold the inner face of the cap away from the end of the valve; and means for fastening the cap to the end of the valve.

2. A street-sprinkler comprising a bell-shaped valve with plain end; a cap having a segmental collar, a socket being provided therein to seat a portion of the end of the valve, and the inner face of said cap, where the collar is omitted, being flat and beveled oblique to the plane of the seat for the end of the valve, said seat being arranged to hold the inner face of the cap away from the end of the valve; and means for fastening the cap to the end of the valve.

3. In a street-sprinkler, the combination of a pipe leading from the sprinkler-tank; a clack-valve to close the inner end of the pipe; a bell-shaped sprinkler-valve with plain end arranged on the outer end of such pipe; a cap fastened to the sprinkler-valve and having a segmental collar in which is provided a socket to seat a portion of the end of the sprinkler-valve, the inner face of the cap, where the collar is omitted, being flat with an open space between the free portion of the end of the valve and the flat inner face of the cap; and means for fastening the cap to the end of the valve.

ALBERT P. CROSS.

I. H. HILL.

Witnesses:

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