(No Model.)

C. W. TALCOTT.

AUTOMATIC SPRINKLER.

No. 259,780. Patented June 20, 1882.

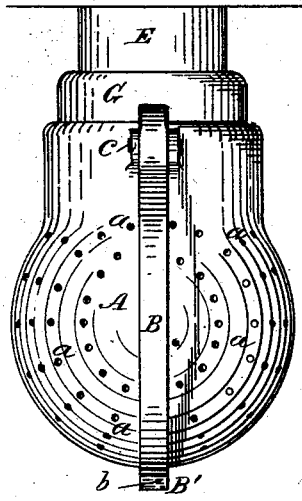

Fig. 1.

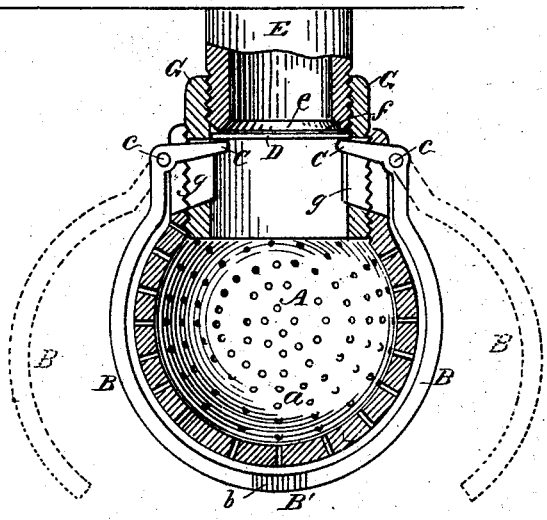

Fig. 2.

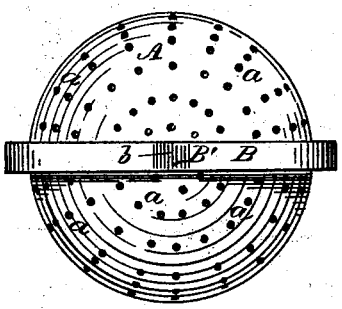

Fig. 3.

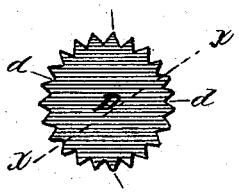

Fig. 4.

Witnesses.

Geo. A. King

Francis C. Brownell

Inventor.

Charles W. Talcott

UNITED STATES PATENT OFFICE.

CHARLES W. TALCOTT, OF WOONSOCKET, RHODE ISLAND.

AUTOMATIC SPRINKLER.

SPECIFICATION forming part of Letters Patent No. 259,780, dated June 20, 1882.

Application filed February 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. TALCOTT, of Woonsocket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Automatic Distributers or Sprinklers, designed to spread water or other fluid over a large area for the extinguishing of fire in buildings, which invention is fully described as follows, reference being had to the accompanying drawings, which form a part of this specification, like letters indicating like parts in the different figures thereof.

Figure 1 of the drawings is a side elevation in perspective. Fig. 2 is a longitudinal section cut through the center of the device, the dotted lines in this figure showing the locking-bows in the act of opening. Fig. 3 is a top plan for the purpose of illustrating fully the manner of lapping the ends of the locking-bows and sweating them together with fusible metal; and Fig. 4 is a plan of the diaphragm employed, and showing slots around the edge thereof. The section of the diaphragm shown in Fig. 2 is cut on the line *x x* of Fig. 4.

As indicated in the above description of Fig. 3, the end of the rose over which the locking-bows are lapped and sweated is regarded as the top of the device for the purposes of this specification, though the drawings show the device pointed downward from the water-pipe through which the supply comes, though of course the device may point in any direction from the water-pipe in practical use.

My invention consists in two locking-bows passing through the two opposite sides of a perforated rose at its neck, being the end thereof where said rose is attached to the supply-pipe, said bows to be pivoted therein, and their inner ends forming goose-neck levers, upon which levers rests a diaphragm, said diaphragm to be provided with slots around the edge thereof. The end of the supply-pipe within the end of the rose should be beveled, so that said end shall be sharp, and upon the top of the diaphragm is adjusted an annular piece of soft metal, so placed that the beveled end of the supply-pipe will insert itself in said soft-metal ring when the device is closed, so as to make a water-tight joint.

The locking-bows, when the device is closed, are brought together at the top of the rose by lapping their ends, as shown, or by dovetailing or in any similar and well-known manner, and upon being so brought together said ends are sweated by the use of solder fusible at a comparatively low degree of heat, placed between said ends, the device to be so adjusted that when the ends of the locking-bows are soldered together the diaphragm will bear hard against the beveled end of the supply-pipe, so that said beveled end will be embedded in the soft-metal annular packing, thus making a water-tight joint.

The construction of my device may be described as follows: A is a perforated rose, similar to the one described in my patent of the United States, dated January 31, 1882, numbered 253,128, and entitled "Fire-Extinguisher," the perforations in said rose being designated *a*. The two locking-bows B pass through the walls of the rose A exactly opposite to each other, and are hung upon the pivots *c*, as fully shown in Fig. 2. The inner ends, C, of said locking-bows may be termed "goose-neck levers."

E may be termed the "direct" supply-pipe, and is coupled to the main water pipe, the line of which latter is designated L in the drawings. The collar G is adjusted over and upon the supply-pipe E in any suitable manner, for the purpose of securing sufficient depth to the slots *g* for the admission of the goose-neck levers C when the device is opened, which operation of opening will be hereinafter fully described.

The diaphragm D is provided with the slots *d* completely around the edge thereof, as shown in Fig. 4, and said diaphragm fits easily within the collar G, as shown in Fig. 2, and rests upon the two goose-neck levers C, said goose-neck levers to be of sufficient width as not to slip through the slots *d*. The annular soft-metal packing *f* is adjusted upon the surface of the diaphragm D in such manner that when the device is locked the sharp beveled end *e* of the supply-pipe E will be embedded in said soft-metal packing, thus forming a water-tight joint.

When the ends B′ of the locking-bows B are lapped they are sweated together by the fusible solder *b*, as illustrated in Figs. 1, 2, and 3.

Said ends B′ may, however, be dovetailed or arranged in any other equivalent and suitable way, and then sweated.

The whole device should be so adjusted and arranged that when the locking-bows B are sweated together, as above described, the diaphragm D will bear firmly against the end of the supply-pipe E, and said sharp end *e* of said supply-pipe will then be embedded in the soft-metal packing *f*, thus securing a water-tight joint, as before described.

A constant pressure of water or other fire-extinguishing fluid is retained in the supply-pipe E and bearing upon the diaphragm D, and thus the device is constantly kept in a condition for automatic action in case of fire.

The operation of my invention may be described as follows: The solder *b* is fusible at a comparatively low degree of heat, and as such solder is used only for sweating the ends of the locking-bows together, as before described, the quantity thereof need not be large, and consequently less heat is required for melting than in a case where it is necessary that more solder be employed, so that the extinguishers are set in operation at an early stage of the conflagration. The solder *b* being melted, the pressure of the water in the supply-pipe E upon the diaphragm D (said diaphragm bearing as it does upon the two goose-neck levers C with a pressure equal to that of the water in the supply-pipe) drives the diaphragm downward, said downward movement pressing the goose-neck levers C into the slots *g* (by moving said levers upon the pivots *c*) until the edges of said levers are flush with the inside surface of the collar G, and the diaphragm D is consequently driven into the end of the rose A and the water is rushing into the rose and through the perforations *a;* and now the value of the slots *d* in the diaphragm is seen, for were said diaphragm solid it would, when the device is in operation, necessarily prevent the outlet of water from the perforations *a* near the end of the rose which would be covered by the diaphragm; but by means of the slots *d*, as is obvious, the water can pass under the diaphragm D and out through said covered perforations, so that all the perforations *a* will be utilized.

Having fully described my invention and the manner of carrying the same into effect, what I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic distributer designed to spread water or other fluid over a large area, two locking-bows lapping their outer ends, and said ends sweated together with solder fusible at a low degree of heat, said locking-bows passing through the wall of the distributer at points exactly opposite each other and pivoted therein, their inner ends forming goose-neck levers, said goose-neck levers being so shaped and arranged as to enable them to pass into slots provided within the inner wall of the distributer, so that the edges of said levers may come flush with the inside surface of said inner wall to allow for the passage of the diaphragm when the distributer is in the act of opening, but said goose-neck levers to serve as a bearing for said diaphragm when the distributer is locked, substantially as described.

2. In an automatic distributer designed to spread water or other fluid over a large area, the combination of the rose A, provided with perforations *a*, the two locking-bows B, arranged so that their outer ends, B′, lap, said bows being hung upon the pivots *c*, the fusible metal *b*, sweating said ends B′ together, the two inner ends, C, of the locking-bows B forming goose-neck levers, the collar G, provided with the two slots *g*, the diaphragm D, with slots *d*, the annular soft-metal packing *f*, and the supply-pipe E, with beveled end *e*, the whole constructed and arranged substantially as described and shown, and for the purpose set forth.

CHARLES W. TALCOTT.

Witnesses:
GEO. A. KING,
FRANCIS W. BOUTWELL.