Dec. 1, 1925. 1,563,490

S. HORTON

SPRINKLER INSTALLATION

Filed Oct. 3, 1924

FIG. 1

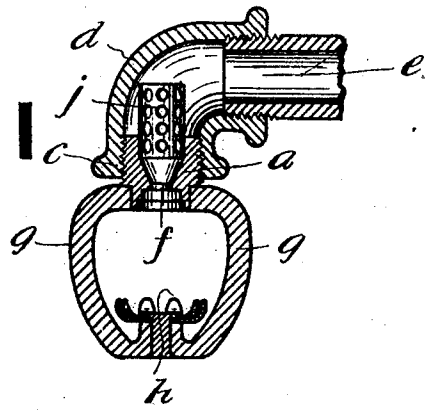


FIG. 2

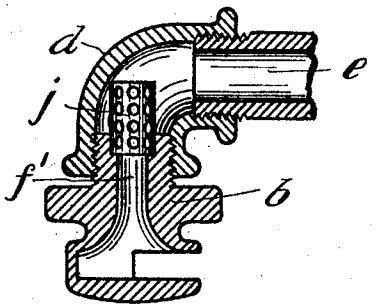


FIG. 3

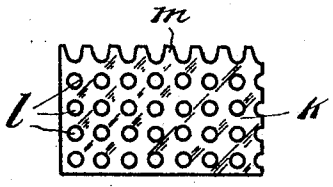
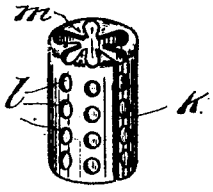


FIG. 4



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Patented Dec. 1, 1925. 1,563,490

UNITED STATES PATENT OFFICE.

SPENCER HORTON, OF BIRMINGHAM, ENGLAND.

SPRINKLER INSTALLATION.

Application filed October 3, 1924. Serial No. 741,306.

To all whom it may concern:

Be it known that I, SPENCER HORTON, a subject of the King of Great Britain, of 10 Holyhead Road, Handsworth, Birmingham, England, have invented certain new and useful Improvements in and Relating to Sprinkler Installations, of which the following is a specification.

This invention relates to improvements in sprinkler installations, and refers particularly to automatic sprinkler installations for the protection of warehouses, factories, and the like against fire.

In such installations the standard outlets for the water or other fluid employed for quenching a fire are of comparatively small diameter and are liable to be blocked by the presence of any foreign matter in the supply pipes or in the fluid itself. The stoppage of any one or more of the outlets may be a very serious matter as a local fire adjacent to the blocked outlet would not be extinguished while other outlets opened by the increased pressure would cause unnecessary water damage to the remainder of the premises covered by the installation.

As the water supply to a sprinkler installation is usually controlled by a main stop valve, any foreign matter present in the fluid itself can be dealt with by providing straining means adjacent to the stop valve, but there still remains the danger of the blocking in the supply pipes themselves. Since there is normally no flow in the supply pipes, any scale, or the like, which is formed remains in the pipes until a flow is started by the outbreak of fire and the scale is then carried to the outlets or jet nozzles and is liable to obstruct them. Foreign matter may also be left in the pipes when the installation is erected and remain there until carried along by the flow of water to obstruct the outlets when an outbreak of fire occurs.

The object of my invention is to provide means whereby the possibility of such obstruction of the outlets or jets is obviated, and for this purpose I provide a filter or strainer member in conjunction with each outlet or jet and on the supply side thereof.

The strainer may be arranged in a variety of different ways to suit different types of outlets or jets and may be detachable or rigidly secured to the member in which the outlet aperture or jet is formed.

The strainer may be of wire gauze or of perforated sheet metal, but the mesh of the gauze or the size of the apertures must be smaller than the outlet or jet so that the strainer arrests all particles of foreign matter liable to obstruct the outlet, and the total area of the apertures in the strainer is such that its presence does not materially affect the flow of fluid.

In order that the manner of carrying my invention into practice may be readily understood one preferred form of strainer and its method of application to sprinkler heads of two different types have been illustrated in the accompanying drawings in which:—

Figure 1 is a vertical section through a sprinkler head with my improved strainer in position.

Figure 2, is a similar view of another type of sprinkler head.

Figure 3, is a plan of the sheet metal blank from which the strainer is formed.

Figure 4, is a perspective view of the strainer.

In these drawings the sprinkler heads *a*, *b*, are of the type which are adapted to be screwed into branch pipes leading to a valve in a main fluid supply pipe adapted to be opened automatically by means dependent on a fusible connection when a predetermined temperature is reached in the vicinity of the valve. The heads or jets in this case are always open, but fluid can only reach them when the valve is operated.

In Fig. 1 the sprinkler head consists of a body having at its upper end a screw-threaded spigot *c* adapted to be screwed into an elbow *d* on the branch pipe *e* leading to the valve. An aperture *f* in the body forms the fluid distributing jet, and depending from the body below the jet are a pair of arms *g* supporting a toothed or serrated disc *h* upon which the jet is adapted to impinge and by which it is spread in all directions.

The upper part of the aperture in the body is enlarged to form a short cylindrical recess to receive the lower end of the cylindrical strainer *j* of wire gauze or perforated sheet metal which may simply be a push-in

fit in the recess, but is preferably held in place by solder.

The method of applying the strainer to the sprinkler head or jet *b* illustrated in Fig. 2 is exactly similar, but the jet in this case is adapted to direct the fluid laterally in one direction only, this jet being employed for spraying fluid on walls or windows from the outside of a building.

Figs. 3 and 4 of the drawings illustrate a preferred means of forming the strainer member very cheaply and rapidly from sheet metal. A blank *k* is first pressed or stamped out of the form shown in Fig. 3 with equally spaced apertures *l* and projecting tongues *m* along one horizontal edge. The blank is then rolled round into the form of a cylinder and the tongues *m* are bent inwardly as shown in Fig. 4 so that there is no aperture in the upper end of the strainer larger than one of the holes *l* which in turn are each of smaller area than that of the jet passage *f* or *f'* in a sprinkler head.

I claim:—

1. In a sprinkler head or jet for use in automatic sprinkler installations, a strainer comprising a rectangular metal sheet perforated and provided with tongues along one edge, the sheet being bent into cylindrical form and the tongues bent inwardly to close partially one end of the cylinder so formed.

2. A sprinkler head strainer consisting of a rectangular metal sheet perforated and formed with tongues along one edge, the sheet being bent into cylindrical form, and the tongues being bent inwardly to close partially one end of the cylinder thus formed, the tongues leaving no aperture at the end larger than the perforations of the cylinder.

In testimony whereof I affix my signature.

SPENCER HORTON.