

(No Model.)

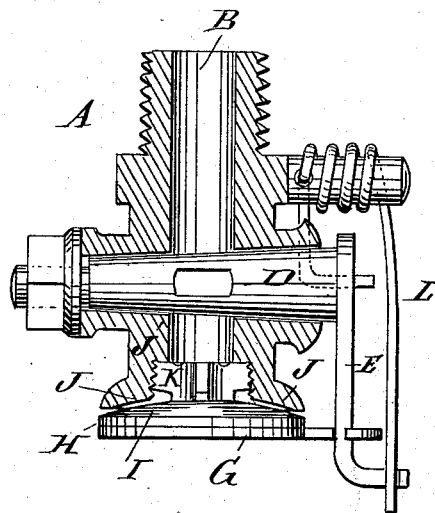
C. C. CONNELL.

COCK FOR FIRE EXTINGUISHERS.

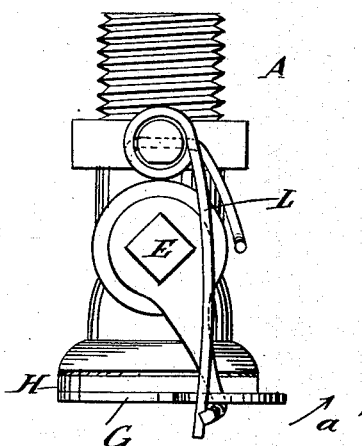
No. 384,745.

Patented June 19, 1888.

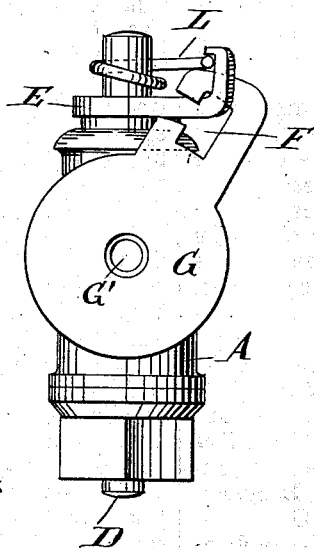
*Fig: 1.*



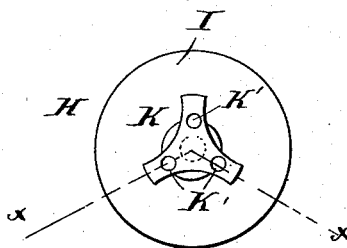
*Fig: 2.*



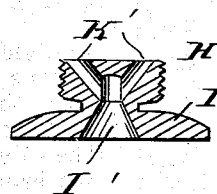
*Fig: 3.*



*Fig: 4.*



*Fig: 5.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES C. CONNELL, OF HAYDENVILLE, MASSACHUSETTS.

## COCK FOR FIRE-EXTINGUISHERS.

SPECIFICATION forming part of Letters Patent No. 384,745, dated June 19, 1888.

Application filed March 31, 1887. Serial No. 233,160. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES C. CONNELL, of Haydenville, in the county of Hampshire and State of Massachusetts, have invented a new and Improved Cock for Fire-Extinguishers, of which the following is a full, clear, and exact description.

My invention relates to cocks opened by the action of heat, so as to permit a liquid held under pressure in the said cock to escape for extinguishing fire.

The object of my invention is to provide a new and improved cock which is simple and durable in construction and very effective and reliable in operation.

The invention consists in the construction and arrangement of various parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a central sectional elevation of my improvement. Fig. 2 is a side elevation of the same. Fig. 3 is a bottom view of the same. Fig. 4 is a plan view of the sprinkler, and Fig. 5 is a sectional elevation of the same on the line *xx* of Fig. 4.

The body A of the cock is provided with the usual central aperture, B, and the valve D, of ordinary construction, is held in the said body A, and opens and closes the central aperture B in the usual manner. The valve D is provided on one outer end with a lever, E, engaging a recess, F, formed in the plate G.

The plate G is of suitable metal—such as thin sheet-brass—so that it heats at a low temperature, and one end of the said plate is soldered to the sprinkler H, so that when the plate G is subjected to heat it becomes detached from the said sprinkler H, as the solder then melts.

The lower end of the body A is concaved to form the seat J, and its bore is screw-threaded, as at J'. The sprinkler H is formed of the cone-shaped disk I, having the upward-projecting screw-threaded arms K, which are screwed into the threaded part J', a space be-

ing left between the disk I and the seat J, the extent of which may be regulated by turning the said disk, as will be readily understood.

From the arms K lead the apertures K', connecting with the cone-shaped central aperture I', formed in the disk I and opening to the outside through a central opening, G', in the plate G. A spring, L, of any suitable shape, is secured to the valve-body A and presses upon the lever E in the direction of the arrow *a'*.

The operation is as follows: The cock is secured to a pipe or fire-extinguishing apparatus, which forces a fluid under pressure into the central aperture B, which is held closed under ordinary circumstances by the valve D. As soon as heat is applied to the cock, then the plate G is heated and the solder which connects the plate with the disk I of the sprinkler H is melted, whereby the said plate G is disconnected from the disk I and the lever E is liberated. The lever E is now turned by the spring L in the direction of the arrow *a'*, whereby the valve D is turned and opens the central aperture B, so that the fluid under pressure passes down the aperture B and upon the conical face of the disk I, thus spurring the fluid in all directions between the conical face and the similarly-shaped seat J. At the same time the fluid can pass into the apertures K' and then into the conical aperture I', whereby a diverging stream of fluid is sent out in line with the central aperture B of the cock. The opening between the seat J and the conical disk I can be regulated by turning the sprinkler H in the screw-threaded part J' of the valve-body A. The central aperture G' in the plate G permits the fluid to pass to the outside through the opening I', when the cock is tried at different times to see if it is in working order. This is done by turning the lever E by hand.

It will be understood that the opening G' in the plate G is of no account whatever when the plate G is separated from the disk I, as above stated—that is, when heat is applied and the solder melts.

The object of placing the end of the lever E in the recess of the plate G is, that the said lever carries the plate G out of the way (when the solder is melted) before the fluid reaches

the plate and solder, thus avoiding a resoldering of the plate G to the disk I by the cooling action of the fluid.

It will be seen that the cock is very simple in construction and very effective and reliable when heat is applied.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. The combination, with the body A, provided with a passage, B, and a valve, D, having a lever bent outward at its lower end, of the plate G, soldered to the body and having a notch, F, into which the arm extends, and  
15 the spring L, secured to the body and engaging the outward-bent end, substantially as set forth.

2. In a cock for fire-extinguishers, the combination, with the body having a valve and a  
20 sprinkler held on the lower part of said body, of a lever held on the said valve and provided with a spring, and a plate soldered at one end to said sprinkler and at its other end connected with the said lever, so that when heat  
25 is applied the said solder melts and disconnects the said plate from the sprinkler, whereby the lever is set free and the valve is opened by the action of the spring, substantially as shown and described.

30 3. In a cock for fire-extinguishers, the sprinkler H, formed of the cone-shaped disk I, having the upward-projecting screw-threaded arms

K, the aperture K', leading through said arms, and the flaring central aperture, I', formed in the disk I, and with which the apertures K' 35 communicate, substantially as shown and described.

4. In a cock for fire-extinguishers, the combination, with the body having a concave, J, in its end and internally threaded at J', of the  
40 sprinkler H, comprising the apertured cone-shaped disk I, having the threaded arms K, engaging the threaded part J', and provided with apertures K', leading to the said central aperture in the disk I, substantially as shown 45 and described.

5. In a cock for fire-extinguishers, the combination, with the body having a conical seat on its outer end, of a valve operating in the  
50 said body, a lever secured to one outer end of the said valve, a spring pressing on the said lever, a plate for holding the said lever in such a position that the valve is closed, a sprinkler on which the said plate is soldered, provided with a conical disk held out of contact with  
55 the said conical seat on the body, and also provided with arms screwing in the body, and having apertures leading into a conical central aperture in the said disk, substantially as shown and described.

CHARLES C. CONNELL.

Witnesses:

JAMES HULME,  
ALVIN LAWRENCE.