

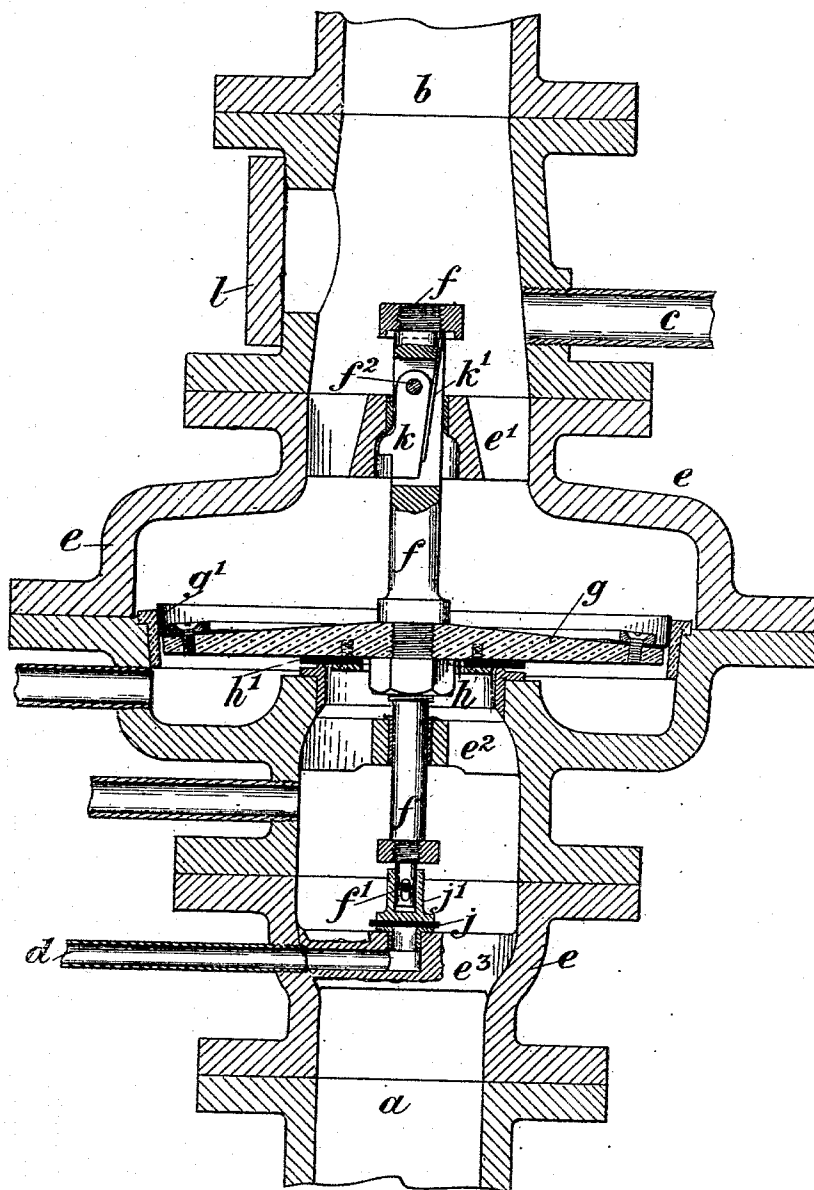
(No Model.)

G. MILLS.

VALVE FOR FIRE EXTINGUISHING SYSTEMS.

No. 514,486.

Patented Feb. 13, 1894.



Witnesses:

E. B. Colton

H. Van Dusen

Inventor:

George Mills

By *Richardson*
his Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE MILLS, OF RADCLIFFE, ENGLAND.

VALVE FOR FIRE-EXTINGUISHING SYSTEMS.

SPECIFICATION forming part of Letters Patent No. 514,486, dated February 13, 1894.

Application filed November 6, 1893. Serial No. 490,075. (No model.) Patented in England October 17, 1892, No. 18,524.

To all whom it may concern:

Be it known that I, GEORGE MILLS, a subject of the Queen of Great Britain, and a resident of Radcliffe, in the county of Lancaster, England, have invented certain new and useful Improvements in Valves which Control Certain Automatic Fire-Extinguishing Sprinkler Installations and Fire-Alarms, (for which I have obtained Letters Patent in Great Britain, numbered 18,524, bearing date October 17, 1892,) of which the following is a specification.

This invention relates to improvements in the controlling valves of those systems of automatic fire extinguishing sprinklers wherein the pipes carrying the sprinklers are charged with compressed air which keeps the water in check until a fire occurs.

A sectional elevation of the improved valve is shown on the accompanying sheet of drawing. In this view,—*a* designates the water inlet, *b* the pipe leading to the sprinkler installation, *c* a waste pipe for emptying the installation, *d* the pipe leading to the gong, steam whistle or other alarm, *e* the casing of the valves; *e'* *e''* two bridge pieces for guiding the valve stem *f* carrying the three valves *g*, *h* and *j*, of which the valve *g* is provided with a cup leather *g'*, the valve *h* has a leather face *h'* secured to the valve *g* and the valve *j* is mounted on a movable sleeve *j'* connected to the valve spindle *f* by a pin *f'* so as to be free to rise and fall within certain limits on the valve stem, *k* is a catch pivoted to the valve stem at *f''* which rests against a spring *k'* also secured to the valve stem *f*, and *l* is a cover for a manhole formed in the pipe or casing above the valve stem. Air is pumped into the installation above the valve *g* through the waste pipe *c* or other convenient access until the pressure is sufficient to keep the water valve *h* closed and seat the cup leather *g'* on its seating. The water is then turned on but will not rise beyond the valve *h*. The valve *j* then seats itself by the pressure of the water and stops the opening into the alarm pipe *d* which is

connected to the valve *j* by an opening in a bridge piece *e''*. When a sprinkler opens, the pressure of air in the pipe *b* is reduced and the valve stem *f* rises by reason of the water pressure, and as soon as the valve spindle has risen far enough the catch *k* is forced by its spring *k'* outward until a lip on *k* comes over the top of the bridge piece *e'* and so prevents the valve stem *f* descending and closing the valves. After a fire has been extinguished the pipes are emptied of water by means of the waste pipe *c*. The hand hole *l* is then opened and the catch *k* pressed in and the stem *f* lowered so as to seat the valves. The catch *k* which is mounted in a slot through the valve stem is actuated by a spring *k'* fixed to the valve stem. When the valves are seated the spring is not in compression the catch being open, and concealed in an internal hollow in the valve stem guide *e'* and only during the operation of re-seating the valves or when the valve opens is the spring brought into compression.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim, and desire to secure by Letters Patent of the United States, is—

In an automatic sprinkler system of the dry pipe type, an inlet pipe *a*, an outlet pipe *b*, a valve stem carrying a valve *h* controlling the water supply to the dry pipe system, a movable valve controlling the alarm mechanism the pipe *d* adapted to connect with said alarm mechanism, a third valve held to its seat by the air pressure, and means for holding the valve stem and all the valves carried thereby off the valve seats, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

GEORGE MILLS.

Witnesses:

H. B. BARLOW,
HERBERT R. ABBEY.