

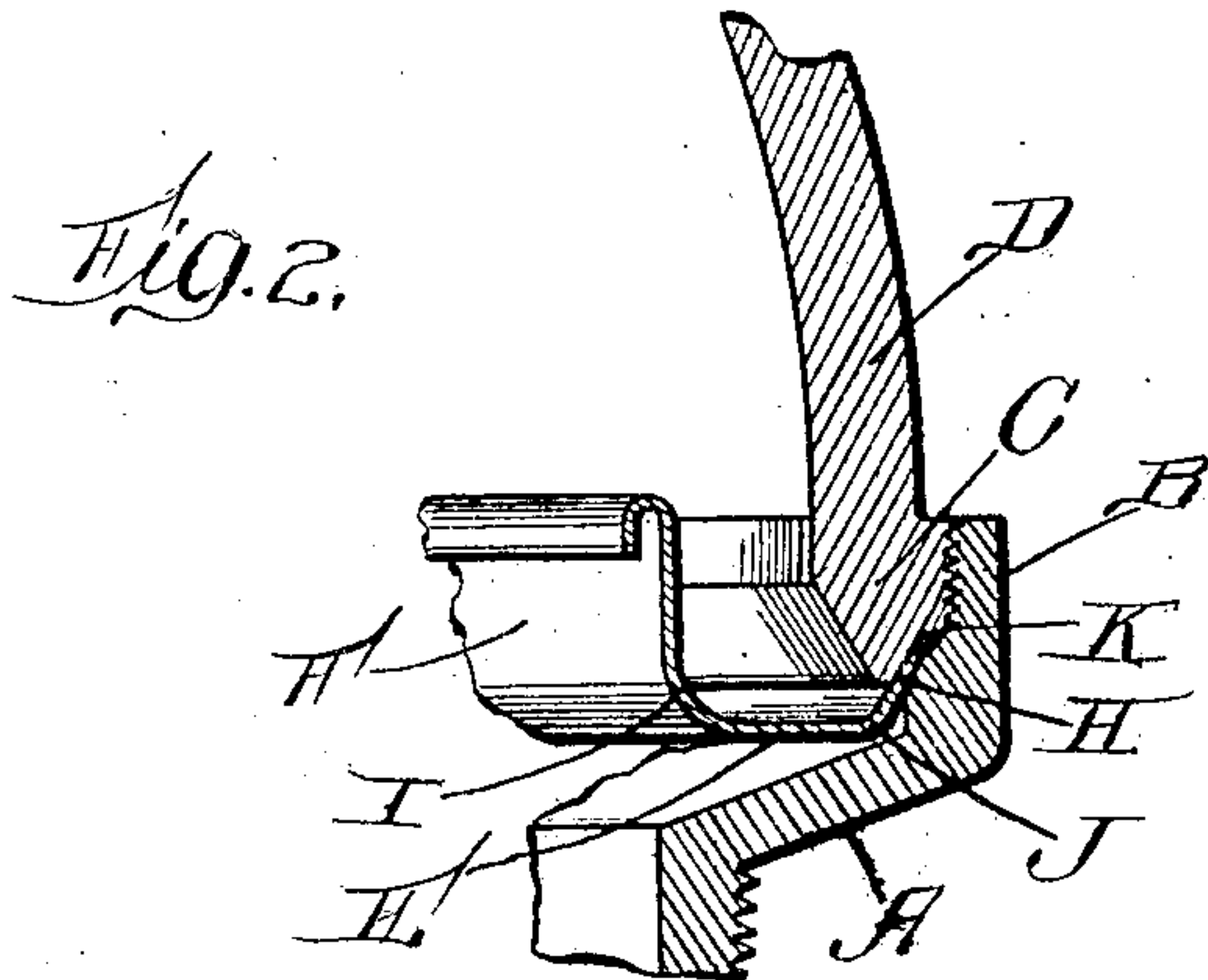
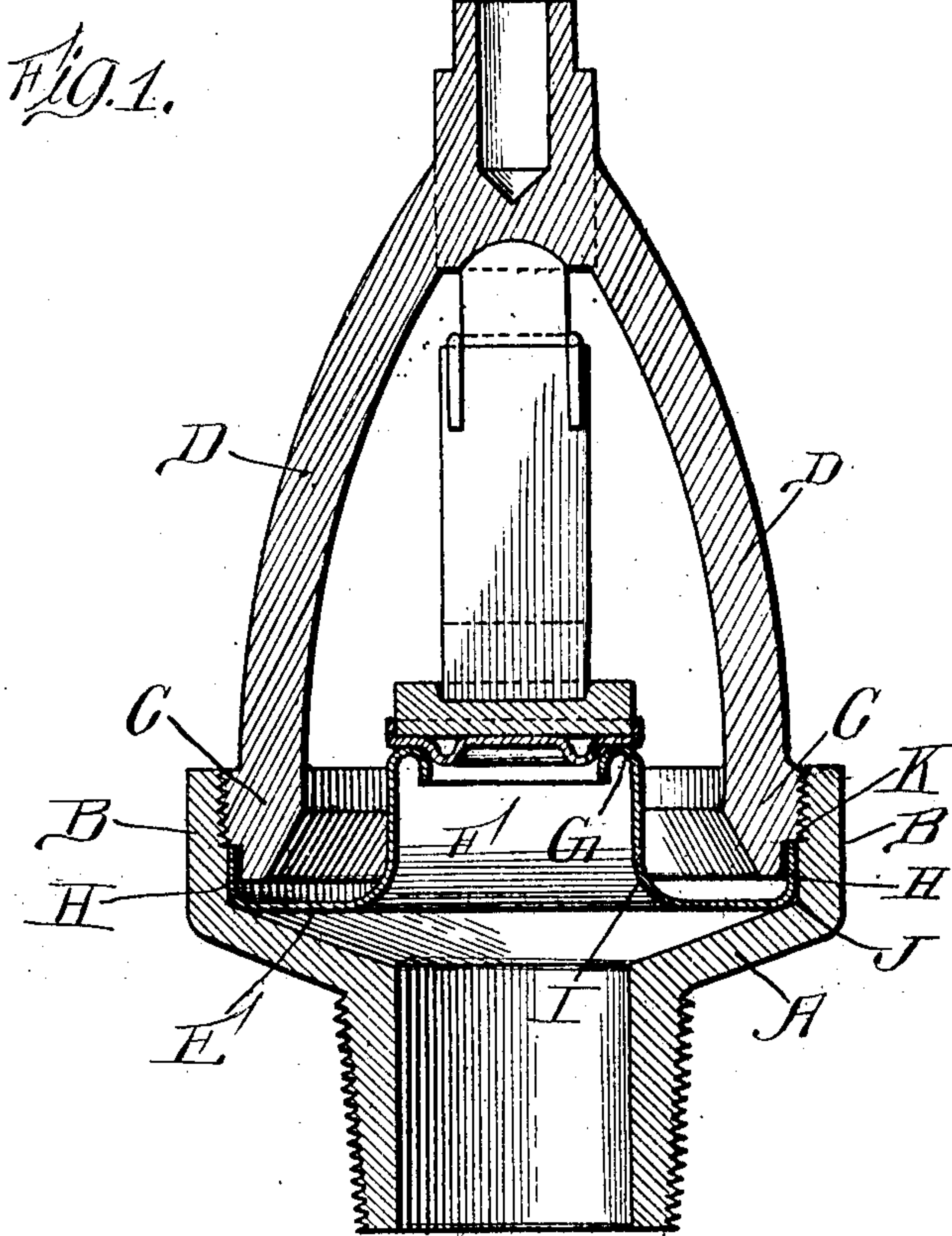
No. 875,929.

PATENTED JAN. 7, 1908.

M. K. HOPKINS.

SPRINKLER HEAD FOR AUTOMATIC FIRE EXTINGUISHERS.

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SPRINKLER-HEAD FOR AUTOMATIC FIRE-EXTINGUISHERS.

No. 875,929.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed June 23, 1906. Serial No. 323,061.

To all whom it may concern:

Be it known that I, MORTON K. HOPKINS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sprinkler-Heads for Automatic Fire-Extinguishers, of which the following is a specification.

The present invention relates more particularly to that class of sprinkler heads in which the seat for the cap or valve is carried by a tubular portion, forming the nozzle, and carried by an annular diaphragm, which latter is seated upon the base of the head structure and clamped firmly thereto by the ring which carries the yoke. It is found in practice that this construction does not give sufficient elasticity because of the short distance between the clamped point of the diaphragm and the tubular portion or nozzle.

The object of the present invention is to provide a diaphragm having greater elasticity, and to this end I provide it with a marginal flange which is substantially in the form of a short cylinder joining the diaphragm through a bend and extending outward therefrom on its valve-seat side, and I secure the diaphragm in place through the medium of this flange.

The invention consists in the features of the novelty that are hereinafter described with reference to the accompanying drawing, which is made a part hereof and in which;

Figure 1 is a vertical section of a sprinkler head embodying the invention in its preferred form. Fig. 2 is a fragmentary view showing the invention under a slight modification with the cap and strut omitted.

The frame of the head comprises a dished base A having an internally threaded marginal flange B, a ring C screwed into said flange and a yoke D carried by the ring.

E is the flexible, annular diaphragm made of resilient sheet metal carrying a tubular portion F forming the nozzle, the outer margin of which is spun inward to provide a seat for the cap or valve G, and H is a marginal flange on the outer or valve-seat side of the diaphragm. The diaphragm and the tubular nozzle F join each other through a curved bend I and the diaphragm and its marginal flange join each other through a similar curved bend J.

In assembling the parts the diaphragm is pressed into its place in the base with its flange presented outward. Thereafter the

ring C is screwed in place and a shoulder K on the ring engages edge of the flange H. The form of the ring below the shoulder may be tapering on its outer side so that it will spread the flange H and force it against the inner surface of the flange B, but this form is not essential because the shoulder alone may be relied upon to securely hold the diaphragm in place. In the drawings I have shown both forms, but do not desire to limit myself to either. In either event the diaphragm is forced firmly in contact with the base, so that its bends I and J, are free to give. These bends give it a greater degree of elasticity than it would have if the ring C bore directly upon the flat portion of the diaphragm and clamped it to the base.

Having just described my invention, the following is what I claim as new:

1. As a new article of manufacture a resilient annular diaphragm for sprinkler heads, carrying a valve seat and having a marginal flange on its valve-seat side, substantially as described.

2. As a new article of manufacture a resilient annular diaphragm for sprinkler heads, carrying a seat for the valve and having a marginal flange on its valve-seat side, the flange and diaphragm being united through a bend, substantially as described.

3. A sprinkler head for automatic fire extinguishers, having, in combination, a base provided with a marginal flange, a resilient annular diaphragm carrying a seat for the valve and having a marginal flange on its valve-seat side, said diaphragm being seated in the base with its flange outward, and a ring secured to the base and engaging the marginal flange of the diaphragm, substantially as described.

4. A sprinkler head for automatic fire extinguishers, having, in combination, a base provided with an annular flange, a resilient annular diaphragm carrying a seat for the valve and having a marginal flange on its valve-seat side, said diaphragm being seated in the base with its flange outward, and a ring having threaded engagement with the annular flange of the base, and having a shoulder engaging the edge of the marginal flange of the diaphragm and a tapering portion entering it, substantially as described.

5. A sprinkler head for automatic fire extinguishers, having, in combination, a base provided with a marginal flange, a resilient

annular, diaphragm, carrying a seat for the valve and having a marginal flange on its valve seat side, said diaphragm and flange being united through a bend, and said diaphragm being seated in the base so that the bend contacts therewith, and a ring secured to the base and engaging the edge of

the marginal flange, whereby the bend is left free to give, substantially as described.

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