

No. 868,366.

PATENTED OCT. 15, 1907.

J. C. SCOTT.

DEFLECTOR FOR AUTOMATIC SPRINKLER HEADS.

APPLICATION FILED SEPT. 4, 1906.

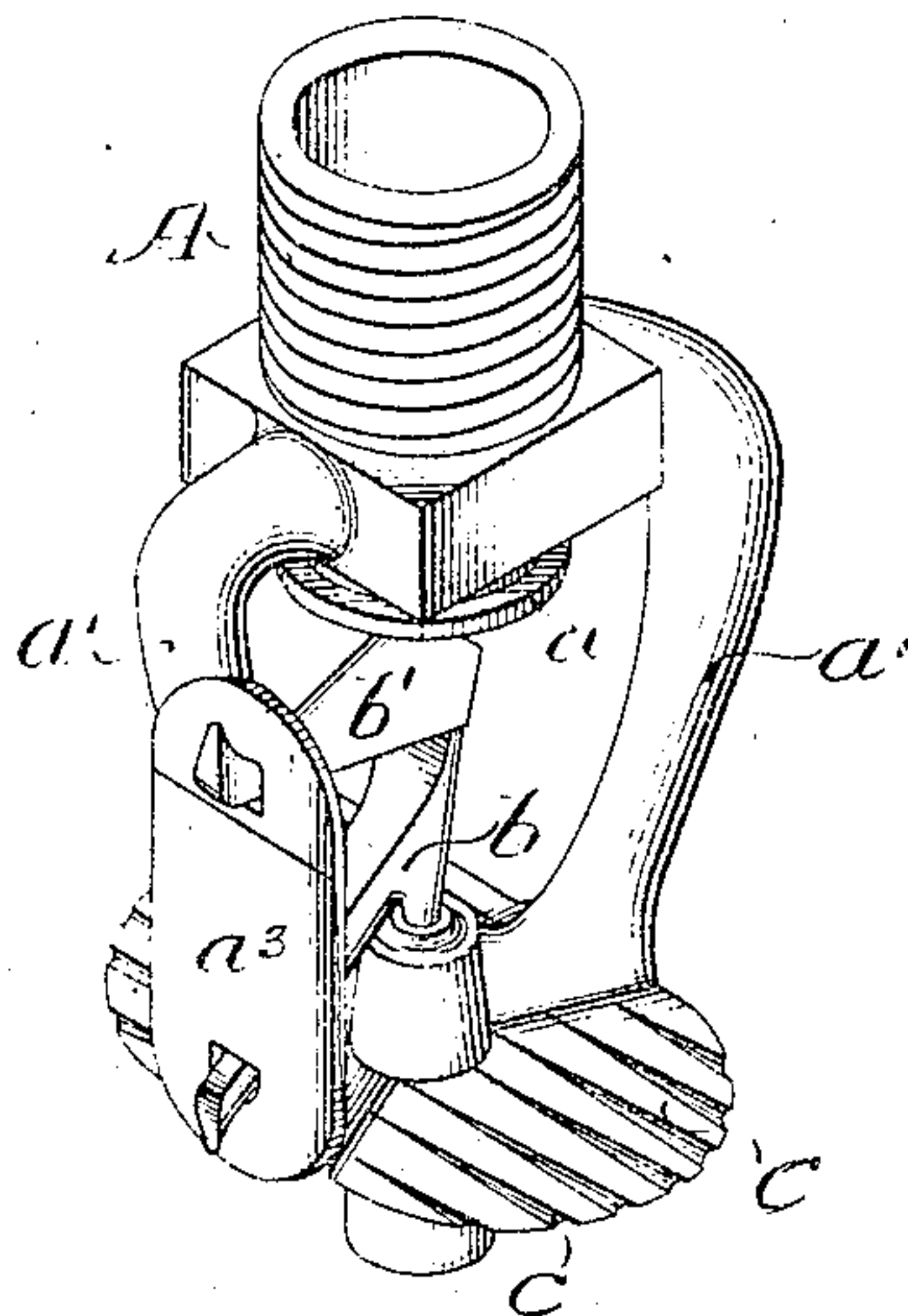


Fig. 3.

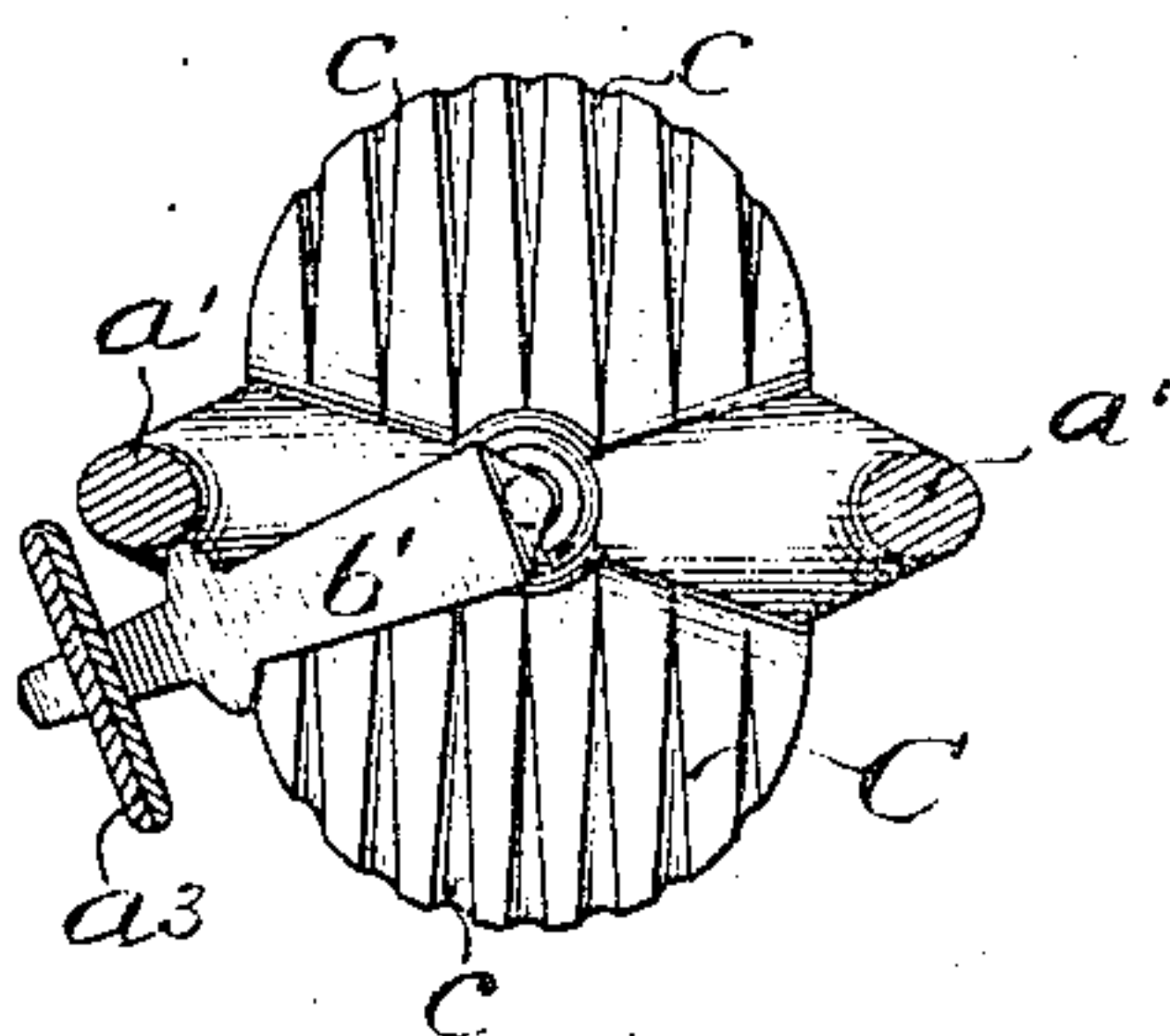


Fig. 2.

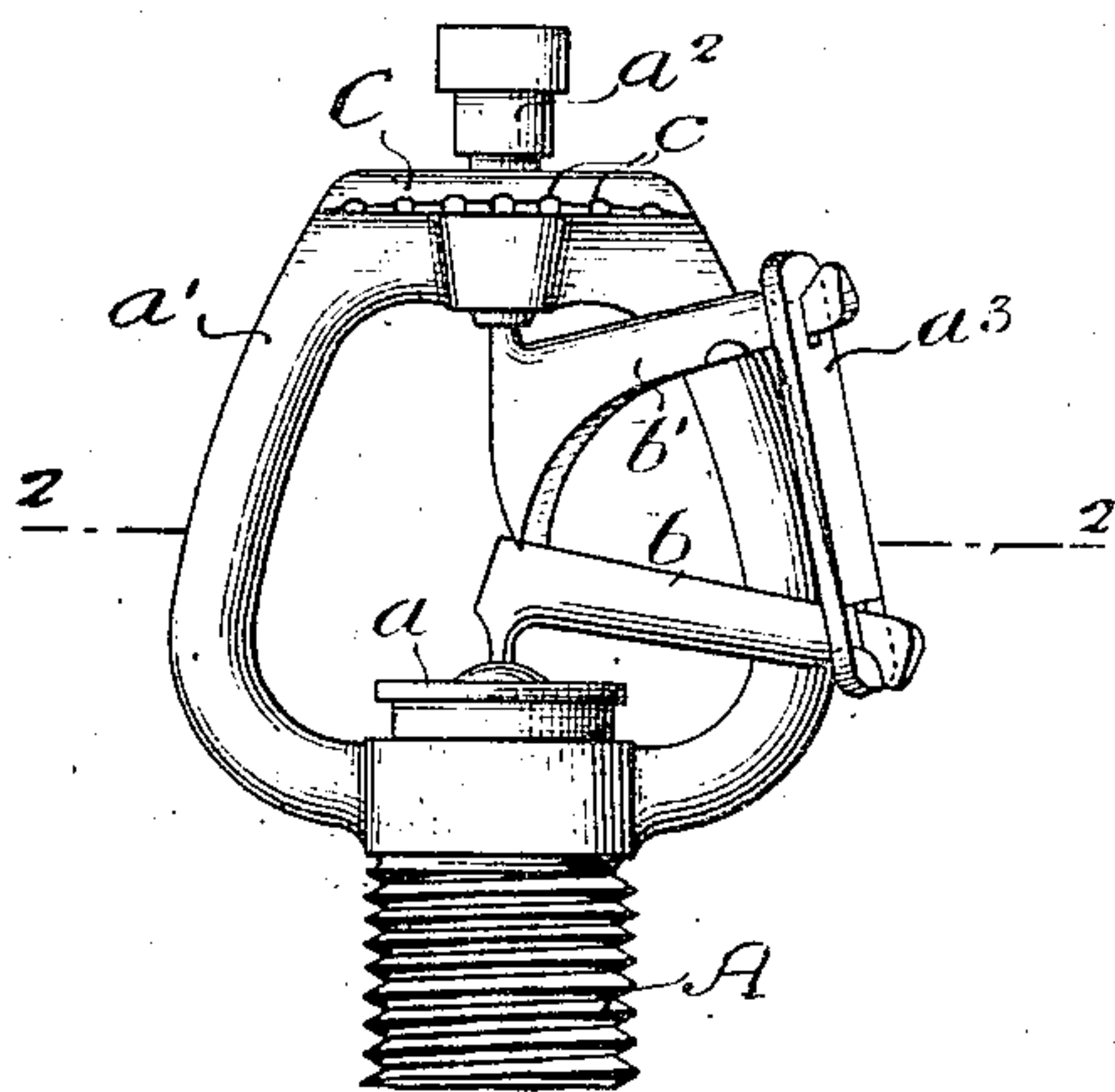


Fig. 1

Witnesses:  
William H. Howson.  
Titus H. Howson.

Inventor.  
John C. Scott.  
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# UNITED STATES PATENT OFFICE.

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## DEFLECTOR FOR AUTOMATIC SPRINKLER-HEADS.

No. 868,366.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed September 4, 1906. Serial No. 333,146.

*To all whom it may concern:*

Be it known that I, JOHN C. SCOTT, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Deflectors for Automatic Sprinkler-Heads, of which the following is a specification.

One object of my invention is to provide an attachment for an automatic sprinkler head, whereby water discharged therefrom, under operating conditions, shall be directed in definite directions or concentrated over certain areas to the whole or partial exclusion of others.

Another object of the invention is to provide a simple yet efficient deflector for an automatic sprinkler head, whereby the water discharged from it shall be directed in two relatively long, narrow sheets respectively on opposite sides of the head, while comparatively little or no water will be directed in lines substantially at right angles to the general lines of said sheets.

These objects I attain as hereinafter set forth, reference being had to the accompanying drawing, in which:—

Figure 1, is a side view of a sprinkler equipped with my improved deflector; Fig. 2, is an inverted horizontal section taken on the line 2—2, Fig. 1, and Fig. 3, is an inverted perspective view further illustrating the invention.

In the above drawings, A represents the tubular, externally threaded portion of a sprinkler head, which is designed for attachment to the pipes of a sprinkler system; the upper end of this part being formed as a valve seat and being closed by a valve *a*. Projecting upwardly from opposite sides of the tubular part *a* is a yoke portion *a'* of the head, in the center of the top of which is a threaded opening for the reception of a screw *a<sup>2</sup>* axially placed with regard to the device.

Two levers *b* and *b'* are provided, which, in the form of sprinkler illustrated, are respectively in engagement with each other, while the first engages the valve *a* and the second is engaged by the lower end of the screw *a<sup>2</sup>*. The long arms of these levers are normally connected by means of a link *a<sup>3</sup>*, whose two parts are united by metal designed to fuse at a predetermined and relatively low temperature.

So much of the sprinkler head as has been described is well known to the art, and my invention consists in providing this device, or any other form of sprinkler head, with a deflector C, in the present instance formed integral with and projecting from the top part of the yoke on both sides of the plane thereof. It will be seen that the under side of this deflector is, in plan, substantially elliptical in outline and is provided with a number of grooves or corrugations *c* of an increasing

width as they depart from the plane of the yoke. As a result of this construction, when the valve *a* has been released by the melting of the fusible metal connecting the two parts of the link *a<sup>3</sup>* and the consequent separation of the levers *b* and *b'*, the water flowing from the tubular part A will strike the deflector C and instead of being distributed over a substantially circular area, as hitherto, will be directed over two substantially triangular areas situated on opposite sides of the plane of the yoke of the sprinkler. This distribution of water is further assisted by the upper portion of the yoke, which, it will be noted from Fig. 2, is outwardly flared or thickened so as to give the water issuing from the part *a* a general outward trend, while shielding in a great measure those areas adjacent to and on both sides of the plane of the yoke. This particular form of the device is especially adapted for use in car barns, where, as is well known, it is customary to store cars in long parallel lines. Under these conditions, rows of sprinklers are mounted immediately between or slightly above the lines of the cars with their yokes lying in planes substantially parallel to the sides of the cars, so that in the event of a fire originating, as is ordinarily the case, within or under the cars, all of the water from the sprinklers will be discharged in fan-like sheets directly into or over the cars to the exclusion of the aisle spaces between them. By this means it will be seen that it is possible to direct water to points where it is needed to the exclusion of those areas where it is not required.

I claim as my invention:

1. A sprinkler head having an outlet for water, and a substantially flat stationary deflector lying in a plane at right angles to the line of said outlet, said head including means for limiting the area or areas over which the water may be delivered, substantially as described.

2. A sprinkler head having a yoke and a tubular portion for attachment to a sprinkler system, with a deflector placed to direct water from the tubular portion in a direction transverse to the plane of said yoke, said deflector being provided with a series of parallel grooves or corrugations, substantially as described.

3. A sprinkler head having a tubular portion designed for connection to a source of supply of water, and a substantially flat stationary deflector supported opposite to the opening of said tubular portion, said deflector being placed to direct water from the tubular portion to a definite area, and there being a portion of the sprinkler head placed to shield another area or areas from such water, substantially as described.

4. A sprinkler head having a tubular portion designed for connection to a source of supply of water, a yoke, and a substantially flat two-part deflector integral with said yoke supported opposite the opening of the tubular portion, the parts of said deflector respectively projecting on both sides of the plane of the yoke, substantially as described.

5. A sprinkler head having a deflector for directing water over a predetermined limited area or areas, said



deflector having a series of substantially parallel grooves or corrugations and being stationary upon the sprinkler head, substantially as described.

5 6. A sprinkler head consisting of a tubular portion, a yoke, a substantially flat elliptical deflector formed integral therewith and provided with a set of substantially parallel grooves in each side of a median plane, a valve closing the end of the tubular portion, and temperature responsive means for normally retaining said valve in its  
10 closed position, substantially as described.

7. An automatic sprinkler head consisting of a part for attachment to a source of supply of water, a yoke, and a deflector consisting of two parts respectively projecting horizontally on each side of the plane of the yoke, the  
15 portions of the yoke adjacent to the deflector being flared so as to assist in directing outwardly the water delivered from the source of supply, substantially as described.

8. An automatic sprinkler head including a portion for attachment to a source of supply of liquid, temperature responsive means normally closing said part, and a substantially flat deflector projecting from and permanently connected to the yoke substantially opposite the part for connection to the water supply, said deflector being provided with substantially parallel grooves of increasing  
20 width as they depart from the plane of the yoke, substantially as described.

9. A sprinkler head having a deflector constructed to direct water over a definite area or areas to the exclusion of another area or areas, said deflector having on each side a series of substantially parallel grooves of varying  
30 width, substantially as described.

10. A sprinkler head having a tubular portion designed for connection to a source of supply of water, with a substantially flat stationary deflector at a point opposite the opening of said tubular portion, said deflector being  
35 placed to direct water from the tubular portion over two areas on opposite sides of the sprinkler head, there being parts of the head on each side of the deflector placed to shield other areas from water, substantially as described.

11. A sprinkler head having an outlet for water and a substantially flat stationary deflector lying in a plane at right angles to the line of said outlet, said deflector having on each side a series of substantially parallel grooves of varying width, substantially as described.  
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In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.  
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JOHN C. SCOTT.

Witnesses:

A. LEWIS,

J. F. MARKLEY.