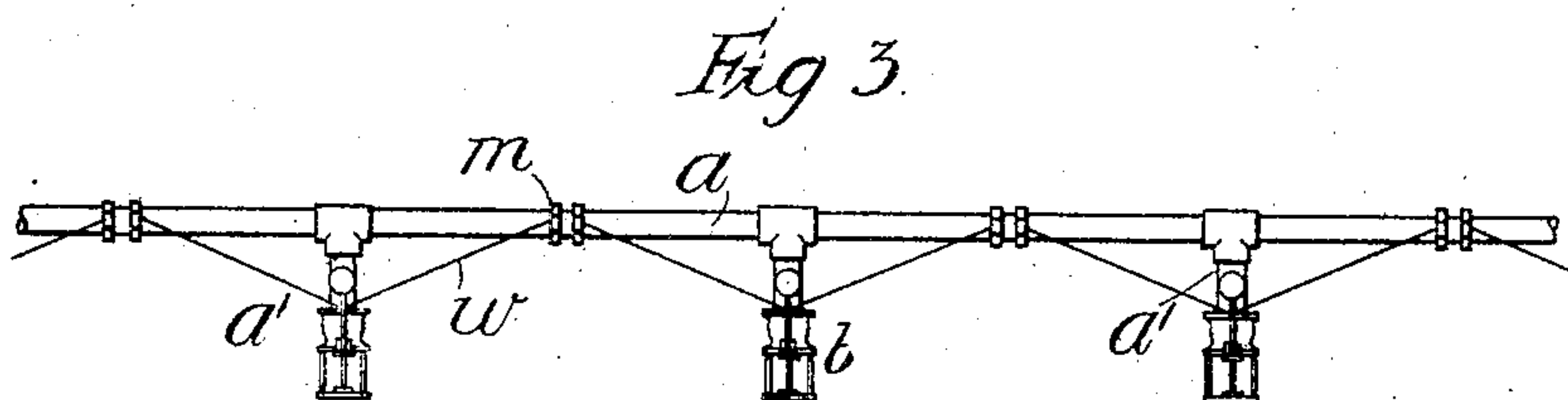
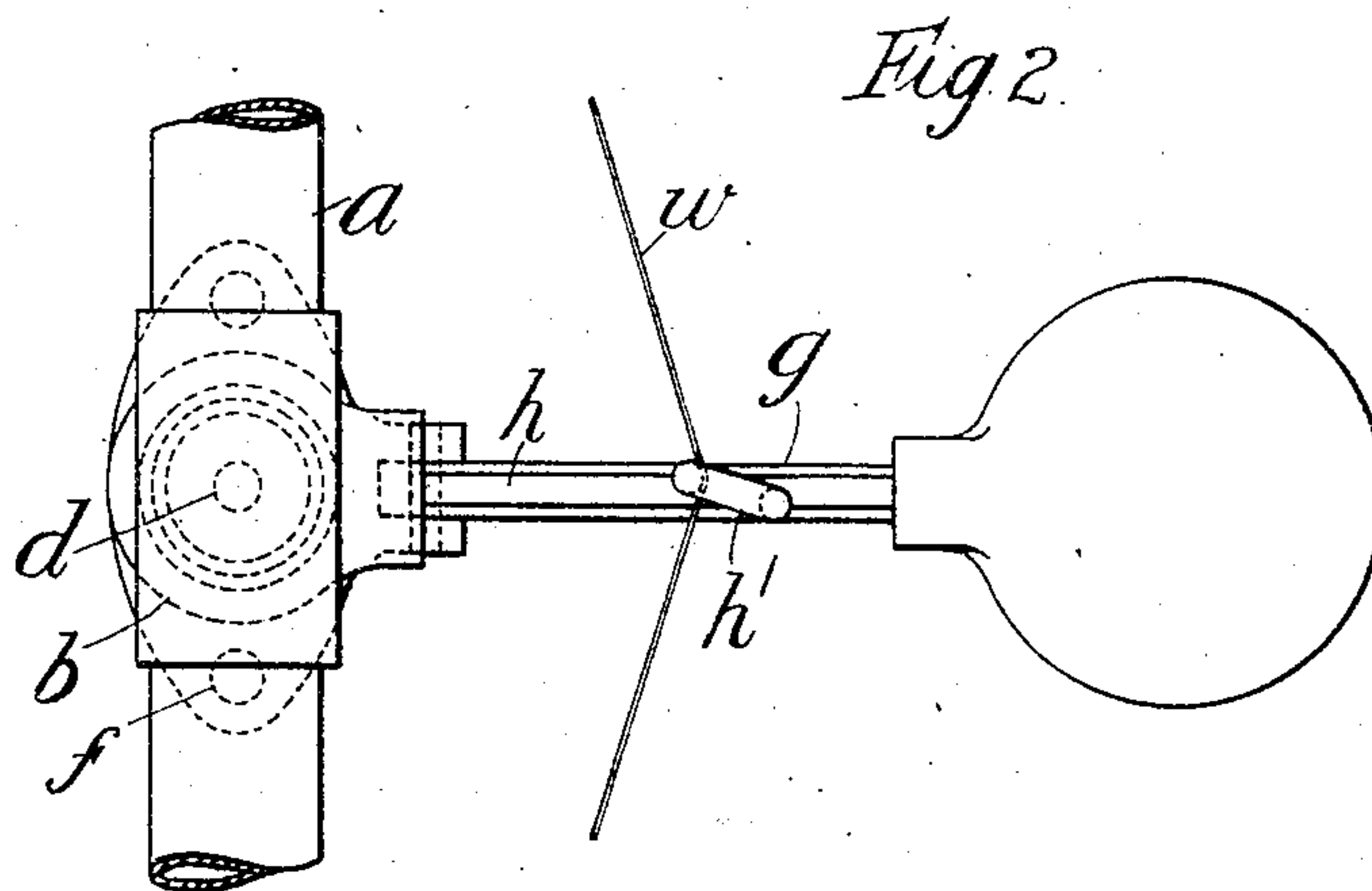
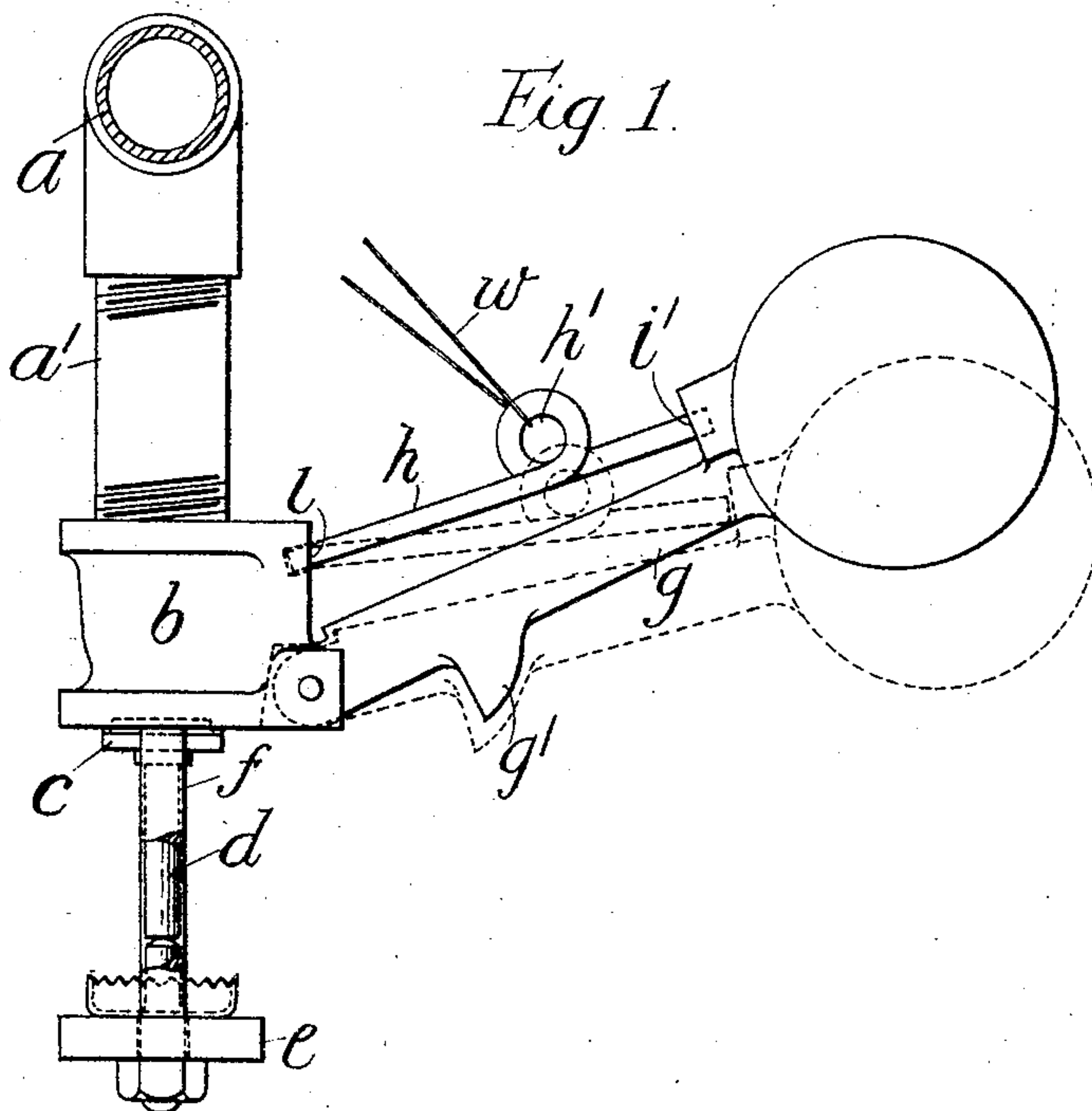


J. FIDDES.

MEANS FOR AUTOMATICALLY EXTINGUISHING FIRES IN BUILDINGS.

APPLICATION FILED FEB. 20, 1904.

2 SHEETS—SHEET 1.



Witnesses.
C. Heymann.
A. Hall

Inventor
James Fiddes
by B. Singer atty.

No. 786,491.

PATENTED APR. 4, 1905.

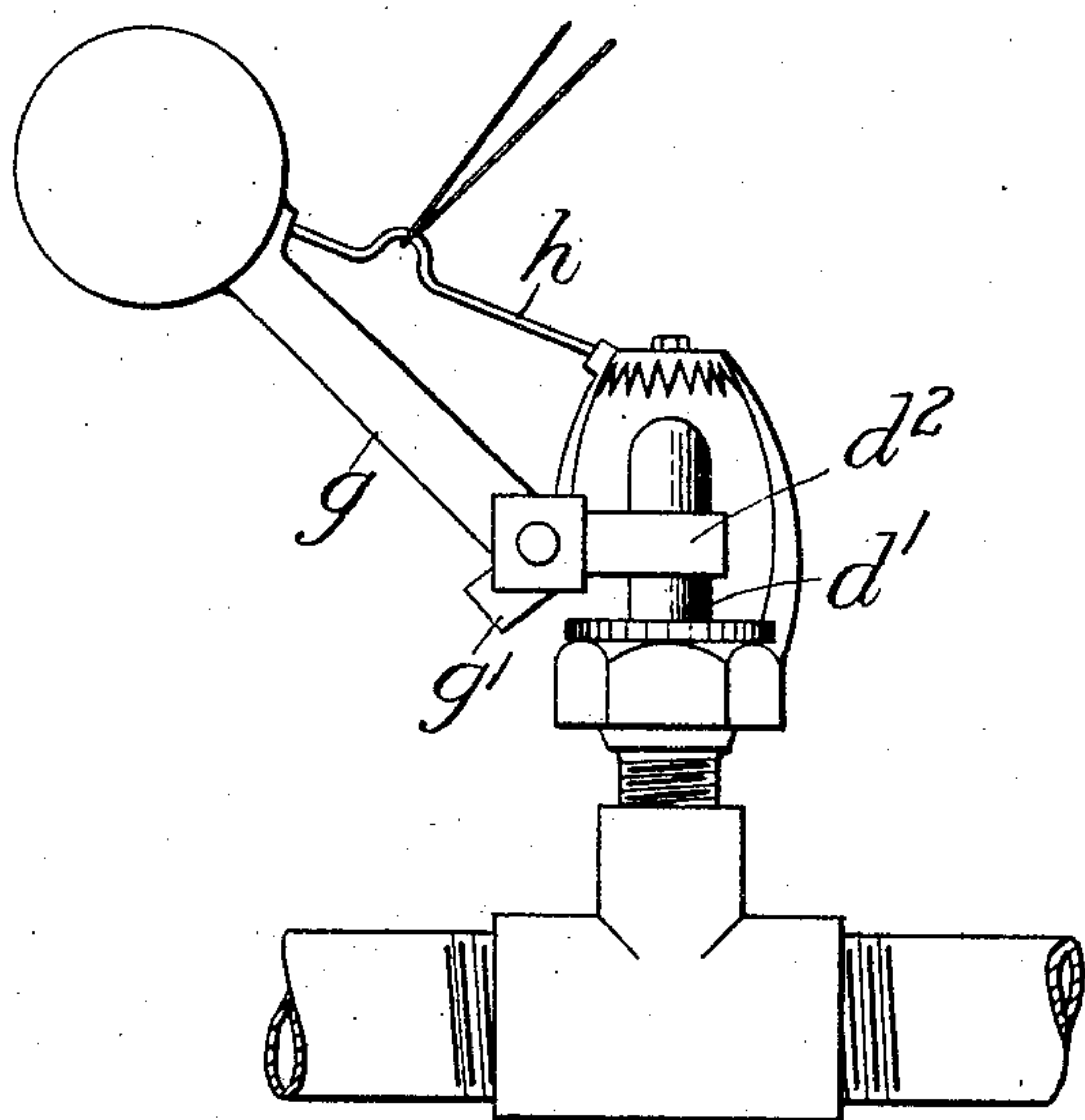
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2 SHEETS—SHEET 2.

Fig 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES FIDDES, OF ABERDEEN, SCOTLAND.

MEANS FOR AUTOMATICALLY EXTINGUISHING FIRES IN BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 786,491, dated April 4, 1905.

Application filed February 20, 1904. Serial No. 194,494.

To all whom it may concern:

Be it known that I, JAMES FIDDES, a subject of the King of the United Kingdom of Great Britain and Ireland, residing at Torry Sawmills, Crombie Road, Aberdeen, Scotland, have invented certain new and useful Means for Automatically Extinguishing Fires in Buildings, of which the following is a specification.

10 This invention has for its object to provide simple and inexpensive means whereby on a sudden rise of temperature within a building due to fire a water-valve sprinkler or other fire-extinguisher is brought into action to automatically extinguish the fire.

15 The improved device consists of a copper or other wire or wires attached at either or both ends to a water-supply pipe or where necessary to an equalizing-plate. To said wire or wires is hung a bar supporting a sprinkler-lever or a weight, so that when expansion takes place by a sudden rise in temperature the sprinkler-lever is caused to drop and swings round into contact with and 25 breaks or displaces a glass column or other support, which normally serves to keep the water-valve of the sprinkler shut or breaks a glass bulb or tube with closed end which acts instead of a valve.

30 In the accompanying drawings, Figure 1 is a side elevation, and Fig. 2 a plan, of a sprinkler, showing one embodiment of the invention. Fig. 3 is a diagrammatic view showing a number of sprinklers attached to 35 branches of a water-pipe, each sprinkler being adapted to be operated by the expansion of separate wires. Fig. 4 shows in elevation a modification in which the discharge from the sprinkler is upward and the device for bringing the sprinkler into action is correspondingly varied.

Referring to Figs. 1 to 3 of these drawings, a water-pipe *a* is formed with a number of branches *a'*, each of which terminates in a 45 discharge-box *b*, having an orifice closed by a valve *c*, which is kept normally pressed against its seat in the orifice by a glass or other column or strut *d*, carried by a cross-head *e*, adjustably supported by bolts or 50 hangers *f* from the box *b*, each discharge-box

b serving as a sprinkler, which is opened to discharge water from the pipe *a* on breakage or removal of the strut *d*, which keeps the valve *c* closed. On each sprinkler-box *b* is pivoted a weighted lever *g*, having on it a hammer-like projection *g'*, such that when the lever swings downward it strikes against and breaks or displaces the strut *d* and allows the sprinkler-valve to open. The lever *g* is normally held up in an approximately horizontal position by a catch device which is automatically disengaged on expansion of the copper wire *w*.

In the embodiment represented at Figs. 1 to 3 this catch device consists of a rod or bar *h*, the ends of which enter recesses at *i* in the box *b* and at *i'* in the weighted end of the lever *g*, while near its mid-length is an eye *h'*, to which is attached the wire *w*, so as to sustain the weight of the bar *h* and lever *g*, the wire being preferably passed through the eye, 70 as indicated in the drawings. On expansion of the wire the bar *h* and lever *g* gradually drop to the position indicated by the dotted lines, at which point the outer end of the bar *h* is freed from the recess at *i'* and the lever *g* 75 is released from engagement with the bar, whereupon it suddenly falls and breaks or displaces the strut *d* to open the sprinkler-valve.

The wire *w* may be stretched between 80 brackets *m* or other supports secured on the pipe *a* or on an equalizing-bar alongside, and the sprinklers *b* may be arranged to discharge the water from the pipe *a* in any direction, the weighted lever *g* being suitably fitted accordingly.

In the modification represented at Fig. 4 the valve and strut *d* are replaced by a glass tube *d'*, closed at its end and adapted to normally close the outlet from the sprinkler. 90 The said tube *d'* is clasped by a band *d²*, to which the lever *g* is pivoted, while a heel *g'* is formed on the lever, so that when the latter falls the heel comes in contact with the sprinkler and the glass tube is broken or 95 wrenched off to open the outlet. The lever *g* is in this case normally held up by a bar *h* and expanding wire, as in the modification described with reference to Figs. 1, 2, and 3.

The generic idea involved in my invention, 100

of which the apparatus disclosed herein is a special embodiment, is disclosed and covered by my copending application, Serial No. 186,017, filed December 21, 1903.

5 What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a fire-sprinkler, in combination with a water-pipe, a discharge-box, destructible means for preventing the issue of water from
10 said discharge-box, devices for breaking said destructible means, and a stretched wire normally supporting said devices, and adapted on expansion to release the same.

2. In a fire-sprinkler, in combination with
15 a water-pipe, a discharge-box having an orifice, destructible means for normally closing said orifice, devices for breaking said destructible means, and a stretched wire normally supporting said devices and adapted
20 on expansion to release said devices.

3. In a fire-sprinkler, in combination with a water-pipe, a discharge-box having an orifice, destructible means for normally closing
25 said orifice, a pivoted lever, and a stretched wire normally supporting said lever and adapted on expansion to release said lever to swing against said orifice-closing means.

4. In a fire-sprinkler, in combination with a water-pipe, a discharge-box having an orifice, destructible means for normally closing
30 said orifice, devices for breaking said destructible means, a catch normally preventing said devices from movement, and a stretched wire supporting said catch and
35 adapted on expansion to allow said catch to release said breaking devices.

5. In a fire-sprinkler, in combination with a water-pipe, a discharge-box having an orifice, destructible means for normally closing
40 said orifice, a pivoted lever, a catch normally restraining said lever from movement, and a stretched wire supporting said catch and adapted on expansion to allow said catch to release said lever to break said orifice-closing
45 means.

6. In a fire-sprinkler, in combination with a water-pipe, a discharge-box having an orifice, destructible means for normally closing
50 said orifice, a pivoted lever, a catch normally restraining said lever from movement, said catch being provided with an eye, and a stretched wire passing through said eye so as to support said catch, said wire being adapted on expansion to allow said catch to re-
55 lease said lever.

7. In a fire-sprinkler, in combination with a water-pipe, a discharge-box having an orifice, destructible means for normally closing
60 said orifice, a weighted lever pivoted to said discharge-box, a bar whose ends enter recesses in said discharge-box and in said weighted lever, said bar serving to support said lever, and a stretched wire supporting
65 said bar and adapted on expansion to allow said bar to release said lever.

8. In a fire-sprinkler the combination with a discharge-pipe, of a dome of frangible material normally stopping the outflow from
70 said pipe, a metallic wire, and a lever operatably connected to said dome and adapted to be released on sag of said wire to fracture said dome.

9. In a fire-sprinkler the combination with a discharge-pipe, of a dome of frangible material normally stopping the outflow from
75 said pipe, a wire, a lever stretching said wire, and a pin normally supporting said lever from said wire and adapted on sag of said wire due to expansion to release said lever to fracture said dome.
80

10. In a fire-sprinkler the combination with a discharge-pipe of a dome of frangible material normally stopping the outflow from
85 said pipe, a lever operatably connected to said dome and means normally supporting said lever but automatically releasing said lever on sudden rise of temperature.

11. In a fire-sprinkler, the combination with a discharge-pipe of a dome of frangible material normally stopping the outflow from
90 said pipe, a metallic wire, a lever operatably connected to said dome and a pin supporting said lever from said wire and adapted to release said lever on sag of said wire due to sudden rise of temperature.
95

12. In a fire-sprinkler, the combination with a discharge-pipe of a dome of frangible material normally stopping the outflow from
100 said pipe a device operatably connected to said dome, a stretched wire and means adapted on expansion of said wire to cause said claspings means to fracture said dome.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES FIDDES.

Witnesses:

WALLACE FAIRWEATHER,
JNO. ARMSTRONG, JUNR.