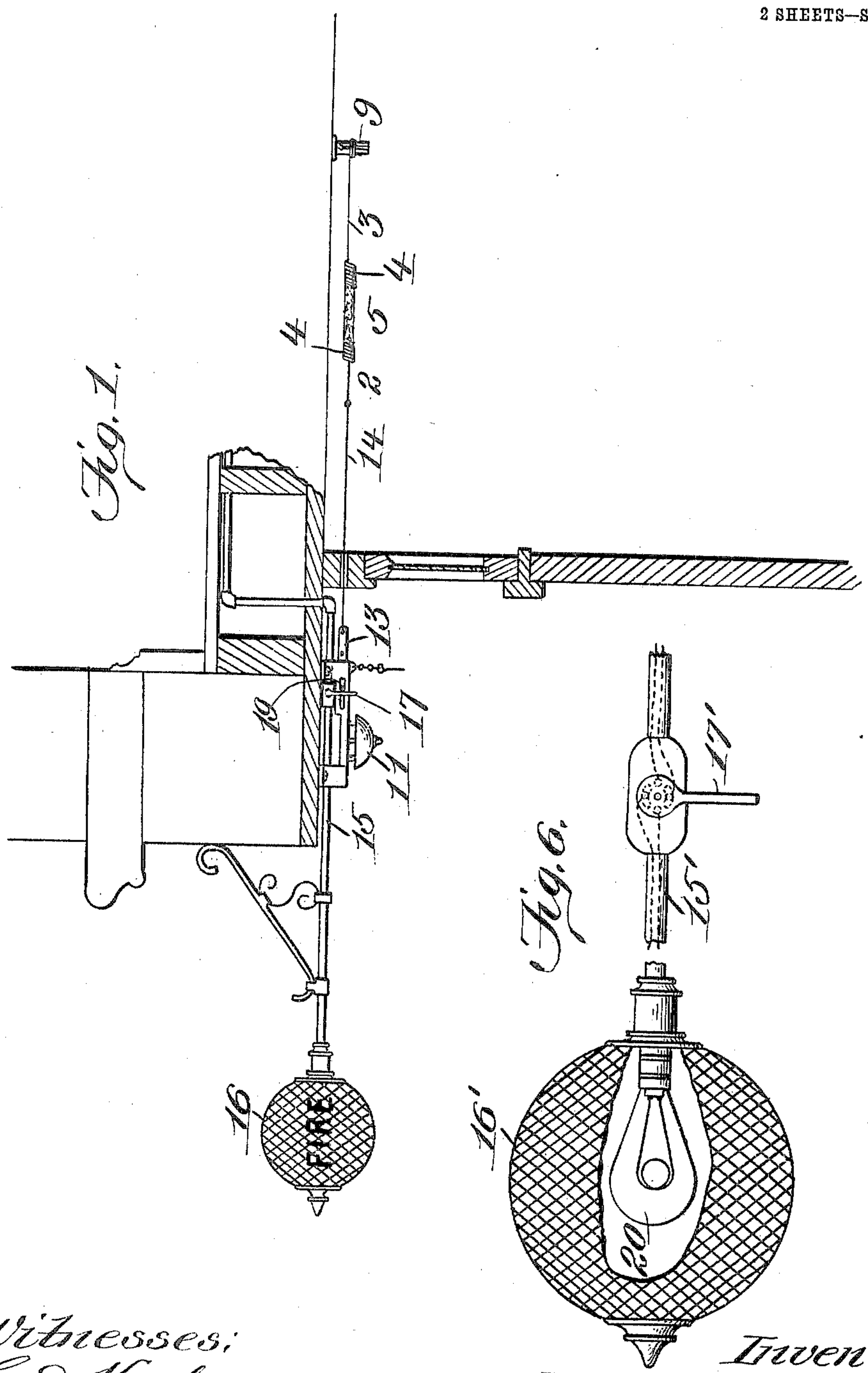


No. 816,960.

PATENTED APR. 3, 1906.

L. H. BRITTON.
FIRE ALARM APPARATUS.
APPLICATION FILED MAR. 23, 1905.

2 SHEETS—SHEET 1.



Witnesses:
C. D. Hester
James L. Morris, Jr.

Inventor
Louis H. Britton
By James L. Norris
Atty.

No. 816,960.

PATENTED APR. 3, 1906.

L. H. BRITTON.
FIRE ALARM APPARATUS.
APPLICATION FILED MAR. 23, 1906.

2 SHEETS—SHEET 2.

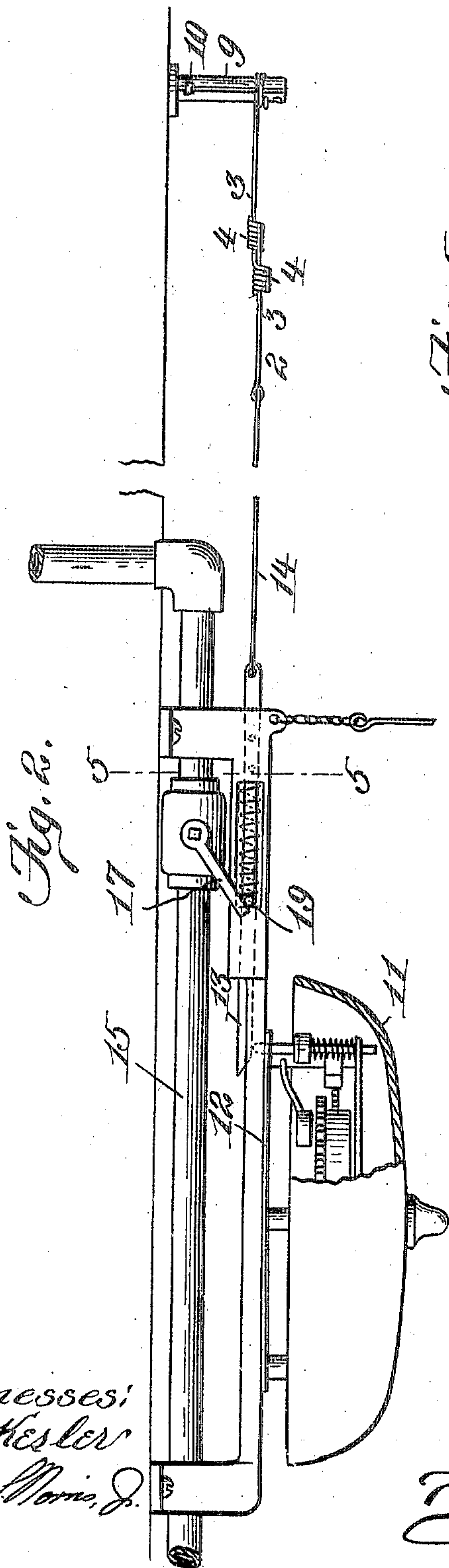


Fig. 5.

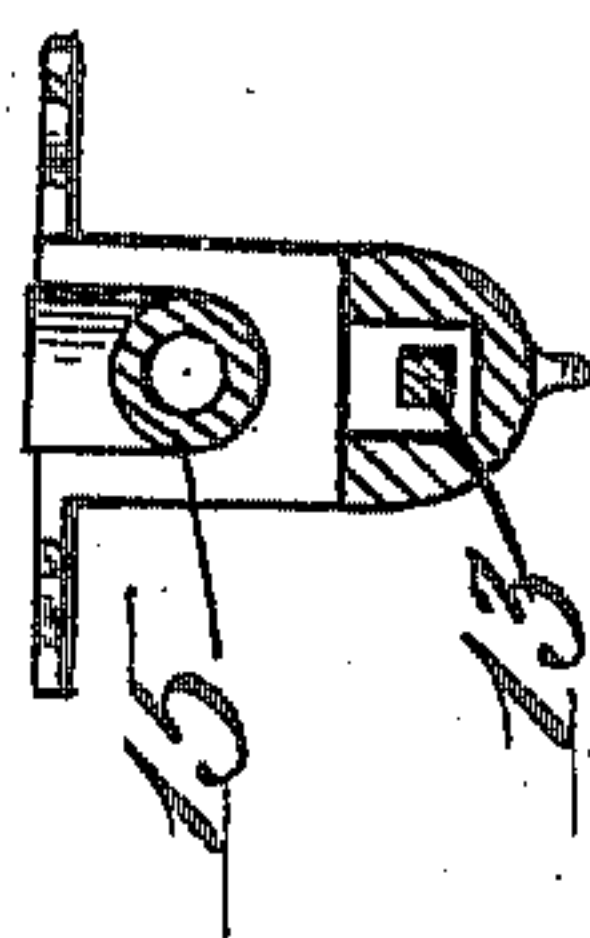


Fig. 4.

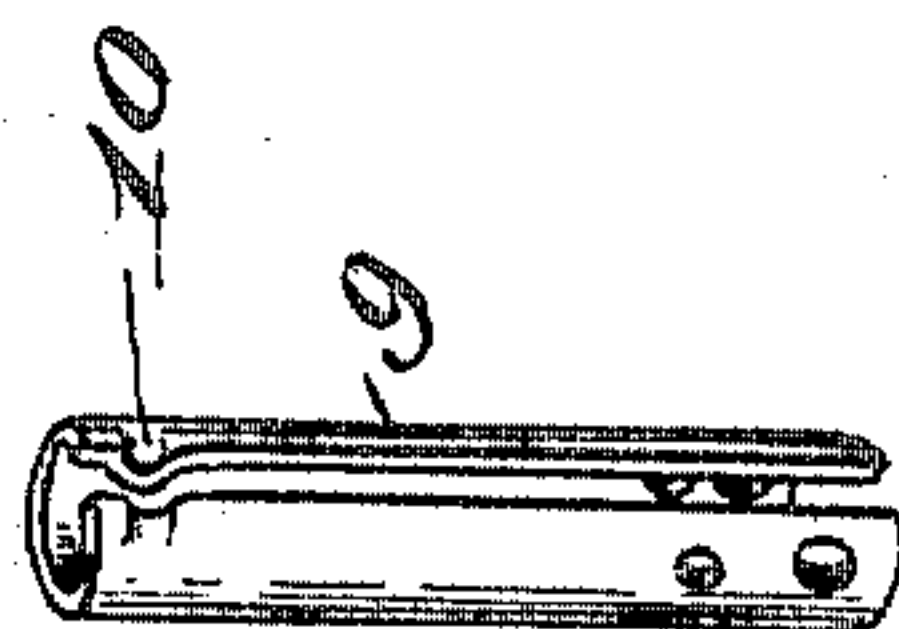
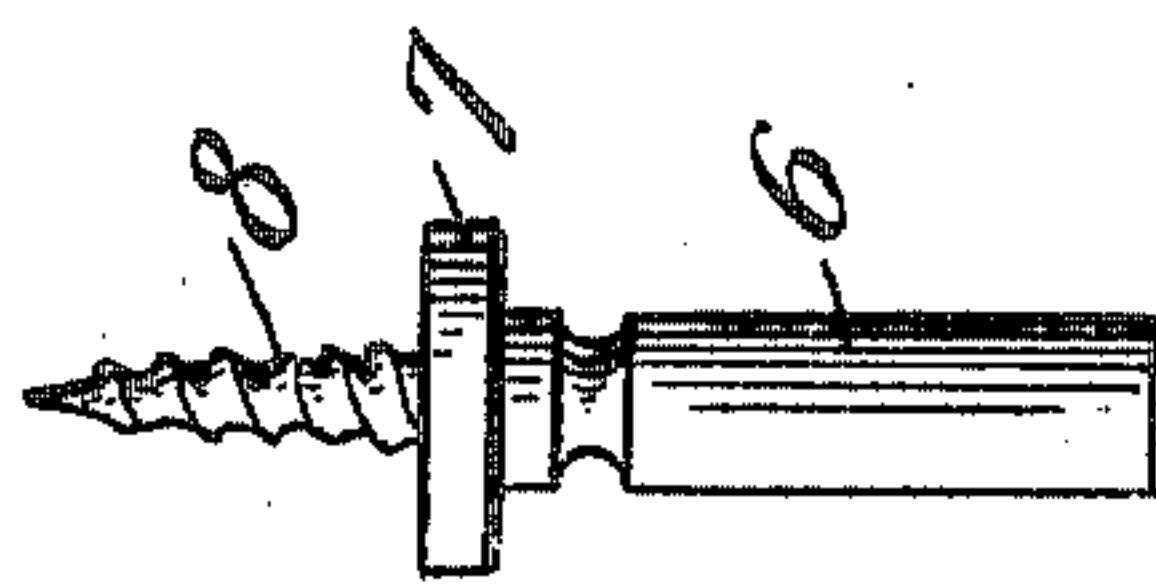


Fig. 3.



Witnesses:
C. D. Hesler
James L. Norris, Jr.

Inventor
Louis H. Britton
By James L. Norris
Atty.

UNITED STATES PATENT OFFICE.

LOUIS H. BRITTON, OF LISBON, OHIO, ASSIGNOR OF ONE-HALF TO GEORGE B. HARVEY AND ONE-FOURTH TO HARRY V. GEORGE, OF LISBON, OHIO.

FIRE-ALARM APPARATUS.

No. 816,960.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed March 23, 1905. Serial No. 251,688.

To all whom it may concern:

Be it known that I, LOUIS H. BRITTON, a citizen of the United States, residing at Lisbon, in the county of Columbiana and State of Ohio, have invented new and useful Improvements in Fire-Alarm Apparatus, of which the following is a specification.

This invention relates to a fire-alarm apparatus.

10 The apparatus, as will be gathered from its title, involves an alarm or signal which may be of any suitable kind—for example, either audible or visual, or both. A convenient form of audible signal or alarm is a bell, while
15 for the visual signal I may employ a light, which may be either an incandescent lamp or lamps or a gas-flame. I do not limit myself to the placing of the alarm or signal in any particular locality; but an especial advantage follows the mounting of the signal
20 exteriorly to or outside of the building with which the alarm apparatus is associated, for when the building is used as a warehouse or is not occupied should there be a fire in such
25 unoccupied building the alarm or signal will, through the intervention of means hereinafter described, be caused to operate, so that the signal, being exterior of the building, will be indicated to passers-by, which would
30 not be the case were it inside of the building.

In the drawings accompanying and forming a part of this specification I illustrate a simple form of embodiment of my invention, which I will set forth in detail in the following
35 description; but I do not restrict myself to the disclosure thus made, for material variations may be adopted within the scope of my claims succeeding said description. In said embodiment there are illustrated two signals
40 exterior to a building, one a bell and the other a light, so that should the bell fail to operate the light will. The light may be either that produced from an incandescent lamp or from gas. When gas is employed, as will hereinafter appear, I maintain at the burner a small
45 or pilot flame, and when it is desired to cause an alarm the gas is turned on full head.

Referring to the drawings, Figure 1 is a side elevation of an apparatus including my
50 invention, showing a manner of installing same, a part of the building represented in said figure being in section. Fig. 2 is an enlarged side elevation of the principal parts represented in the preceding figure. Fig. 3

is a detail view of the shank of a hanger. 55 Fig. 4 is a perspective detail of the sleeve carried by or forming part of said hanger. Fig. 5 is a cross-sectional view on the line 5 5 of Fig. 2. Fig. 6 is a detail view of a modified arrangement, hereinafter more particularly
60 described.

Like characters refer to like parts throughout the different views.

I interpose between a hanger of some suitable kind and an alarm what I will term a
65 "connector," and I have shown such a device involving my invention in the drawings, the same being denoted in a general way by 2. The connector 2 may be formed from any desirable material—for example, wire, which I
70 find satisfactory for my purpose. The connector 2 is represented as consisting of movably-connected sections, each designated by 3 and shown as connected together by a slip or sliding joint, by virtue of which the con-
75 nector may be held in a contracted relation normally or when the apparatus is not in action.

The joint between the sections 3 may be of any suitable character, although the one
80 illustrated is of advantage in that it can be readily and easily formed. It is made by forming at the adjacent ends of the two sections laterally-offset eyes, each designated by 4 and each adapted to surround and capable
85 of sliding movement upon the other section. By reason of the fact that the eyes are laterally offset from what might be considered the inner ends of the sections, there will be formed
90 at the adjoining ends of the sections, when the connector is in its contracted or normal relation, an elongated loop the sides of which, as will be evident, are formed by the inner
95 terminal and overlapping portions of the two sections 3. The eyes 4 can be readily formed by coiling the inner terminals of the wire sections. Normally the connector will be contracted, and in practice it will be maintained
100 positively in this relation by a fusible substance, as 5, occupying or filling the loop formed by the movably-connected inner ends of the sections 3 of the connector. When, therefore, the fusible substance 5 is in position
105 to maintain the connector contracted, the sections thereof, as will be evident, are prevented from relative motion by the fusible substance, which may be of the same character as that employed in fire-alarm apparatus

of various kinds. The fusible substance, however, is adapted to melt at a dangerous temperature, occasioned, for instance, by a fire in the building, and when it melts it releases the sections 3, so that one of them can have relative motion with respect to the other, and the purpose of this will be hereinafter obvious.

One end of the connector 2 ordinarily is carried by a hanger, while the other end thereof coöperates directly with an alarm. The hanger may be of any suitable character. I have, however, illustrated and will now describe a hanger of advantageous form. The hanger illustrated involves in its make-up a shank or body, as 6, of substantially cylindrical form, having a shoulder 7 and a threaded extension 8 above the shoulder. This threaded extension is adapted to be screwed into a ceiling or the like, so that the hanger or support can be mounted in position. The shoulder 7 is adapted to abut against the ceiling, as will be evident. Surrounding and frictionally gripping or engaging the shank or body 6 is a sleeve 9, illustrated as being of split form, as in this way I can secure a sufficient resiliency in the sleeve to cause it to hug or embrace the shank or body 6 sufficiently to prevent the sleeve from accidentally turning. The engagement, however, between the sleeve and shank should be free enough to permit the sleeve being turned by manipulation. In the shank 6, below the shoulder, I form an annular groove, which receives one or more projections, as 10, upon the sleeve, the projections or lugs being adapted to be sprung into the groove when the sleeve is put in place and serving when thus positioned to prevent the sleeve from being accidentally separated from the shank. As will be understood, one section 3 of the connector or wire coacts directly with the hanger or support just described, while the other section coöperates directly with the signal.

A bell is shown in the drawings at 11 and as carried by a frame, as 12, the frame 12 being ordinarily mounted exteriorly of the building and it being channeled for the passage or movement of the actuator or trip-bar 13, constituting a part of the bell-operating mechanism. I deem it unnecessary to describe in detail any more of the bell-operating mechanism, for the same in itself forms no part of my invention.

When the actuator or trip-bar 13 is in its retracted position, (and it is positively held in this relation in the present instance,) the bell will be out of action, but when the trip-bar or actuator is shot forward (and a spring is customarily employed for this purpose) the bell will be sounded, so as to give an alarm that there is a fire in the building.

To what might be considered the inner end of the trip-bar or actuator 13 is united one

end of the connector 14, then in its contracted relation. The trip-bar is then drawn back its full extent and a pin is inserted in a perforation therein and rests against the frame so as to hold the trip-bar in its retracted position. The opposite end of the connector is then passed through a perforation in the lower end of the split or divided sleeve 9, and the latter is then turned, coiling the end of the connector several times about the sleeve. When a number of coils are formed on the sleeve by the inner extremity of the connector, the pin which held the trip-bar or actuator 13 retracted is withdrawn and the connector 14 itself performs this office.

When the parts are arranged as just set forth, it will be apparent that should the fusible substance 5 be melted the forward section 3 of the connector will be released, the same applying to the trip-bar or actuator 13, so that the instant such release is effected the trip-bar or actuator can be shot forward to sound the bell. Owing to the manner in which the connector is joined with the sleeve 9, there is no possibility of the latter turning by the pull exerted upon the connector by the spring acting against the trip-bar. The sleeve, however, can be freely turned by a suitable implement.

As hereinbefore stated, my invention contemplates the use of two signals should occasion require such, and I have described in detail one of them as a bell. The other may be a light, such as a gas-light, and I have shown gas-piping, as 15, leading out of the building and suitably supported outside thereof. The piping terminates in some suitable form of burner inclosed in a globe, as 16, which needs no detailed description except to state that ordinarily its plates will be of some prominent color bearing upon their surfaces the word "Fire." In using gas-light as a signal I will ordinarily maintain a small flame, as in this case it is not necessary to have recourse to sparking appliances.

In the piping within a convenient distance of the bell I arrange a valve the stem of which carries an arm 17, coöperative with a striker, as 19, upon the trip-bar or actuator 13. The striker is shown as a pin extending through a slot in the frame 12. I might state that the frame 12 can be utilized in part to uphold the gas-piping in a substantial manner, and for this purpose the frame is shown as having in its opposite ends upwardly-extending arms channeled or recessed to receive the piping. Lying against the upper side of the piping and between the walls of the respective recesses are pressure or grip blocks which when the frame or bracket 12 is mounted in place press downwardly against the piping to hold it securely in position. The striker or pin 19 has a limited range of movement in its slot without possibility of operating the arm or lever 17 in or-

der to provide for expansion and contraction of the various parts and of the building.

In some cases where gas is not accessible or where other lights are preferable I may employ an incandescent lamp as a visual signal. In this case the feed-wires for the lamp will be led through the tubing or piping 15', which may be ordinary gas-piping mounted upon the building exteriorly thereof in any desirable way. At the outer end of the piping 15' there may be arranged a globe, as 16', in which the incandescent lamp 20 will be located. The feed-wires will be intersected by some ordinary switch involving a lever or swinging arm, as 17', operative precisely like the arm 17. The incandescent lamp 20 when employed is of course normally extinguished; but when the switch or lever 17' is operated to cut in the current it will be lighted.

It will be understood from what I have hereinbefore stated that the bell and light are simultaneously thrown into action, so that should the bell not be heard the light will be seen, and vice versa.

The apparatus is simple in construction, its parts can be inexpensively made and readily installed, and when installed the apparatus is thoroughly effective, for should a strip of the fusible substance 5 be melted an alarm will be at once rendered effective.

By virtue of the fact that the sections of the connector are movably connected there is no possibility of the adjacent ends thereof being separated when the fusible substance or member 5 is melted, which is advantageous, as it prevents the wire upon slacking from dropping or being thrown out of line and becoming tangled, and thus preventing the releasing of the outside signal.

It will be understood from what I have hereinbefore set forth that there is no casing or housing around either of the signals, except, of course, for the globe around the lamp, which I do not consider a casing or housing, so that when either or both are operated this fact will be indicated to persons outside the building.

From what has been hereinbefore stated it is believed that it will be understood that the split or divided sleeve 9 firmly grips the shank or body of the hanger or anchor hereinbefore described, so that there is no possibility of the connector 2 being accidentally released. The said sleeve, however, can be turned by a suitable implement, such as a wrench gripping the same or a bar extending through the perforation in the bottom of the

sleeve to coil what might be considered the inner end of the connector about the sleeve.

Having thus described my invention, what I claim is—

1. A connector for use in fire-alarm apparatus, involving a plurality of sections, each having a lateral eye, the lateral eye of one embracing the other at the juncture between said sections, to provide a sliding joint and a loop, and fusible substance filling said loop.

2. In a fire-alarm apparatus, the combination of audible and visual alarms, an extensible connector, a support to which one end of the extensible connector is jointed, the opposite end thereof being directly coöperative with said alarms, and the connector normally holding the alarms out of action and involving a fusible substance to hold it in contracted relation, the fusible substance, when melted, serving to permit the simultaneous action of the alarms.

3. The combination of a connector involving movably-connected sections, a fusible substance to hold the connector normally in contracted relation, a shank, a sleeve frictionally embracing said shank, one end of the connector being coiled about said sleeve and the opposite end of the connector being directly coöperative with an alarm.

4. The combination of an alarm a connector involving movably-connected sections, a fusible substance to hold the connector normally contracted, a shank, and a split sleeve upon the shank, the sleeve having a projection and the shank a groove to receive the projection, one end of the connector being coiled around the sleeve and the other end thereof being directly coöperative with an alarm.

5. The combination of a bell and an actuator therefor, a light normally out of action, a lever arranged, when thrown, to put the light into action, the actuator having a striker to operate the lever to cause the action of the light, an extensible connector united with said actuator and consisting of movably-connected sections, a fusible substance to hold the connector normally contracted, and a fixed support with which the connector is joined.

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

LOUIS H. BRITTON.

Witnesses:

JAMES G. MOORE,
GEORGE B. HARVEY.