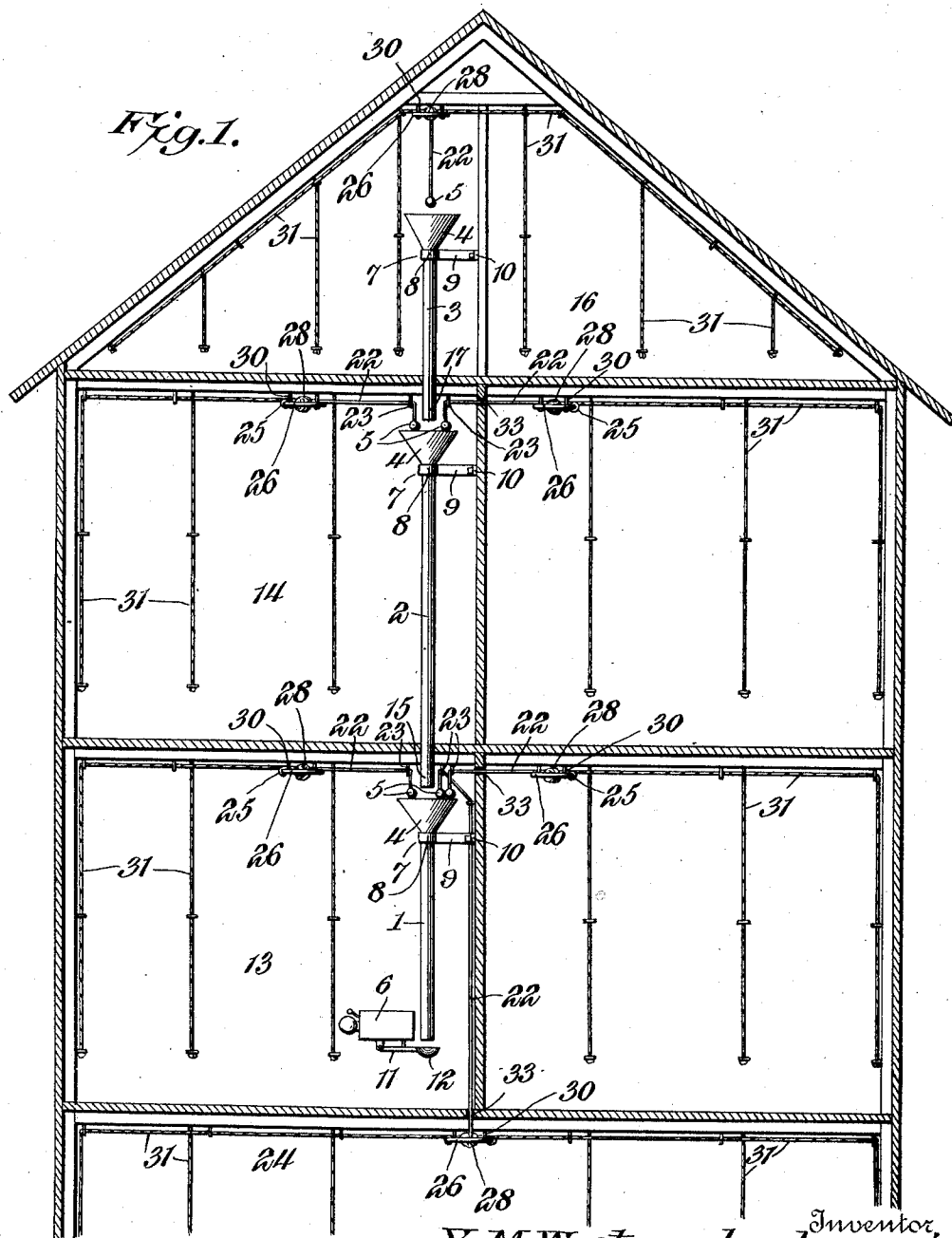


Y. M. WESTMORELAND.
 AUTOMATIC FIRE ALARM.
 APPLICATION FILED APR. 29, 1911.

1,039,863.

Patented Oct. 1, 1912.

2 SHEETS-SHEET 1.



Witnesses

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 J. F. Perry

Y. M. Westmoreland, Inventor,

By

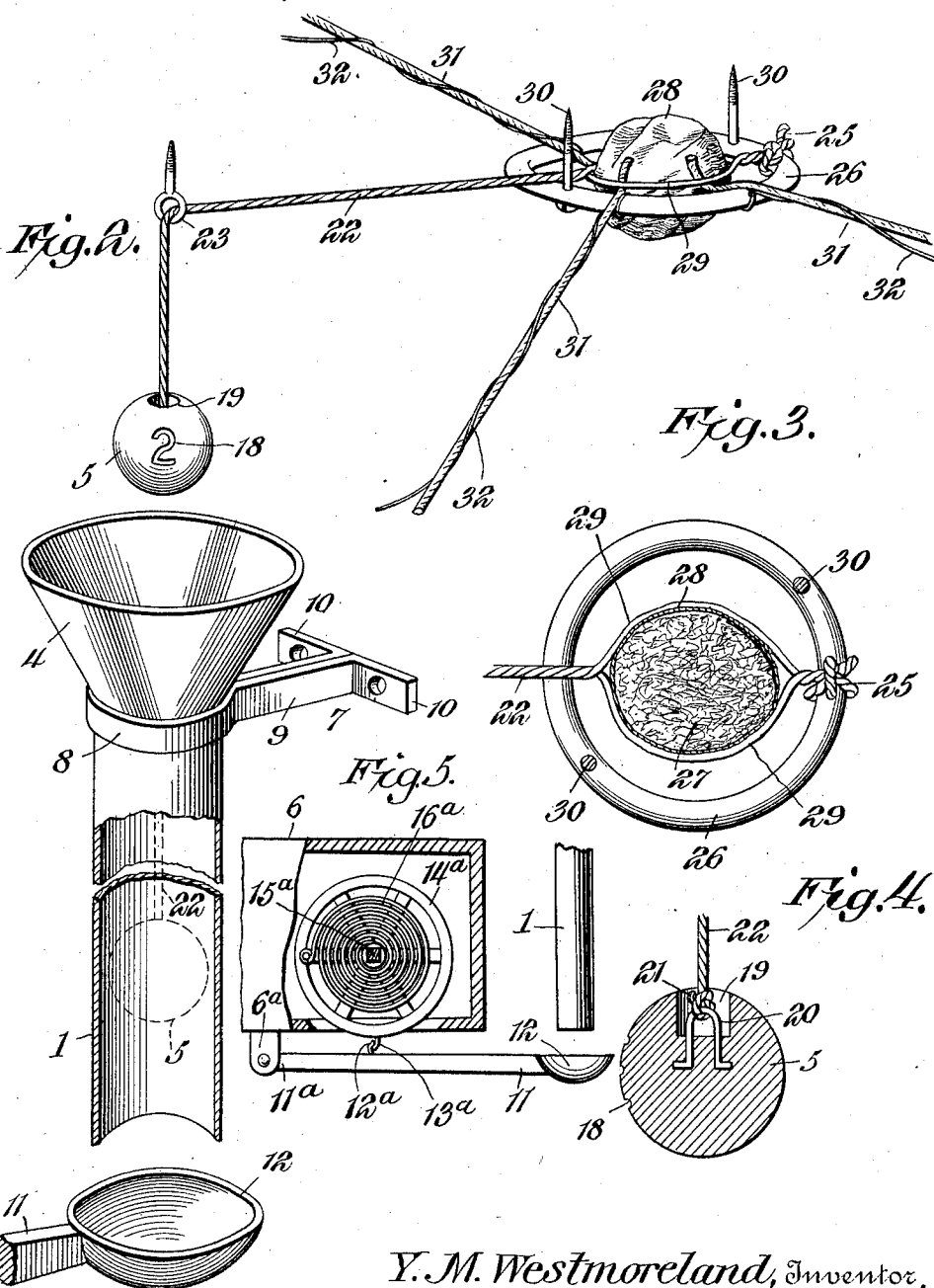
E. J. Siggers, Attorney

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UNITED STATES PATENT OFFICE.

YANCY MARTIN WESTMORELAND, OF GREENSBORO, NORTH CAROLINA.

AUTOMATIC FIRE-ALARM.

1,039,863.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed April 29, 1911. Serial No. 624,177.

To all whom it may concern:

Be it known that I, YANCY M. WESTMORELAND, a citizen of the United States, residing at Greensboro, in the county of Guilford and State of North Carolina, have invented a new and useful Automatic Fire-Alarm, of which the following is a specification.

The invention relates to improvements in fire alarms.

10 The object of the present invention is to improve the construction of fire alarms, and to provide a simple, inexpensive and efficient automatic fire alarm, adapted to be readily applied to the rooms or apartments of a house or other structure, and capable, in event of a fire in any portion of a house, of immediately sounding an alarm and of indicating the particular room or apartment in which the fire is located before the same has gained material headway, whereby fires may be extinguished with comparatively little loss.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

35 In the drawings:—Figure 1 is a vertical sectional view of a house, equipped with an automatic fire alarm, constructed in accordance with this invention. Fig. 2 is an enlarged detail perspective view of a portion of the automatic fire alarm. Fig. 3 is an enlarged detail sectional view, illustrating the manner of connecting the cords of the alarm operating weights with the inflammable material. Fig. 4 is a detail sectional view of one of the weights. Fig. 5 is a detail view of a portion of the alarm, illustrating the manner of supporting the pivoted trip lever or trigger in position beneath the lower end of the bottom tube of the series.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

55 In the accompanying drawings in which is illustrated the preferred embodiment of the invention, 1, 2 and 3 designate a verti-

cal series of tubes, arranged one below another and each provided at its upper end with a funnel 4 of sufficient size to extend beneath a plurality of weights, which are in the form of balls 5 and which are adapted to roll down the tubes and trip an alarm 6. The tubes are mounted in suitable brackets or supports 7, preferably consisting of a single piece of metal, bent at an intermediate point to form a ring or loop 8, the side portions of the metal being fitted together and extended from the loop to form a shank or stem 9, and bent in the opposite direction, and the terminal portions of the metal being bent at right angles to form attaching arms 10, which are secured to the wall. Any other suitable form of bracket or support may of course be employed. The vertical tubes are preferably arranged in the corners of their respective rooms or apartments so as to be out of the way, but they may be arranged at any other desired point and may be encased so as not to be exposed to view. The lower end of both tubes 1 is located above a trip lever or trigger 11 of the alarm 6. The alarm, which may be of any preferred construction, is preferably provided with a bell, and bell ringing mechanism, which is normally held out of operation by the trigger or lever 11. The trigger or lever 11 is provided at its outer end with an integral grip or receptacle 12, adapted to receive one of the said balls 5, whereby the trigger or trip lever is caused to release the bell ringing mechanism for sounding the alarm. The trip lever or trigger 11, which is pivoted at its inner end 11^a to a lug or ear 6^a of the casing of the alarm 6, is provided at an intermediate point with a catch 12^a and adapted to engage with a catch 13^a of a wheel 14^a, fixed to the winding shaft 15^a of the alarm. The winding shaft 15^a is connected with a barrel spring 16^a, which is placed under tension when the shaft 15^a is rotated for winding up the alarm. The trip lever or trigger 11 is adapted to hang down from the lug 6^a when the alarm is not set. After the winding shaft is rotated for setting the alarm, the catch 12^a of the trip lever or trigger is engaged with the catch 13^a of the wheel 14^a. These catches consist of fingers or projections angularly bent at an intermediate point to enable them to positively engage each other. The barrel spring 16^a is of sufficient strength to maintain the catches in engagement with each other for

supporting the trip lever or trigger with its outer end beneath the lower end of the bottom tube 1 of the vertical series, but a comparatively light blow will disengage the catch of the trigger from that of the wheel 14^a and releases the alarm. Any suitable gearing may be employed for transmitting motion from the spring actuated winding shaft to the bell ringing mechanism. The bottom tube is preferably located in a room 13 on the first floor of a house, and its funnel is arranged in spaced relation with the ceiling of such room 13. The intermediate tube 2 is located in a room 14 on the second floor, and its lower end 15 extends through the floor of the room 14 and terminates at a point a short distance above the funnel of the bottom tube 1. The top tube 3, which is located within a garret 16 of a house, has its lower end 17 extending through the floor of the garret and located above the funnel of the intermediate tube 2. While a series of three tubes is illustrated in the accompanying drawings, yet it will be readily understood that any number of tubes may be employed, and that the fire alarm may be applied to a building having any number of rooms or apartments.

A ball 5 is provided for each of the rooms of each floor, and each ball has a number 18 or other suitable designation corresponding to the number or other destination of the room, so that when one of the balls 5 of the system is released, as hereinafter explained, and rolls down the tubes and operates the trigger and sounds the alarm, the number or other indicating means on such ball will show the room or apartment in which the fire is located, so that the attendant or other person occupying the room in which the alarm is installed may take the necessary steps for extinguishing the fire. By this means, it will be impossible for a fire to gain any material headway, and fires occurring may be quickly extinguished without serious loss. Each ball is provided with a recess 19 in which is arranged an eye 20, formed by a staple or other suitable means and having one end 21 of a cord 22 attached to it, the knot or attaching portion being located within the recess, so that the exterior of the ball is smooth to enable the same to fall freely through the vertical tubes. The ball is suspended at the top of the funnel from an overhead hanger 23, which may consist of a screw eye, as illustrated in Fig. 2, but a guide pulley may be employed for this purpose and is preferably used when the cord has a considerable bend, as is the case when the cord extends from an apartment 24, such as a basement or cellar, located below the floor having the bottom tube 1 of the series. The hangers are adapted to support a series of balls over the funnel in position for causing any one of the balls to drop

into the funnel when the cord corresponding to such ball is released.

The attached end 25 of the cord 22 is secured to a supporting ring 26 within which is arranged a mass of inflammable material 27, which may consist of any suitable absorbent material saturated with an inflammable substance and contained within an inflammable casing or covering 28. The cord extends from one side of the open supporting frame or ring to the ball, and the attached end is located at the opposite side of the open frame, which may of course be of any preferred form. The inflammable material is preferably held within the ring between the strands 29 of the cord 22, the strands being open for this purpose, as clearly illustrated in Fig. 3 of the drawings. The ring is secured to the ceiling or other overhead support by means of vertical screws 30, or other fastening devices, which space the rings from the ceiling. A plurality of fuses 31 radiate from the ring to different portions of the room or apartment, so that a fire occurring within the same will ignite one of the fuses 31 and through the medium of the same ignite the inflammable material 27 and cause a burning of the ball supporting cord to release the ball for sounding the alarm. The fuses may be of any suitable construction and the ring supports them in position with their terminals adjacent to the inflammable material. The loop formed by the separated strands 29 may also be employed for holding the inner terminals of the fuses in close contact with the inflammable material. The fuses 31 are each supported by a very fine wire 32, which is wrapped or extended spirally around the fuse 31, say, once every two or three inches. The wire, which may be omitted, is preferably employed as it prevents the fuse from breaking and enables a fuse of any desired length to be employed. Any other form of fuse may of course be employed and the cords and the fuses may be of the same color as the walls and ceiling of the room, so that they will be hardly noticeable. The fuses may extend across the ceiling and down the walls, as shown, and the cords are designed to extend through openings 33 in the walls or partitions separating the rooms, so that any number of rooms on a floor may be included in the system.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. An automatic fire alarm comprising an alarm having operating means, a vertical series of tubes extending upward from the operating means of the alarm and spaced apart at their adjacent ends and provided at their upper ends with funnels, a plurality of weights, and inflammable means for suspending the weights at the funnels, any one

of the weights being adapted to drop through the tubes and operate the alarm.

2. An automatic fire alarm including an alarm having a trigger, a plurality of spaced
5 vertical tubes forming a single conduit to the trigger and each provided at its upper end with a funnel and having its lower end open, the lower end of the bottom tube being located above the said trigger, a plurality
10 of balls arranged above each of the funnels at the spaces between the tubes, and inflammable means for suspending the balls independently of one another over the funnels of the tubes, any one of the balls being adapted
15 to drop through the tubes to engage the trigger to sound the alarm.

3. An automatic fire alarm including an alarm having a trigger, a tube extending upwardly from the trigger and having an
20 open lower end located above the said trigger, an open support, a ball suspended above the upper end of the tube and provided with a cord extending to and across the support, inflammable material arranged within the
25 open support and connected with the cord, and a plurality of fuses extending from the support.

4. An automatic fire alarm comprising an alarm having operating means, a weight for
30 actuating the operating means, and means for suspending the weight over the operating means including an open support, an inflammable cord connected with the weight and extending across the support and com-
35 posed of a plurality of strands separating at the support, inflammable material held between the separate strands of the cord, and a plurality of fuses extending from the inflammable material.

40 5. An automatic fire alarm comprising an alarm having a trigger, a tube extending from the trigger, and means for suspending the weight above the tube, said means including an open support, an inflammable
45 cord extending across the support and composed of a plurality of strands separated at the support, inflammable material held

between the separated strands of the cord, and a plurality of fuses extending from the inflammable material and secured to the
50 open support.

6. An automatic fire alarm comprising an alarm having a trigger, a tube extending from the trigger, and means for suspending
55 the weight above the tube, said means including an open ring provided with means for supporting it in spaced relation with a ceiling or other open support, an inflammable support extending across the ring and secured at one end to the same, an inflam-
60 mable mass of material having an inflammable covering and supported within the ring by the said cord, and a plurality of fuses supported by the ring and extending from the inflammable material.

7. An automatic fire alarm comprising an alarm having a trigger, a vertical series of
tubes extending upward from the trigger and spaced apart at their adjacent ends and provided at their upper ends with funnels,
70 a plurality of weights having designations corresponding with the various rooms or apartments, and inflammable means for suspending the weights at the said funnels.

8. An automatic fire alarm comprising an
75 alarm having a trigger, a vertical series of tubes provided at their upper ends with funnels and designed to be arranged within a vertical series of rooms or apartments, the bottom tube having an open lower end lo-
80 cated above the trigger and the lower ends of the other tubes being extended through the floors of the rooms or apartments and spaced from the funnels, and inflammable means for suspending designating weights
85 over the funnels.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

YANCY MARTIN WESTMORELAND.

Witnesses:

J. P. BOYLES,
D. M. STAFFORD.