June 23, 1953 C. F. CHRISTIE 2,643,313

COMBINED BURGLAR AND FIRE ALARM

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Fig. 1

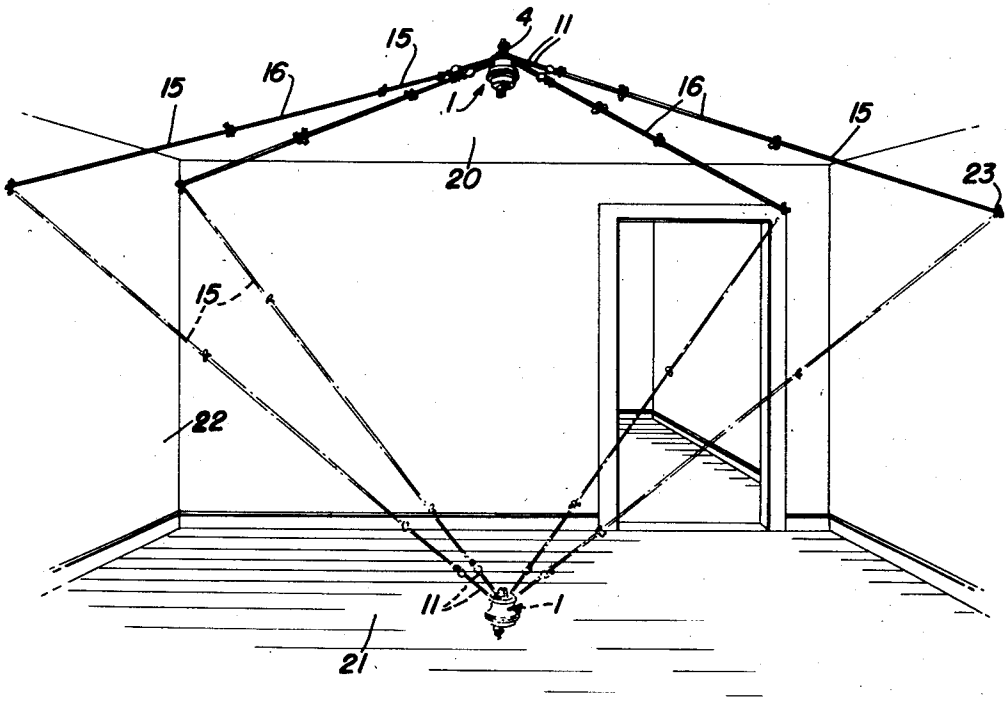
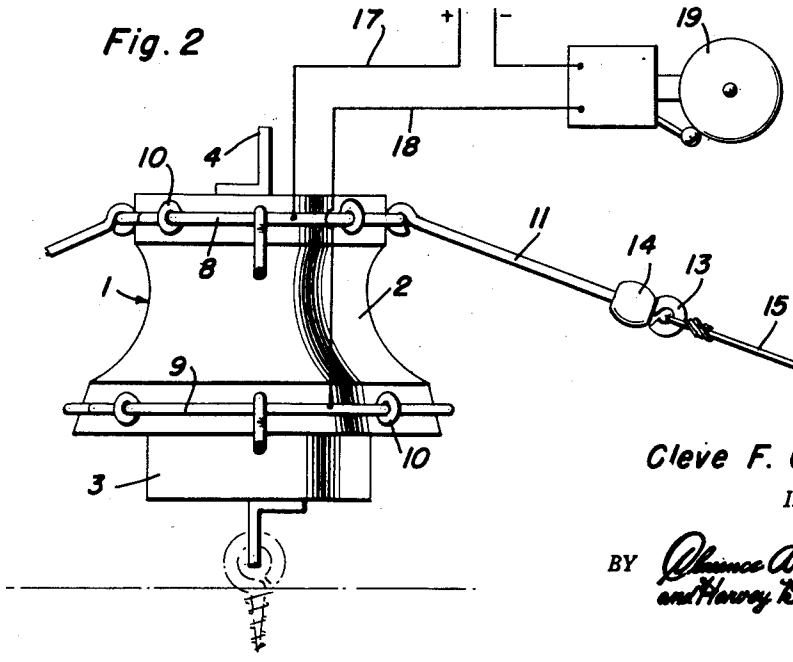


Fig. 2



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Fig. 3

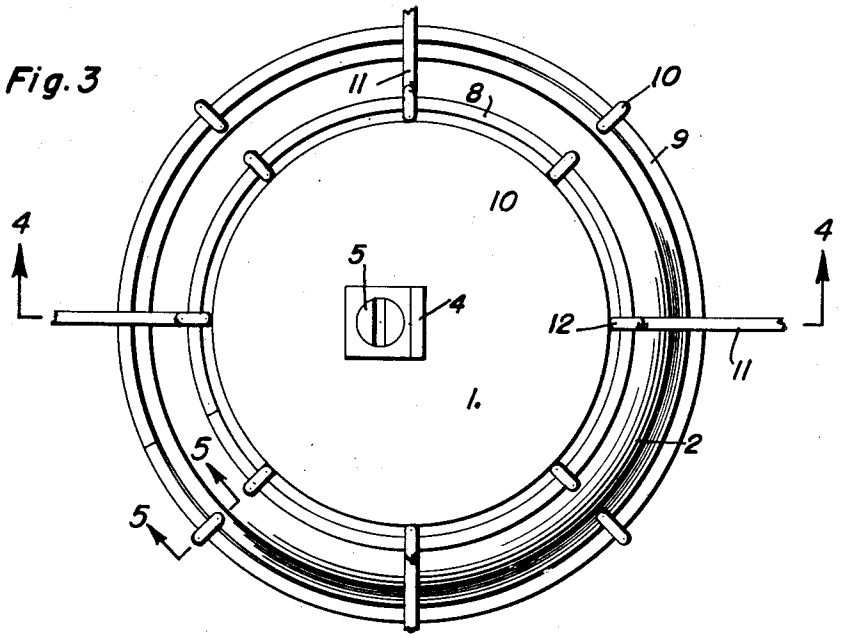
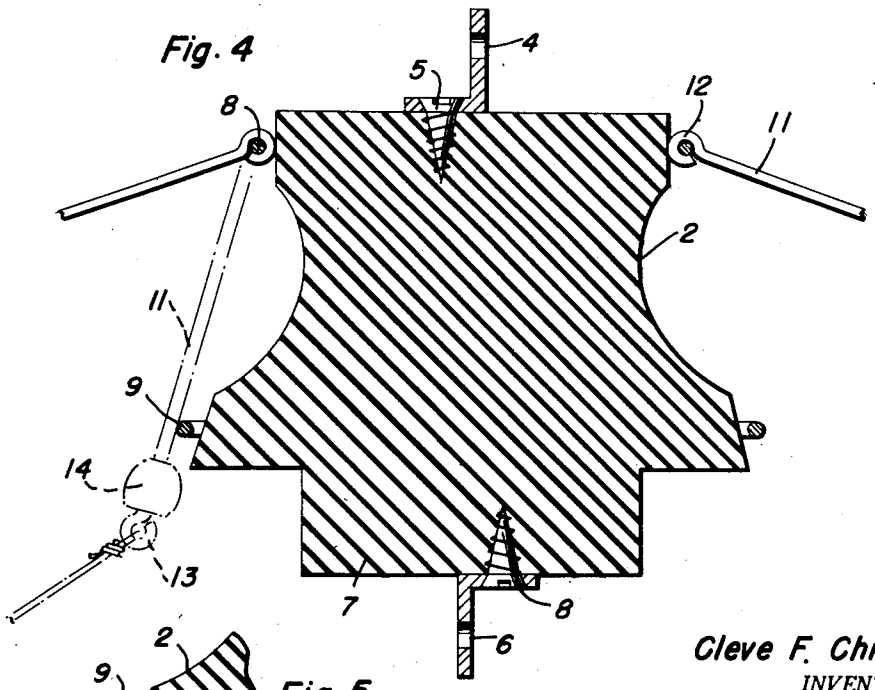


Fig. 4



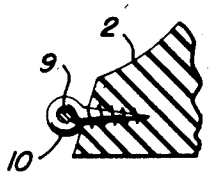


Fig. 5

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UNITED STATES PATENT OFFICE

2,643,313

COMBINED BURGLAR AND FIRE ALARM

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Application June 28, 1951, Serial No. 234,005

3 Claims. (Cl. 200—142)

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My invention relates to improvements in combined burglar and fire alarms for household use especially, although not necessarily.

The primary object of my invention is to provide a simple form of alarm adapted for easy quick installation in a room by an unskilled person, and which will be instantly operated if a burglar moves a short distance in a room in which the alarm is installed, and will also be operated by a fire occurring in the room.

Another object is to provide an alarm of the character and for the purposes above set forth which is readily portable from room to room, inexpensive to manufacture, and not liable to get out of order.

Other and subordinate objects, within the purview of my invention, together with the precise nature of my improvements, will be readily understood when the succeeding description and claims are read with reference to the drawings accompanying and forming part of this specification.

In said drawings:

Figure 1 is a view in perspective illustrating my invention installed in a room;

Figure 2 is an enlarged view in side elevation of the support and the circuit closing devices thereon with the contact rings wired in the alarm circuit;

Figure 3 is a further enlarged view in plan of the support and the circuit closing devices;

Figure 4 is a view in transverse section taken on the line 4—4 of Figure 3; and

Figure 5 is a detail fragmentary view in transverse section taken on the line 5—5 of Figure 3.

Referring to the drawings by numerals, my improved alarm comprises a support 1, of any suitable insulation material, and having the form of an upwardly tapered round body 2 provided with a reduced bottom, or base, 3. An apertured, central lug 4 is secured by a screw 5 on top of the body 2 and for suspending the body 2 in a manner presently described. A second lug 6 depends centrally from the base 7 and to which it is secured by a screw 8 and for anchoring the body 2 to a floor or the like.

Circuit-closing devices are provided on the body 2 comprising a pair of upper and lower, vertically spaced, contact rings 8, 9 secured to said body in spaced concentric relation to said body by eye screws 10 spaced around said rings. The contact rings 8, 9 are preferably formed of rigid copper wire, the lower ring 9 being of larger diameter than the upper ring 8 for a purpose presently seen. A plurality of contact bridging fingers 11 are pivotally mounted on the upper

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contact ring 8, intermediate the eye screws 10, by upper end eyes 12 on said fingers, the arrangement being such that said fingers 11 normally swing, under the influence of gravity, downwardly on the upper contact ring 8 toward the body 2 into engagement with the lower contact ring 9 to bridge said rings and depend below the lower ring 9. Lower end eyes 13 are provided on the contact fingers 11 for a purpose presently explained and counterweights 14 to provide for quick downward swinging of said fingers and prevent rebound of the same out of engagement with the lower contact ring 9.

Strings 15 of combustible material and preferably light and easily broken, with intermediate flexible stretches 16, preferably of rubber, are suitably attached at one end to the eyes 13 for holding the contact fingers in outwardly swung, disengaged position relative to the contact ring 9.

Wires 17, 18 connect the contact rings 8, 9, respectively, in opposite sides of an electric alarm circuit in which a suitable alarm bell 19 is interposed.

The described alarm is designed to be installed in a room by either suspending the body 2 from the ceiling 20, by the lug 5, as shown in full lines in Figure 1, or, anchoring said body to the floor 21, as shown in broken lines in Figure 1, and in either location in the approximate center of the room. The free ends of the strings 15 are then suitably attached to the walls 22, as at 23, to hold the fingers 11 in outswung disengaged relation to the lower contact ring 9 so that the alarm circuit is open. When the body 2 is attached in the first-described position, the strings 15 are secured to the wall 22 in radial position relative to the body 1 and are inclined from said body to the walls 22 so that a person moving about in the room, under any conditions, will not break the strings 16. However, one or more strings 15 will be parted by fire in the room so that the corresponding finger 11 will fall against the lower contact ring 9 to close the alarm circuit and ring the bell 19 to give warning that a fire has occurred in the room. To install the alarm in the second described position, the body 2 may be detached from the ceiling 20 and lowered and attached to the floor 21 with the strings 15 attached to the wall 22 as previously described, it being understood that the stretches 16 are flexible enough to permit the body 2 to be so lowered and attached. When the body 2 is thus lowered, the strings are inclined upwardly to the walls 22 so that a person may not move about the room

without breaking a string 16 and thereby causing the alarm to be sounded, in a manner which will now be clear. As will now be noted, the alarm may be installed in the first described position in the daytime out of way overhead to function as a fire alarm, whereas, it may be installed in the second described position at night to function both as a fire and a burglar alarm.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention, without further explanation.

Manifestly, the invention, as described, is susceptible of modification, without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claims.

Having described my invention, what is claimed as new is:

1. A circuit closer for use in a room to close an open electric alarm circuit comprising a body of insulation material having means thereon for anchoring the same to the floor and ceiling of the room selectively, a pair of upper and lower contact rings fixed to said body in relatively spaced encircling relation thereto and adapted to be connected in opposite sides of said circuit, a plurality of conductor fingers spaced around said body and pivoted to said upper contact ring for gravitational swinging into engagement with said lower contact ring to bridge said rings for closing said circuit and being swingable outwardly of said lower ring out of bridging relation to said contact rings for maintaining said circuit open, and combustible breakable members attached to said fingers and attachable to the wall of the room to hold said conductor fingers in outswung circuit-opening position.

2. A circuit closer according to claim 1, said lower contact ring being of larger diameter than the upper contact ring so that said conductor fingers will rest against the same and maintain engagement therewith.

3. A circuit closer according to claim 1, said combustible breakable members being elastic for stretching taut when attached to said wall.

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