R. COUTURE.

FIRE ALARM SYSTEM.

APPLICATION FILED JAN. 25, 1909.

962,625. Patented June 28, 1910.

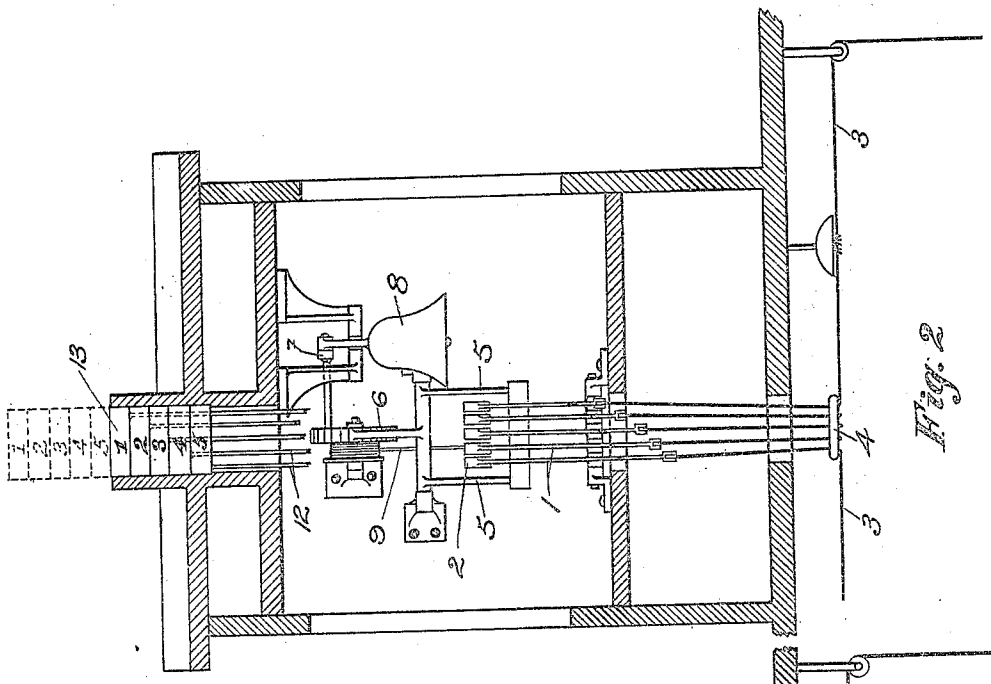

Fig. 2.

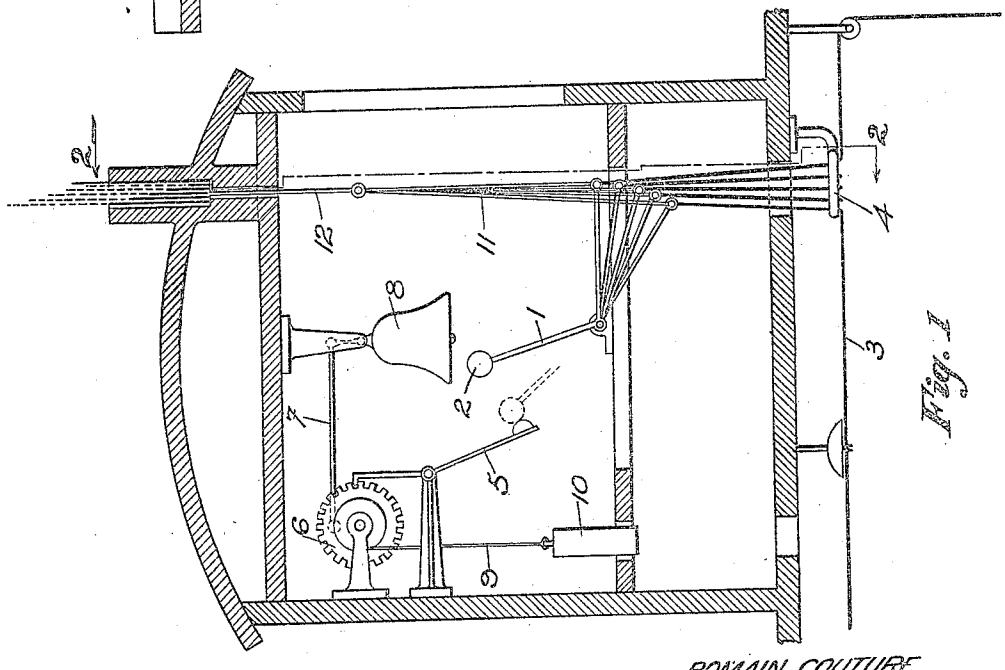

Fig. 1.

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# UNITED STATES PATENT OFFICE.

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## FIRE-ALARM SYSTEM.

962,625. Specification of Letters Patent. Patented June 28, 1910.

Application filed January 25, 1909. Serial No. 474,124.

*To all whom it may concern:*

Be it known that I, ROMAIN COUTURE, a citizen of the United States of America, residing at 7 Tremont street, Somersworth, county of Stratford, State of New Hampshire, United States of America, have invented certain new and useful Improvements in Fire-Alarm Systems; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention to be hereinafter described relates to fire alarm systems and particularly to a combination system including, alarm, indicating and door operating mechanism.

In order to more clearly disclose the construction, operation and use of the invention, reference should be had to the accompanying drawings forming part of the application.

Throughout the several views of the drawings, like reference characters designate the same parts.

In the drawings:—Figure 1 is a vertical sectional view through a case containing the alarm and indicating mechanisms, showing such mechanisms in elevation. Fig. 2 is a cross section on line 2—2 of Fig. 1.

The main object of the present invention is to so combine a fire alarm mechanism with an indicating and door operating mechanism that the indicating mechanism will show the location of the fire and the door operating mechanism will cut off the room or compartment simultaneously with the operation of the alarm mechanism.

Each member of a series of bell crank levers 1 is provided on its operative end with an actuating weight 2, the other end being provided with an eye, to which is flexibly connected an upwardly extending rod 11 and a downwardly extending cord 3. All of these cords 3 are passed through a fixed guide ring 4 and bent around the same from a vertical to a horizontal position. Being drawn taut, they hold said weights 2 raised and levers 1 out of action. When any cord 3 is burned or otherwise released or severed, the weight 2 of the lever 1 controlled by said cord falls on the broad rear bar of the laterally extended frame-form tail of a pivoted pawl 5 normally engaging and holding a ratchet wheel 6. To this wheel is eccentrically connected one end of a pitman 7, the opposite end of the same being connected to the handle of a bell 8. In order to revolve the ratchet wheel 6 and ring the bell 8, a drum is secured to the face of the ratchet wheel and a cord or rope 9 is wound on this drum. A heavy weight 10 is secured to the free end of this rope. Consequently, as soon as the ratchet wheel is freed, the bell will be rung and it will continue to ring until the rope 9 is completely unwound. The upper end of each rod 11 is flexibly connected to the lower end of a second rod 12, the upper end of which carries an indicating card 13 adapted to slide through the top of the casing in which the mechanism is mounted.

The cord 3 besides being connected to the bell crank lever 1, is extended and connected to door actuating mechanism not shown, such mechanism, as well as the signaling mechanism aforesaid, being operated by the cutting or burning of any cord 3, such cords being adapted to be easily burned at any point when fire reaches the same. There is a set of indicating, and a set of door actuating, mechanism for each room, compartment, separate building or other convenient division, distinctive structure or individual part and a cord 3 is appropriated in each instance thereto.

It is clear that changes may be made in the construction, arrangement and disposition of the several parts of the invention without departing from the field and scope of the same and it is meant to include all such within this application wherein only preferred forms have been disclosed.

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

1. A series of cords normally held taut and a fixed guide ring through which they pass in bent lines, in combination with a series of weighted bell crank levers to which said cords are severally attached, each cord being arranged to hold its lever normally out of action, a pivoted pawl having a broadened tail arranged to receive the stroke of the weighted end of any one of said levers when it is freed by the burning or other severance or release of its cord, a ratchet wheel normally held out of action by said pawl, means for automatically turning said wheel and a signaling device operated by said wheel when thus turned substantially as set forth.

2. A series of cords and a guiding device

through which they pass, in combination with a series of automatically acting levers, normally held out of action by said cords respectively, signaling mechanism comprising a ratchet wheel and a pawl normally engaging and detaining said wheel but arranged to be struck and released by the action of any one of said levers when the latter is freed substantially as set forth.

3. Signaling mechanism comprising a ratchet wheel, a pawl engaging said wheel to lock the same, a lever having a weighted end arranged to fall on said pawl and free the same, a cord normally holding up said weighted end but when severed permitting said end to fall with the operation set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

ROMAIN COUTURE.

Witnesses:
T. J. SULLIVAN,
DANIEL J. BUCKLEY.