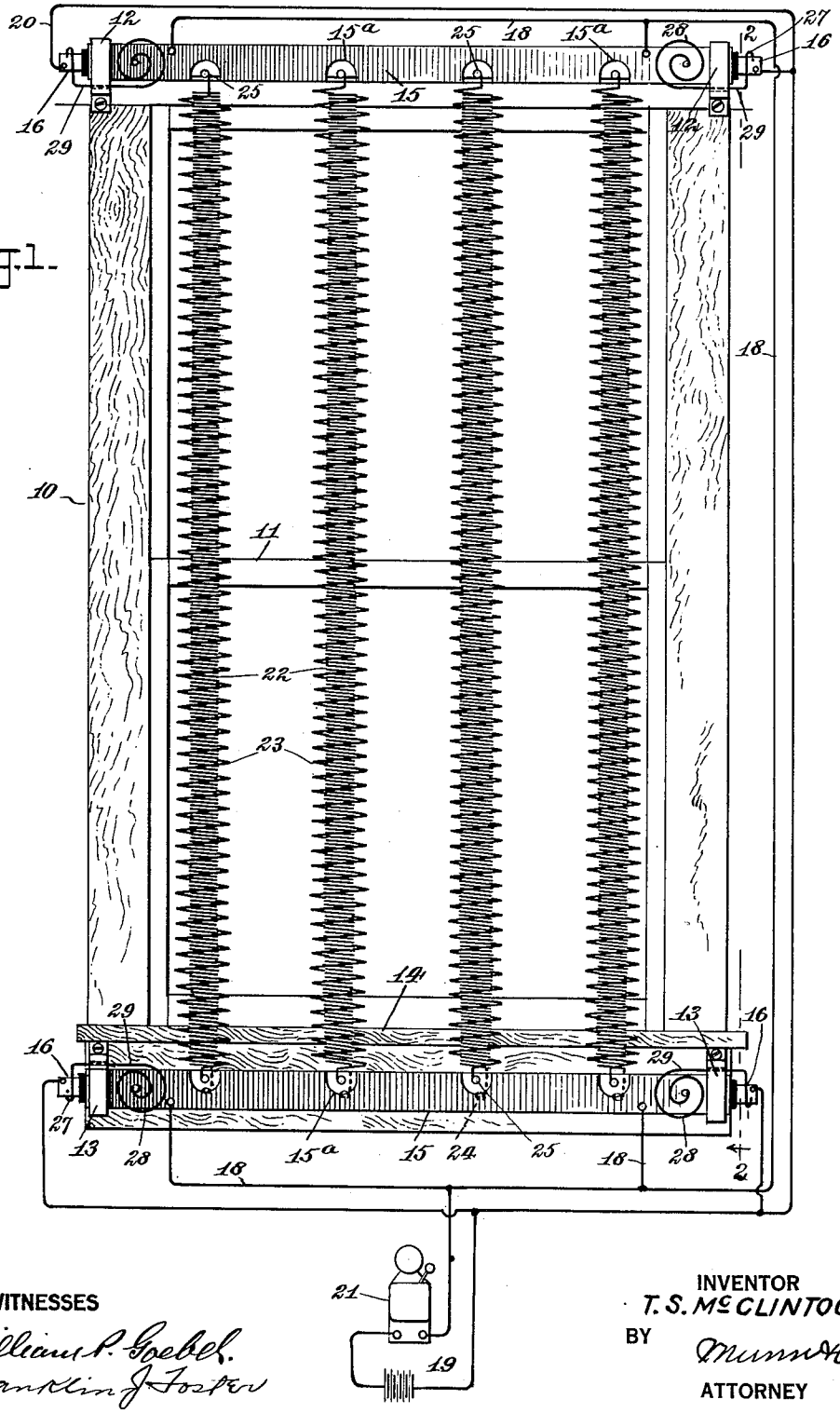
Oct. 2, 1928. 1,686,457

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BURGLAR ALARM

Filed Oct. 26, 1926 2 Sheets-Sheet 1

Fig. 1.



WITNESSES

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Fig. 2.

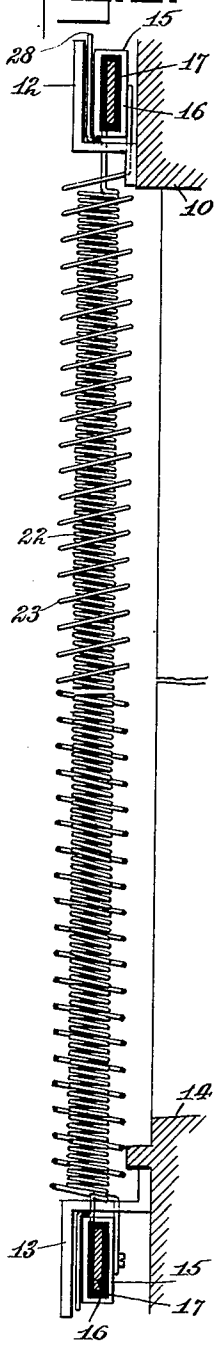


Fig. 3.

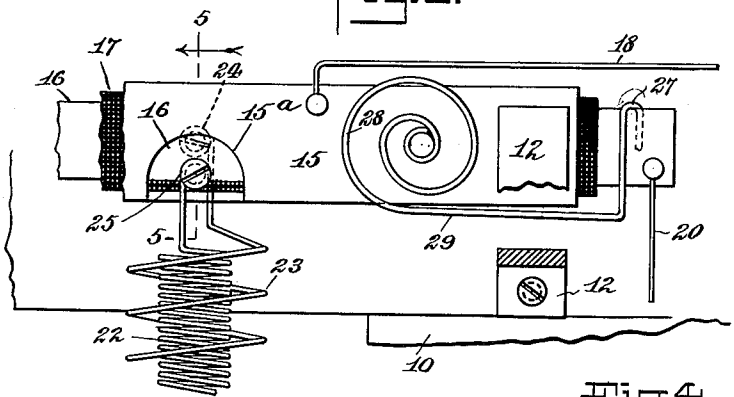


Fig. 4.

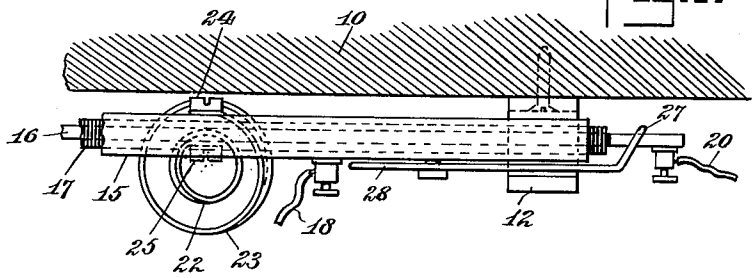


Fig. 5.

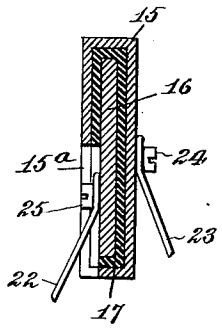
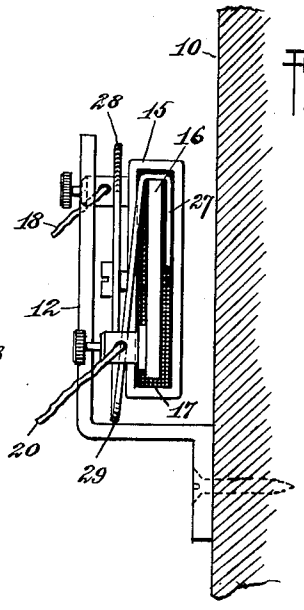


Fig. 6.



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UNITED STATES PATENT OFFICE.

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BURGLAR ALARM.

Application filed October 26, 1926. Serial No. 144,313.

The burglar alarm of the present invention is primarily intended for protecting open doors and windows, although it may have a wide range of utility for preventing unauthorized access through any opening in a receptacle or through any entrance to a house.

An object of the invention is to provide a device so arranged that a burglar cannot enter an open window or door without sounding a signal. Preferably the alarm mechanism is in the nature of a series of spring conductors which bar the openings, these conductors being ineffective to prevent forcible entry, but being operable to sound a signal whenever forcible entry is attempted.

More general objects of the invention are to provide a burglar alarm of simple, practical construction which will be rugged, durable and efficient in use, and which is well suited to the requirements of economical manufacture and installation.

With the above noted and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter set forth and pointed out in the claims. The invention may be more fully understood from the following description in connection with the accompanying drawings, wherein—

Fig. 1 is a view in front elevation showing a window protected by the burglar alarm of the present invention;

Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary detail elevational view showing the manner of attaching the springs to the contact bars, and showing the bar slightly lifted out of its bracket.

Fig. 4 is a top plan view of Fig. 3.

Fig. 5 is a vertical sectional detail on the line 5—5 of Fig. 3.

Fig. 6 is an end view of one of the brackets and the contact bars which it operates.

In the drawings I have used the reference character 10 to indicate a window frame within which are mounted the usual sliding sashes 11. A pair of L-shaped brackets 12 are mounted at the upper corners of the window frame, and a pair of similarly inverted brackets 13 mounted at the lower corners of the frame, preferably below the sill 14. The brackets 12 and 13 are each adapted to support a pair of contact bars 15 and 16. Bars 15 of conductive material are hollow and receive the bars 16, the latter being protected by insulating material 17. Bars 15 are connected by leads 18 to one side of a battery 19, while bars 16 are connected through leads 20 to the opposite side of the battery through an alarm device 21, such for instance as a bell or an alarm sounding relay. Stretched between the contact bars at the lower and upper end of the window are concentric conducting coils 22 and 23 of spring wire. The ends of the outer coils 23 are anchored directly as at 24 to the contact bars 15 and the ends of the inner coils 22 are secured as at 25 to the contact bars 16. It will be noted that the bars 15 and the insulating material are cut away as at 15^a to permit attachment of the ends of the coils 22 to the bar 16.

The normally open alarm circuit is adapted to be automatically closed as will be evident from the wiring diagram of Fig. 1 whenever a coil 23 touches a coil 22, or whenever one of the contact bars 15 is placed in electrical communication with an associated contact bar 16. Electrical contact between the two bars 15 and 16 is automatically effected by any attempt to lift the upper bars out of their bracket 12 or pull the lower bars out of their brackets 13 against the action of the coiled connecting springs 22 and 23. It will be noted that a spring contact finger 27 is formed at one end of a convolute spring 28 secured to the bar 16, and an offset portion 29 of the spring 28 normally seats in the bottom of the brackets 12. That is, the weight of the brackets and the action of the springs 22 and 33 act on the arm 29 and cause the finger 27 to be elevated. As soon as the bar 15 however, is lifted upwardly, spring 28 will move the finger 27 into contact with the bar 16 and close the alarm circuit. Thus, any unauthorized attempts to bodily remove the anchoring contact bars from their brackets will result in sounding the alarm. Any attempt of an intruder to gain access through the window or other opening by forcing his way through adjacent sets of springs 22, 23 will effect contact of one of the springs 22 with its associated springs 23 and sound the alarm. Obviously a slight distortion of the outer spring 23 would move it into engagement with its associated spring 22 to close the circuit. I also guard against the possibility of an intruder rendering the device inoperative by cutting the springs. With this end in view, outer spring 23 is twisted in one direction, so that it is diametrically ex-

panded, and its natural tendency is to contract when released from its anchorages, or cut. The oppositely wound spring 22 is twisted in the opposite direction to contact the same and reduce its diameter, so that its tendency when released from an anchorage, or cut, would be to immediately expand. Thus, cutting the inner or outer spring or both, would simply result in immediate contact between them and consequent sounding of the alarm circuit.

Obviously, various changes and alterations might be made in the general form and arrangement of parts described without departing from the invention. Hence I do not wish to limit myself to the details set forth, but shall consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. In a burglar alarm, pairs of contact bars adapted for disposition on opposite sides of an opening to be protected, means insulating the bars of each pair from each other, pairs of concentric coiled springs connected at their ends to the respective bars and disposed before the opening, means for sounding an alarm whenever one spring comes in contact with its adjacent concentric spring, means normally retaining the contact bars of each pair out of electrical communication, and means for automatically connecting the bars to sound an alarm upon bodily movement of the bars.

2. In a burglar alarm, pairs of contact bars adapted for disposition on opposite sides of an opening to be protected, means insulating the bars of each pair from each other, pairs of concentric coiled springs connected at their ends to the respective bars and extending across the opening and means for sounding an alarm whenever one spring comes in contact with its adjacent concentric spring, and brackets within which the bars are removably held by the action of the contacting springs.

3. In a burglar alarm, pairs of contact bars adapted for disposition on opposite sides of an opening to be protected, means insulating the bars of each pair from each other, pairs of concentric coiled springs connected at their ends to the respective bars and extending across the opening, means for sounding an alarm whenever one spring comes in contact with its adjacent concentric spring, brackets within which the bars are held by the action of the contacting springs, contact means rendered inoperative by the engagement of the bars with the bracket and automatically operating to short circuit the bars and sound the alarm as the bars are moved out of position against the action of the springs.

THADDEUS S. McCLINTOCK.