Sept. 25, 1934. H. A. WOLFGRAM 1,974,592

BURGLAR ALARM SWITCH

Filed May 10, 1933 3 Sheets-Sheet 1

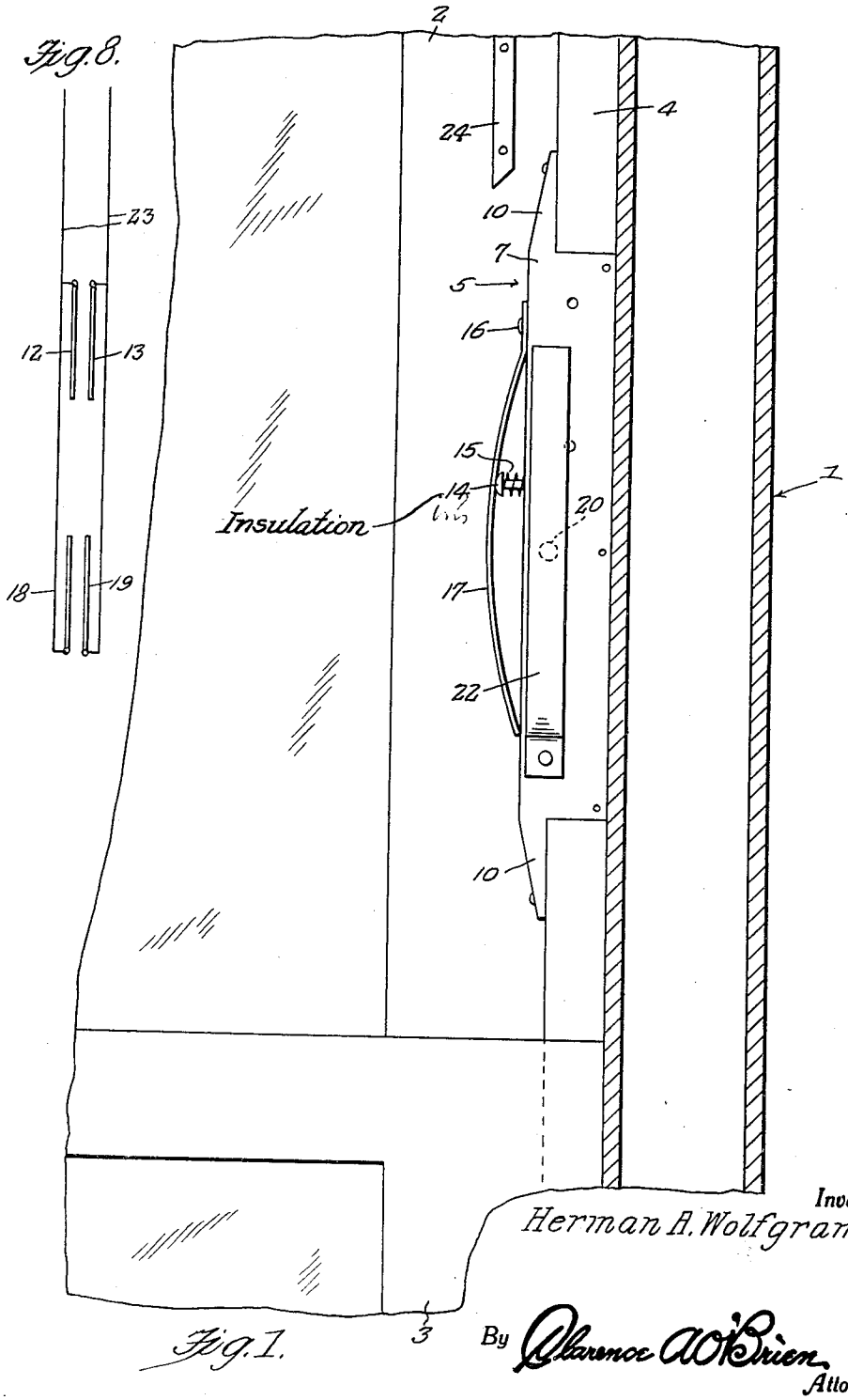


Fig. 8.

Fig. 1.

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BURGLAR ALARM SWITCH

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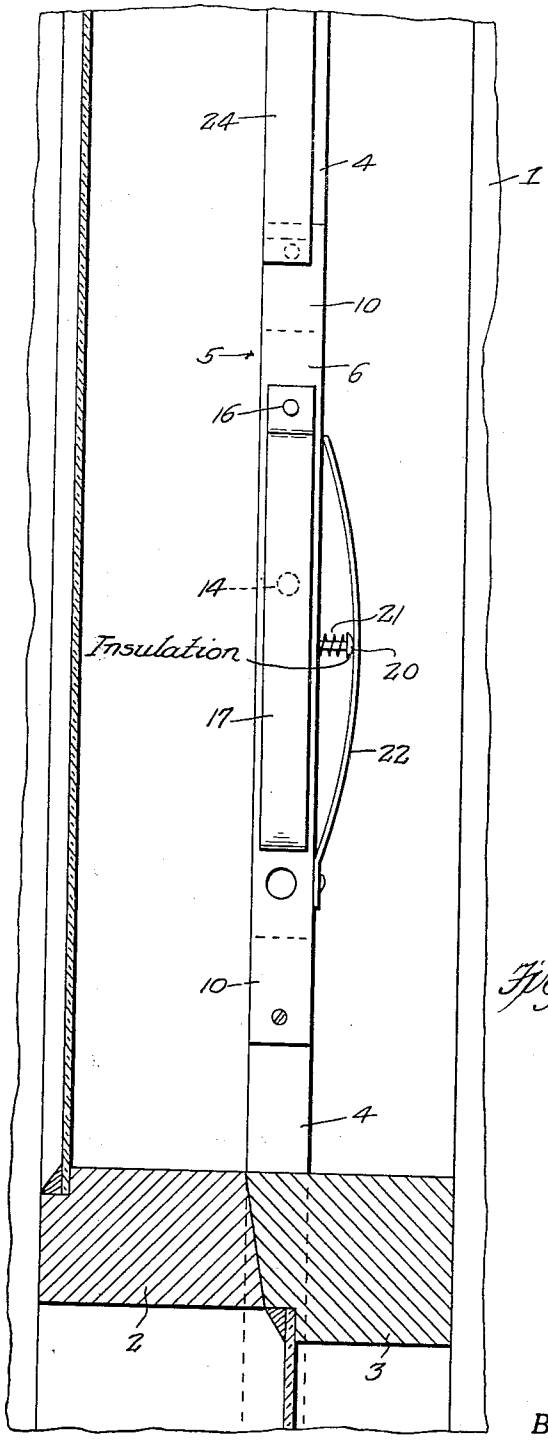


Fig. 2.

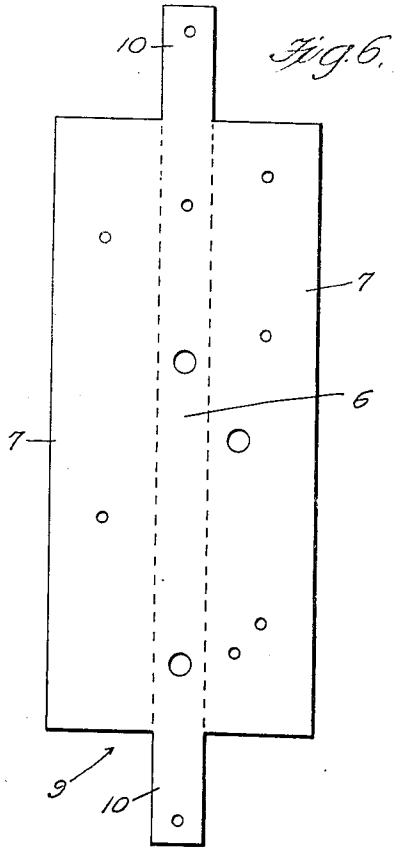


Fig. 6.

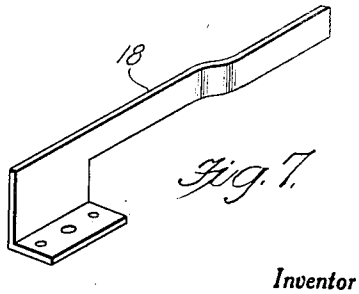


Fig. 7.

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BURGLAR ALARM SWITCH

Filed May 10, 1933 3 Sheets-Sheet 3

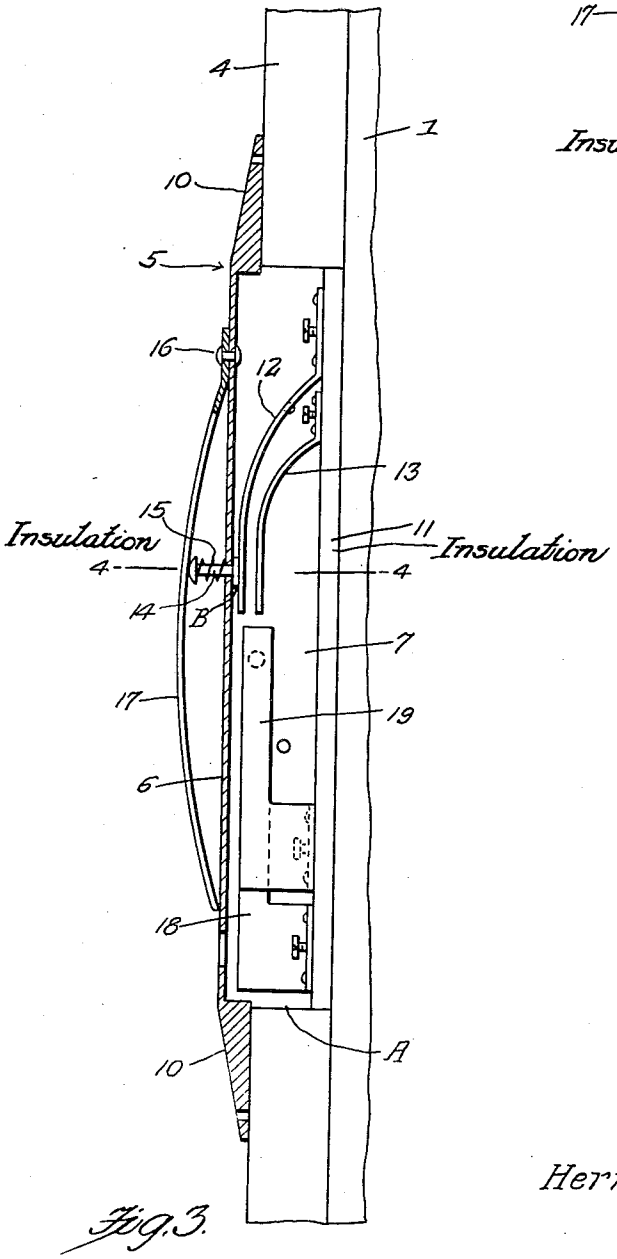


Fig. 3.

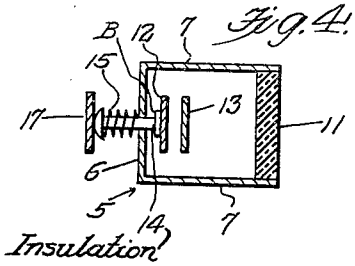


Fig. 4.

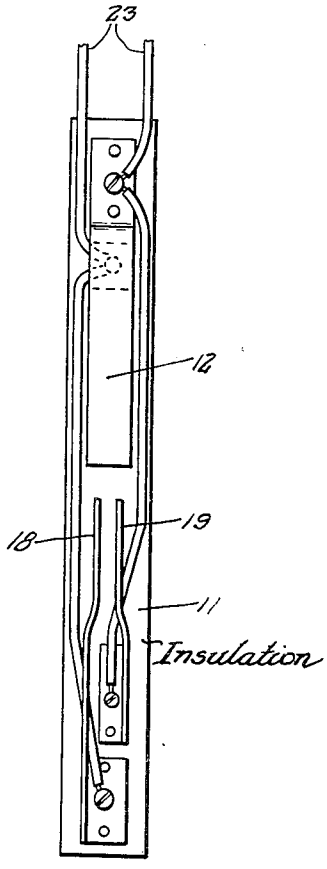


Fig. 5.

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UNITED STATES PATENT OFFICE

1,974,592

BURGLAR ALARM SWITCH

Herman A. Wolfgram, Fulton, Ky.

Application May 10, 1933, Serial No. 670,355

1 Claim. (Cl. 200—54)

The present invention relates to new and useful improvements in burglar alarm switches, particularly for use in windows and has for one of its important objects to provide, in a manner as hereinafter set forth, a switch of this character embodying, in a single unit, means for energizing an alarm should either the upper or lower sash of the window be opened sufficiently to permit entrance.

Other objects of the invention are to provide a burglar alarm switch of the aforementioned character which will be simple in construction, strong, durable, highly efficient and reliable in use, compact, and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in side elevation of a switch constructed in accordance with the present invention, showing the same mounted in a window.

Figure 2 is a view in front elevation thereof.

Figure 3 is a view in vertical section through the switch.

Figure 4 is a horizontal sectional view through the switch, taken substantially on the line 4—4 of Figure 3.

Figure 5 is an elevational view of the insulating base with the contacts thereon.

Figure 6 is a plan view of the blank from which the casing is formed.

Figure 7 is a detail view in perspective of one of the resilient contacts.

Figure 8 is a diagrammatic view of the electric circuit.

Referring now to the drawings in detail, it will be seen that the reference numeral 1 designates generally a window frame in which the usual upper and lower sashes 2 and 3, respectively, are mounted for vertical sliding movement on opposite sides of a parting strip 4.

The embodiment of the switch constituting the present invention which has been illustrated comprises a metallic casing which is designated generally by the reference numeral 5. As best seen in Figure 4 of the drawings, the casing 5 is substantially U-shaped in horizontal section and said casing comprises a front wall 6, opposed side walls 7, and an end wall 8 having an opening A therein. The casing 5 is formed from a blank comprising a single piece of material, said blank being shown in Figure 6 of the drawings and being designated generally by the reference numeral 9. It will thus be seen that the casing is open at its upper end and on that side which is adjacent the frame 1. The casing 5 still further includes apertured ears 10, the purpose of which will be presently set forth.

Mounted longitudinally in the inner portion of the casing 5 is an insulating base 11. Mounted on the upper portion of the base 11 and extending therefrom in opposed relation to the front wall 6 of the casing 5 are flat, resilient, arcuate contacts 12 and 13 which are normally spaced from each other. A headed pin 14 is slidably mounted in the front wall 6 of the casing 5, said pin being operatively engageable with the contact 12. A coil spring 15 yieldingly urges the pin 14 away from the contact 12. Secured at one end, as at 16, on the front wall 6 of the casing 5 and operatively engaged, at an intermediate point, with the headed outer end of the pin 14 is a flat, resilient, arcuate operator 17, the other end of which is slidably engaged with the casing.

Mounted on the lower portion of the insulating base 11 in opposed relation to the side walls 7 of the casing 5 are flat, resilient contacts 18 and 19 which, it will be noted, are at right angles to the contacts 12 and 13. A headed pin 20 is slidably mounted in one of the side walls 7 of the casing 5 and operatively engages with the contact 19. The pin 20 is yieldingly urged away from the contact 19 by a coil spring 21. A resilient, arcuate operator 22, which is substantially similar to the operator 17, is mounted on the casing 5 and engaged with the pin 20.

The conductor wires 23 enter the casing 5 through the open upper end of said casing and are connected in series to the contacts as illustrated to advantage in Figures 5 and 8 of the drawings. The switch is mounted in the window frame by cutting out a section of the parting strip 4 at a point above the lower sash 3 and placing the casing in the opening or recess which is thus formed, the ears or arms 10 projecting over the adjacent end portions of the parting strip and secured thereto. In this position the operator 22 will be in the path of the lower sash 3 for actuation thereby to engage the contacts 18 and 19 should said lower sash be raised beyond a predetermined height or sufficiently to permit entrance through the window. The operator 17 is in the path of an elongated rib or protuberance 24 which is mounted on the upper window sash 2 for actuation thereby to engage the contact 12 with the contact 13 should said upper sash be lowered a predetermined distance. Of course, a suitable electric signal, such as a bell or light,

preferably the former, is energized when either pair of contacts is closed. The pins 14 and 20 are of insulating material and said pins are provided with stops B.

It is believed that the many advantages of a burglar alarm switch constructed in accordance with the present invention will be readily understood, and although the preferred embodiment of the invention is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

A burglar alarm switch for windows of the type including a frame, a parting strip in the frame, and sashes slidable in the frame on opposite sides of said parting strip, comprising a housing of substantially U-shaped horizontal cross section interposed in the parting strip, said housing being formed from a single piece of material and including a front wall having an opening therein, opposed side walls extending from the vertical edges of the front wall, and apertured ears extending from the ends of said front wall and adapted to be secured to the adjacent portions of the parting strip, a base of insulating material mounted between the side walls in spaced, opposed relation to the front wall, normally open resilient contacts mounted on the base, an arcuate spring mounted on the front wall and secured, at one end, thereto, the other end of the spring being free and slidably engaged with said front wall, said spring being operable by one of the sashes, and a plunger slidably mounted in the opening and constituting means for operatively connecting the spring to one of the contacts.

HERMAN A. WOLFGRAM.