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P. R. FRAILEY

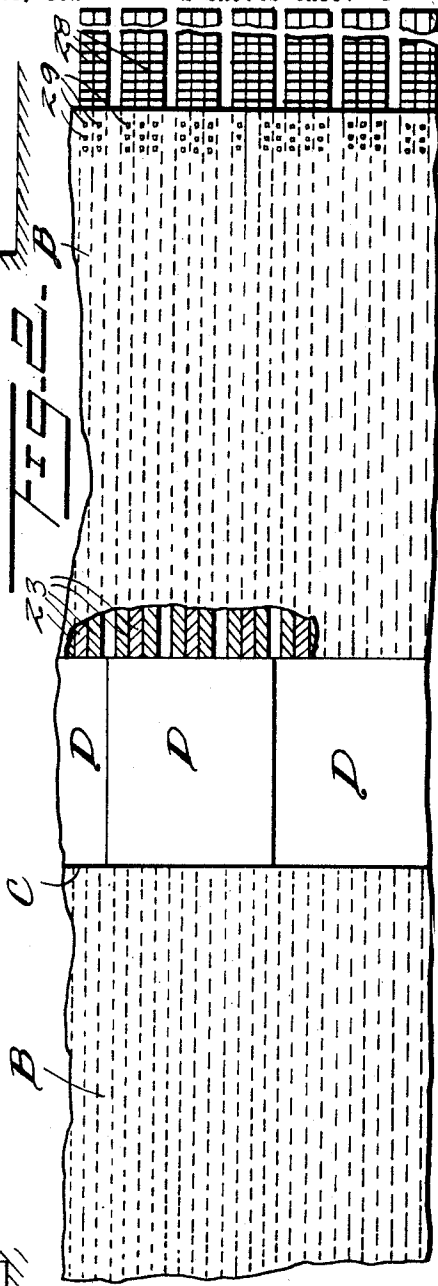
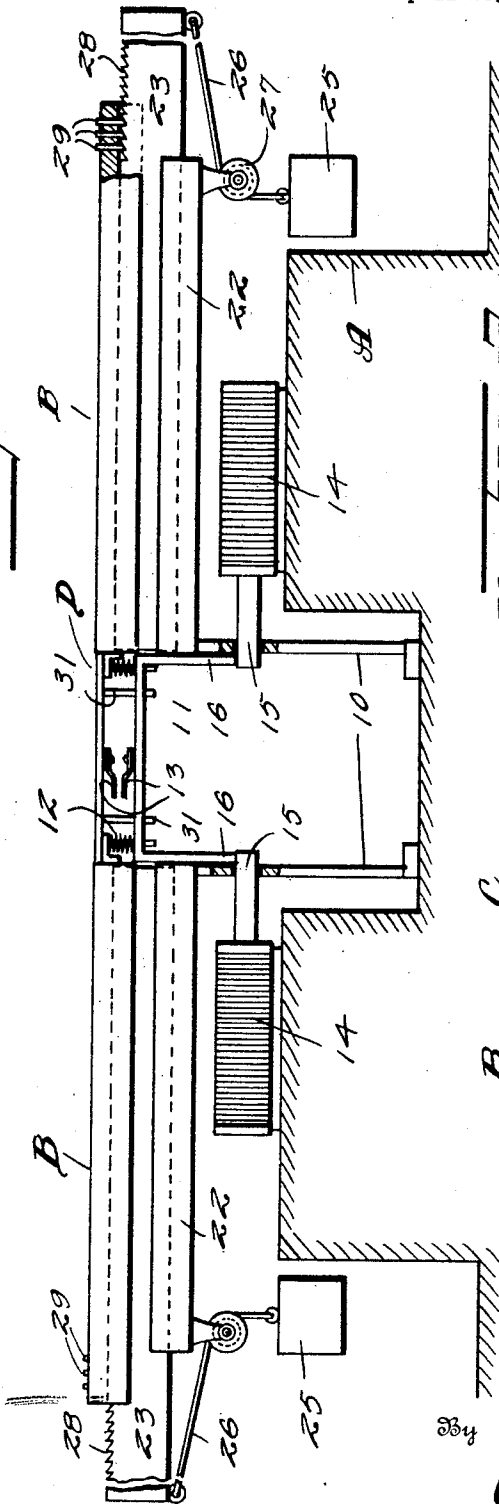
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BURGLAR TRAPPING MECHANISM

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FIG. 1-



Inventor

P. R. Frailey

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A. K. Humphreys
Attorney

UNITED STATES PATENT OFFICE

PERCY B. FRAILEY, OF JUNIATA, PENNSYLVANIA

BURGLAR-TRAPPING MECHANISM

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This invention relates to burglar trapping mechanism of a type adapted for use generally and for instance on box cars, baggage cars, banks, and rooms generally.

5 It is aimed to provide a novel construction whereby a burglar or intruder will be held by means engaging the leg and operable automatically by such leg, in a humane but positive manner.

10 Another object is to provide a novel construction wherein a false floor or depressible part is normally held elevated by means included in an electric circuit, which is releasable through the presence and actuation of
15 a burglar to permit descent of the trap door to result in a capture.

Various additional objects and advantages will be pointed out or become apparent from a consideration of the description following
20 taken in connection with accompanying drawings illustrating an operative embodiment.

In said drawings:—

25 Figure 1 is a view in longitudinal section illustrating my improvement.

Figure 2 is a plan view thereof.

Figure 3 is a view somewhat similar to Figure 1 showing the part as having been actuated, and a burglar captured.

30 Figure 4 is a plan view, fragmentary, illustrating the capture of a burglar.

Figure 5 is a sectional view taken on the line 5—5 of Figure 3, and

35 Figure 6 is a view showing the electrical part in diagram.

Referring specifically to the drawings the apparatus is to be considered as applicable to rooms, mail cars, baggage cars, or the like, the support for the flooring of which is suggested as at A. The flooring is shown as at
40 B, for instance in divided sections, and partly supported by walls or brackets as at 10 mounted on the support A. Due to the separation of the floor sections B a space C is provided
45 which accommodates a number of false floor sections D. Such sections appear to the observer as part of the floor and conceal the operating parts. The false floor sections or traps D are carried by brackets 11. Specifically,
50 the sections D are mounted on the

brackets 11 by means of coil springs 12 and a switch is interposed between the brackets 11 and sections D, consisting of contacts 13, fastened one to the bracket and one to the section D and respectively insulated therefrom
55 and normally held separated by the springs 12.

Solenoids or electromagnets are provided at 14, being suitably mounted as on the support A and their armatures 15 are normally
60 projected so as to engage under the legs 16 of the brackets 11 and thus uphold the latter.

Said electromagnets 14 are provided in pairs, two for each of the platforms or floor sections D and by means of wires 17 and 18,
65 said solenoids are in circuit with an electric battery 19 or any other appropriate source of power. A switch 20 may be located in the wire 17. Wires 21 extend from the solenoids
70 to the contacts 13.

As result of the construction described, the projecting armatures 15 support and hold the floor sections D in operative position. When a burglar or intruder treads upon one of the floor sections, presuming the switch 20 to be
75 closed, the section D will move relatively to the adjacent bracket 11 thus engaging the contacts 13 and closing an electric circuit to the battery 19 which energizing the coils 14 will retract the armatures 15 and hence trap
80 section D and bracket 11 will drop to lowest position as shown in Figure 3. While the trap section D is thus dropping, followed by the leg of the burglar, means actuate to grip the leg and thus hold or capture the
85 burglar. To this end sub-flooring or supporting means is provided at 22 under the flooring B and mounted for sliding movement transversely of the flooring and between the latter and the sub-flooring, are gripping bars 23.
90 Said bars are preferably arranged three together and separated in such arrangement by flanges 24 on the flooring and sub-flooring as well shown in Figure 5. Each bar individually moves but is normally held retracted
95 since the legs 16 are in their paths as well shown in Figure 1. A sliding movement is urged by means of weights or the like as at 25, connected by flexible elements 26 to the bars and trained over guide pulleys 27 suit-
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ably journaled on the sub-flooring 22. It will be understood that there is a separate weight 25 and element 26 and guide 27 for each bar 23.

5 The bars have ratchet teeth as at 28 and co-acting therewith are vertically slidable pins or pawls 29 mounted in suitable openings in the flooring.

10 The floors or trap sections D may control any desired number of the bars 23, and for instance as shown in Figure 4 may control nine on each of the opposite sides thereof.

15 Presuming a trap section D and bracket 11 to be in lowermost position as previously traced and as shown in Figure 3, the bracket 11 and all parts will have moved from across the adjacent bar 23 whereupon the weight 25 will slide such bars toward each other so that the leg of the burglar as shown in Figure 3 will be engaged and he will be trapped. As shown in Figure 4, it will be seen that some of the bars will most likely catch on opposite sides of the leg and that other bars will directly engage the leg, the fact that the bars are relatively thin enabling them to adapt themselves to the shape of the leg. The engagement of the bars with each other or with the leg of course arrests movement thereof and they are locked in such position by the automatic descent of the pawls 29 into engagement with the teeth 28.

20 It may be mentioned that the movement of the trap floor sections D relatively to the brackets is limited by means of angle irons 30 and is guided by pins 31 depending from the sections D and loosely extending through openings 32 of the bracket 11. Also the armatures 15 are guided through openings 33 in the walls 10.

40 It is to be understood that the pins or pawls 29 and adjacent ends of the bars 23 or any of the other parts are not exposed but are concealed to view in any suitable manner.

45 Various changes may be resorted to provided they fall within the spirit and scope of the invention.

What is claimed is:—

50 1. In a trapping mechanism of the class described, trap means displaceable under weight of an intruder, trapping bars normally prevented from movement by said trap means, means urging trapping movement of the bars, electrically controlled means normally preventing displacement of the first mentioned means and a switch in an electric circuit with the second mentioned means adapted to be closed through the medium of such weight to cause the electrically controlled means to release the trap means for displacement.

60 2. A trapping mechanism of the class described having a bracket displaceable through the weight of an intruder, trapping means normally prevented from movement by said bracket, electromagnetic means normally

maintaining said bracket against displacement, and a switch carried by said bracket and operable by an intruder, said switch being in circuit with said electromagnetic means to actuate the latter to permit displacement of the bracket, to release the trapping means.

70 3. A trapping mechanism of the class described having trapping bars, means to urge movement thereof into trapping position, pawl and ratchet mechanism whereby the bars are held locked in trapped position, trap means displaceable under the weight of an intruder normally preventing movement of the bars, and electromagnetic means normally preventing displacement of the trap means and having a switch thereon in circuit with the electromagnetic means.

85 4. A trapping mechanism of the class described having spaced floor sections, sub-floor sections disposed below the first mentioned floor sections, bars mounted by and slidable intermediate said floor sections and sub-floor sections, a trap member intermediate said floor sections and sub-floor sections, a displaceable bracket intermediate said floor sections and sub-floor sections normally preventing movement of the bars, an electromagnetic means normally preventing displacement of the bracket, a normally open electric switch in circuit with said electromagnetic means, said switch being located between said bracket and said trap member and closable under the weight of an intruder, and means to urge locking movement of said bars.

100 5. A burglar trap comprising a depressible tread plate normally arranged flush with a floor and laterally sliding imprisoning members normally retained below the flooring and operable to imprisoning position over the tread plate upon depression thereof.

110 6. A burglar trap mounted in the floor of a building comprising a depressible tread plate normally arranged flush with the floor, relatively spaced transverse bars secured to the under surface of said plate, a pair of complementary gripping plates normally held below the floor by said transverse bars, and adapted to slide laterally into burglar engaging position over the tread plate upon depression thereof and means for locking said plate in burglar engaging position.

120 In testimony whereof I affix my signature.

PERCY R. FRAILEY.

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