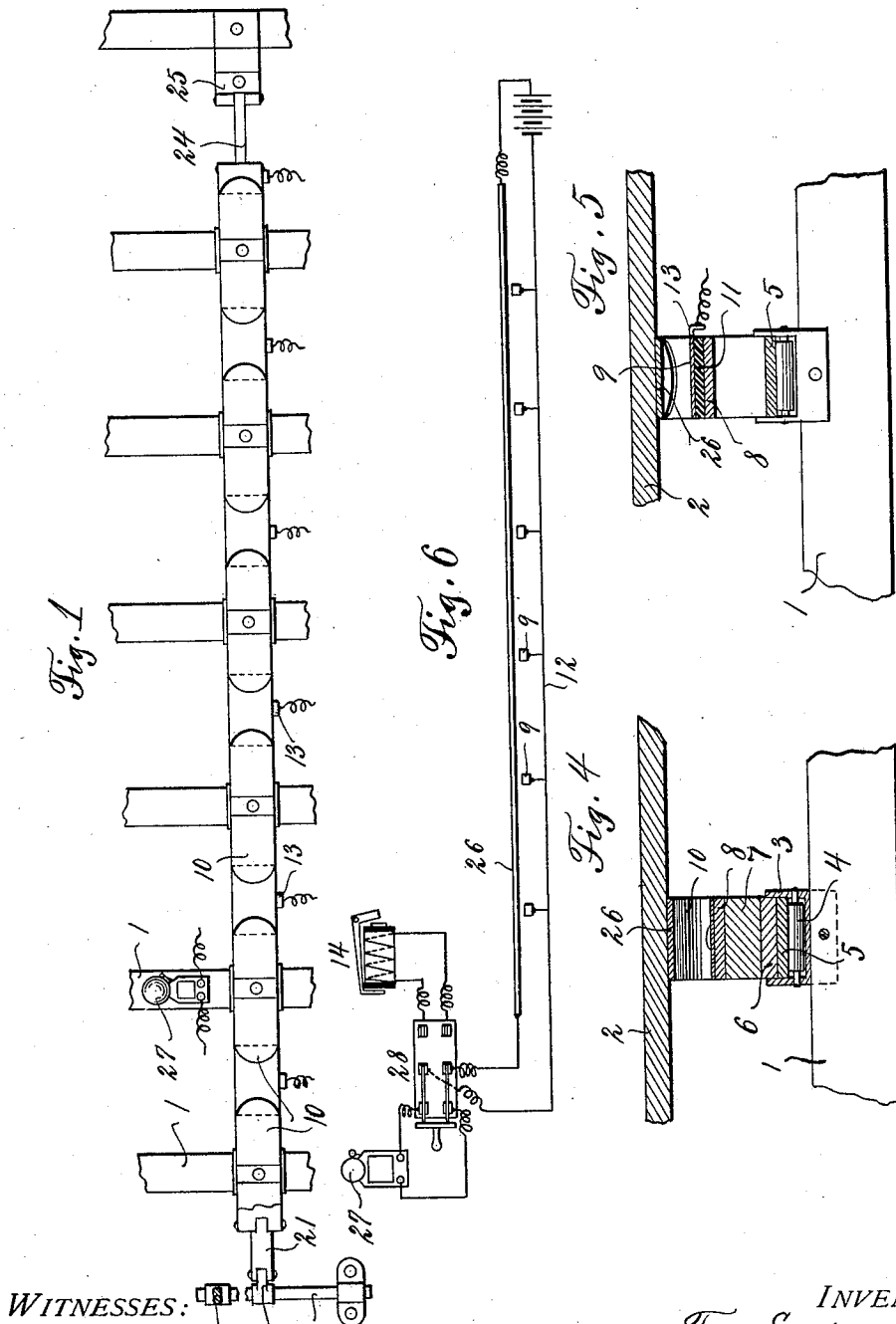


1,034,223.

T. ERICKSON.
ELECTRICAL ALARM.
APPLICATION FILED JUNE 8, 1911.

Patented July 30, 1912.
2 SHEETS—SHEET 1.



WITNESSES:

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[Signature]

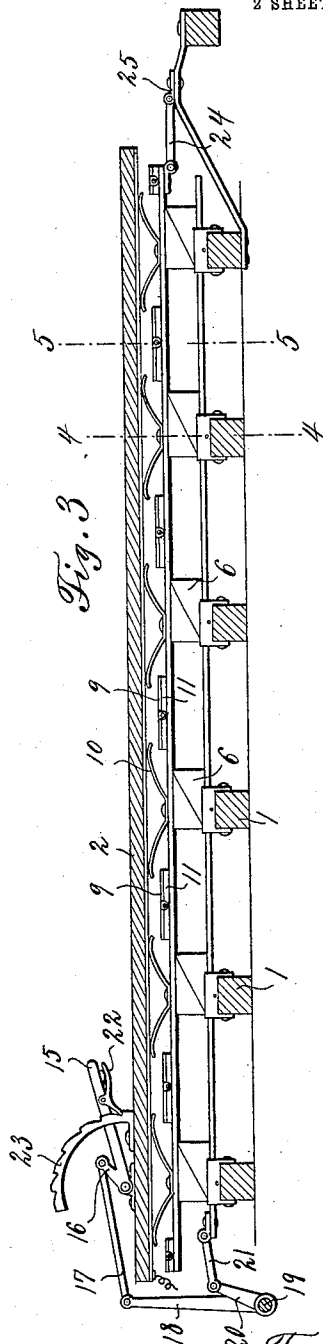
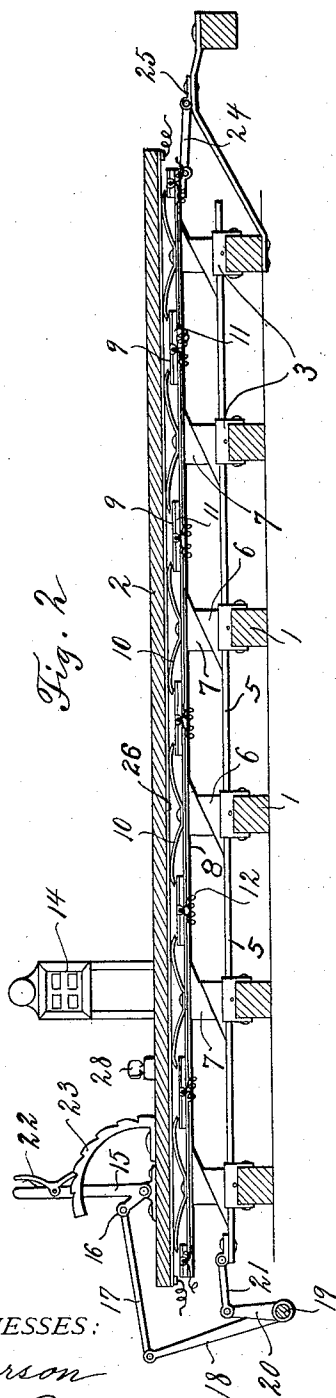
Attorneys

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UNITED STATES PATENT OFFICE.

THOMAS ERICKSON, OF OGDEN, UTAH.

ELECTRICAL ALARM.

1,034,223.

Specification of Letters Patent.

Patented July 30, 1912.

Application filed June 8, 1911. Serial No. 631,976.

To all whom it may concern:

Be it known that I, THOMAS ERICKSON, a subject of the King of Denmark, residing at Ogden, in the county of Weber and State of Utah, have invented certain new and useful Improvements in Electrical Alarms, of which the following is a specification.

The object of this invention is to provide an electrical alarm system adapted particularly for use in banks, offices, in the home, or elsewhere, and including any suitable alarm means associated with a depressible surface, the latter coacting with peculiar devices forming the essential feature of this invention, whereby to close electric circuits and operate the alarm.

The invention resides in novel controlling means for rendering the alarm system operative and inoperative, and other detail features which will appear more fully herein-after.

For a full understanding of the present invention, reference is to be had to the following description and to the accompanying drawings, in which—

Figure 1 is a plan view showing a section of a floor partly broken away and illustrating the invention applied thereto; Fig. 2 is a longitudinal sectional view showing more clearly the arrangement of the circuit closing contacts beneath the floor or depressible surface, and the operating means whereby said contacts are adjusted; Fig. 3 is a view similar to Fig. 2, showing the same parts as when in an inoperative position; Fig. 4 is a transverse section taken about on the line 4—4 of Fig. 3; Fig. 5 is a transverse section taken about on the line 5—5 of Fig. 3; Fig. 6 is a diagrammatic view of the electric circuits and connected parts.

Throughout the following detail description and on the several figures of the drawings, similar parts are referred to by like reference characters.

In the drawings, 1 denotes a number of transverse supports which may represent joists, studs, or similar members of building construction, and 2 designates a floor or other depressible surface associated with the supports 1. A plurality of guide members 3 are mounted on the supports 1 and may have suitable roller bearings 4 to co-operate with an actuating bar 5 which is mounted for movement in said guides. Said

actuating bar 5 is movable transversely of the supports 1 and carries upon its upper surface a plurality of inclined cams 6 of any suitable number, the latter coöperating with similar cams 7 secured to, or otherwise carried by a contact bar 8 which is mounted above the bar 5 and arranged substantially parallel to the latter. On its upper surface the contact bar 8 carries a plurality of contact members including the plates 9 and the spring contacts 10. The plates 9 are insulated from the bar 8, as shown at 11, and the springs 10 are preferably arranged at intervals in the length of the bar 8 and between the several plates 9. The springs 10 are preferably secured intermediate of their ends to the bar 8 and the opposite ends of the springs normally bear against the under side of the floor or depressible surface 2 and are furthermore normally spaced a considerable distance from the contact plates 9. The various contact plates 9 are connected in an electric circuit preferably by means of a conducting wire 12 secured to the plates 9 intermediate of their ends by binding screws 13. Any suitable number of contact bars 8 are provided for coöperation with the same number of bars 5 and these members will be distributed beneath the depressible surface 2 so as to preferably divide said surface into a number of sections, the depression or movement of which, when unauthorized, may be registered by an annunciator and an alarm 14 which will be included in the electric circuit or circuits that include the several coöperating bars 5 and 8.

The contact bars 8 are adapted to be raised and lowered by means of the actuating bars 5, it being apparent that when longitudinal movement is imparted to the bars 5, the cams 6 will be moved in contact with the cams 7 to raise or lower the bars 8 according to the direction of movement of the bars 5.

The preferred means for actuating the bars 5 comprises a lever 15 having an off-standing arm 16 which is connected by a link 17 to an arm 18 projecting from a shaft 19. The shaft 19 in turn has a plurality of arms 20, each of which is attached by a link 21 to an adjacent end of one of the actuating bars 5. Thus, by raising the lever 15, which latter has a suitable latch 22 and locking segment 23 associated therewith, the

shaft 19 will be rocked moving the arms 20 simultaneously and drawing the bars 5 longitudinally in their guides 3 so as to move the cams 6 and 7 relatively to elevate the contact bar 8 a sufficient distance to cause the free ends of the contacts 10 to be moved downwardly and contact plates 9 to be raised until very close to the extremities of the contacts 10.

When the parts are in the positions shown in Fig. 3, the alarm mechanism of the invention is inoperative because depression of the surface 2 will not close the electric circuit or circuits, including the annunciator 14. On the other hand after the lever 15 is raised and the parts assume the positions shown in Fig. 2, the very slightest movement such as jar of the surface 2 by walking thereover, will effect electrical connection between certain of the plates 9 and those of the contact members 10 that may be depressed, such connection being indicated by the annunciator. The annunciator 14 will afford an alarm indicating immediately any unauthorized movement of the depressible surface 2.

In order to prevent longitudinal movement of the bars 8 it is preferred that said bars shall be connected at their ends by links 24 with any stationary parts such as shown at 25.

It will be evident that in the practical embodiment of the invention, the operating or controlling lever 15 may be located beneath the counter in a store or at any other convenient place for use, and in order to establish the electrical connection desired to close the circuit including the members 9 and 10, it is contemplated that the surface 2 shall be provided on its under side with continuous contact strips of electrical conducting substance, same being shown at 26, these strips being normally in direct engagement with the contact members 10 at the free outer ends of the latter.

The manner of arranging the electric circuits which include the parts above described is immaterial to the invention because this may be done in many different ways dependent upon the special connections desired with the annunciator and the alarm 14. It is preferred, however, to employ in connection with the alarm mechanism, a testing bell 27 and a switch 28 whereby the circuits including the members 9, 10 and 26 may be closed or opened for testing purposes.

Having thus described the invention, what is claimed as new is:

1. In an electrical alarm of the class described, in combination, a depressible surface, a plurality of contact members beneath said surface in engagement therewith, contact plates associated with said contact members and normally inoperative

with respect thereto, and means for moving the contact members to place the same in operative positions with respect to the plates.

2. In an electrical alarm of the class described, in combination, a depressible surface, a plurality of contact members beneath said surface in engagement therewith, contact plates associated with said contact members and normally inoperative with respect thereto, contact bars carrying the contact members, and actuating bars cooperating with the contact bars to move the latter bodily and force the contact members into operative positions with respect to the contact plates.

3. In an electrical alarm of the class described, in combination, a depressible surface, a plurality of contact members beneath said surface in engagement therewith, contact plates associated with said contact members and normally inoperative with respect thereto, contact bars carrying the contact members, actuating bars associated with the contact bars, cooperating cams carried by the contact and actuating bars, and means for moving the actuating bars to cause relative movement of said cams whereby to force the contact members into operative positions with respect to the contact plates.

4. In an electrical alarm of the class described, in combination, a depressible surface, a plurality of contact members beneath said surface in engagement therewith, contact plates associated with said contact members and normally inoperative with respect thereto, contact bars carrying the contact members, actuating bars associated with the contact bars, cooperating cams carried by the contact and actuating bars, insulation interposed between the contact plates and contact bars, and means for moving certain of the actuating bars simultaneously and longitudinally to force the contact members on the contact bars into operative positions with respect to the contact plates.

5. In an electrical alarm of the class described, in combination, a depressible surface, contact bars beneath said surface, contact plates carried by the contact bars, spring contact members secured to the contact bars between the contact plates and having free end portions normally engaging the depressible surface, and means for forcing said contact bars toward the depressible surface to move the end portions of the contact members toward the contact plates into operative positions with respect to the latter.

6. In an electrical alarm of the class described, in combination, a depressible surface, a plurality of contact bars beneath said surface, contact plates secured to but insulated from said bars, electrical connec-

tions between the contact plates, spring contact members carried by the contact bars and arranged between the various contact plates thereon, actuating bars beneath the
5 contact bars, coöperating cams carried by adjacent actuating and contact bars, a shaft, arms projecting from said shaft and connected to the actuating bars, and a lever for rocking said shaft to impart simulta-

neous longitudinal movement to the actuating bars whereby to elevate the contact bars for the purpose set forth. 10

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS ERICKSON.

Witnesses:

DAVID JENSON,
LEO A. HARRIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
