

J. KRAMER.  
ALARM DEVICE.  
APPLICATION FILED JUNE 19, 1911.

1,046,080.

Patented Dec. 3, 1912.

2 SHEETS-SHEET 1.

FIG. 1

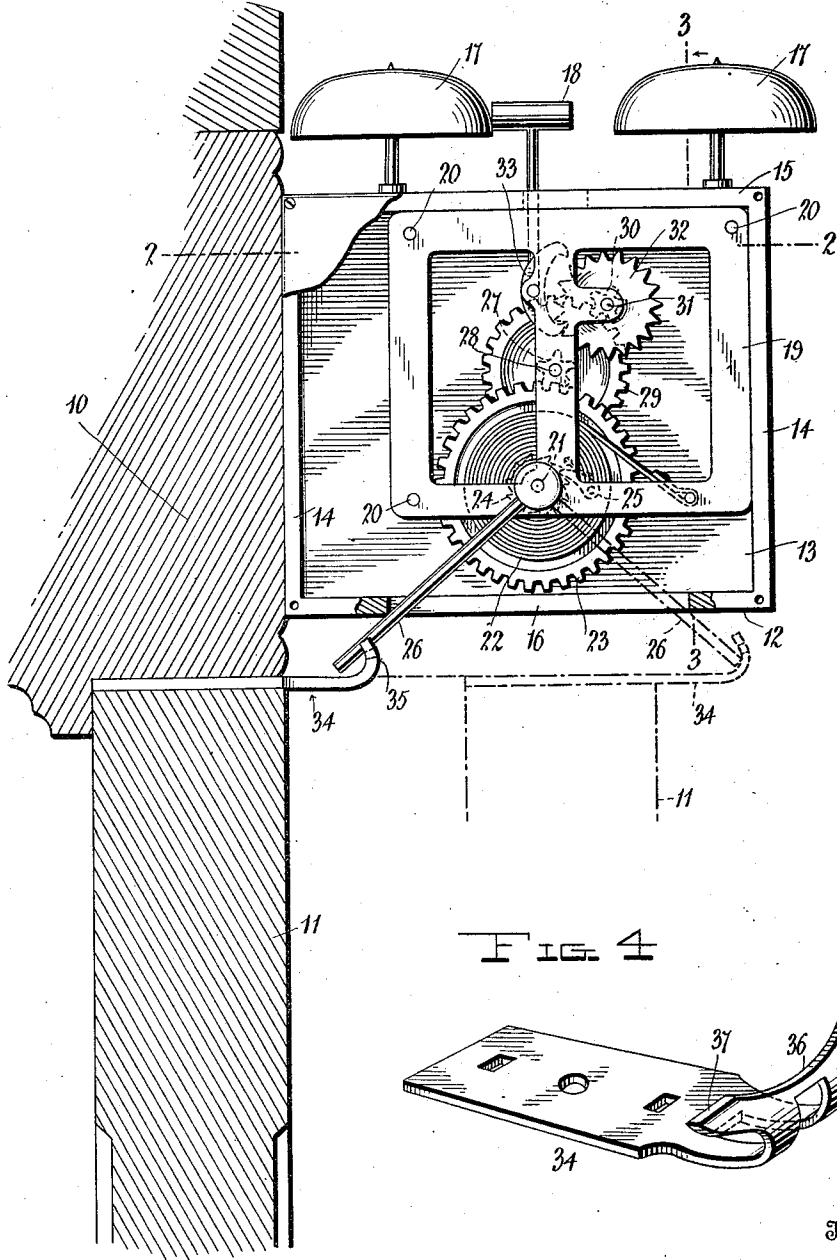
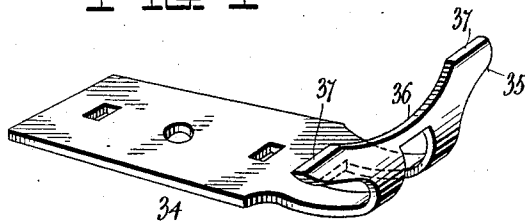


FIG. 4



Witnesses

*W. H. Gordon*

Francis Boyle

Inventor

J. Kramer,

By

*Charles Amable*

Attorney's

J. KRAMER.  
ALARM DEVICE.

APPLICATION FILED JUNE 19, 1911.

Patented Dec. 3, 1912.

1,046,080.

2 SHEETS—SHEET 2.

FIG. 2

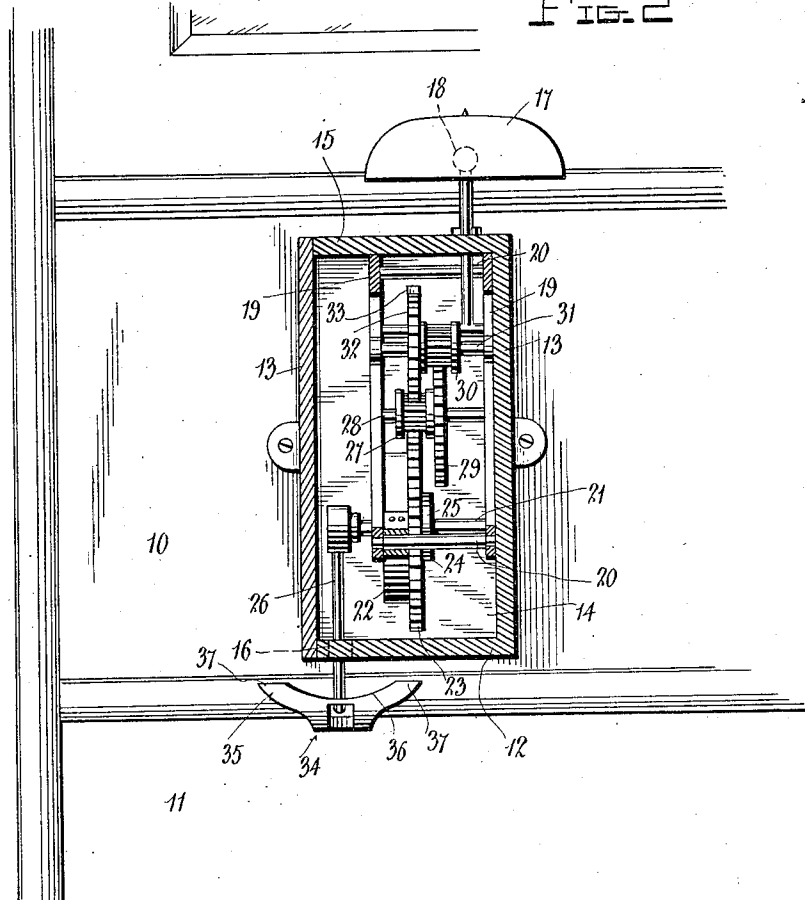
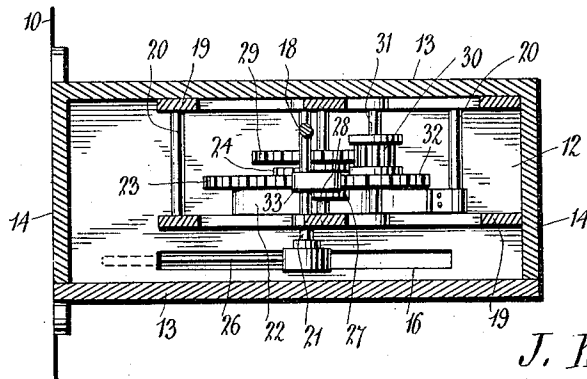


FIG. 3



Inventor

J. Kramer,

Witnesses

*Francis Boyle*  
Francis Boyle

By

*Charles A. Kramer*

Attorney

# UNITED STATES PATENT OFFICE.

JACOB KRAMER, OF STRASBURG, NORTH DAKOTA.

## ALARM DEVICE.

1,046,080.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed June 19, 1911. Serial No. 633,944.

*To all whom it may concern:*

Be it known that I, JACOB KRAMER, a citizen of the United States, residing at Strasburg, in the county of Emmons, State of North Dakota, have invented certain new and useful Improvements in Alarm Devices; and I do hereby declare the following to be 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.

This invention relates to alarms of that general class designed to be attached to a door head or the like and being actuated by opening of the door.

An object of the present invention is to provide a spring actuated alarm, the spring of which will be wound upon closing the door, and will be released by opening the door so that the alarm is sounded upon the door being opened, and also manual winding of the alarm is obviated after its initial winding.

With the above objects in view the invention consists in certain novel details of construction and combination of parts herein-after fully described and claimed, it being understood that various modifications may be made in the minor details of construction within the scope of the appended claim.

In the accompanying drawings forming part of this specification:—Figure 1 is a longitudinal sectional view through a door casing and door showing my improved alarm applied thereto. Fig. 2 is a longitudinal sectional view through the alarm casing taken on the line 2—2 Fig. 1. Fig. 3 is a cross sectional view taken on the line 3—3 Fig. 1. Fig. 4 is a detail perspective view of the winding finger carried by the door.

Referring now to the drawings in which like characters of reference designate similar parts, 10 designates a door casing, and 11 a door, both parts being of the ordinary construction. The alarm comprising the subject-matter of this invention consists of a casing having a bottom 12 from the longitudinal edges of which rise side walls 13, and from the end edges of which rise end walls 14, the side and end walls being connected by a top wall 15. Formed longitudinally in the bottom wall is a slot 16 through which the key of the clock work mechanism hereinafter described projects. Arranged on the top wall are spaced bells

17 between which the clapper 18 of the clock work mechanism vibrates, this clapper extending through a suitable opening formed in the top wall midway between the bells.

Arranged within the casing is a clock work mechanism of ordinary construction including side frames 19 connected at their corners by spacing bolts 20. Journaled in the side frames are the ends of a loose axle 21 to which is fixed the inner end of a coiled main spring 22; the outer end of the main spring being fixed to one of the spacing bolts. Loosely mounted on the axle is a driving gear 23, a ratchet wheel 24 being fixed to the driving shaft, and held normally locked to the driving gear by a spring controlled pawl 25. The driving shaft extends through one of the side frames and is equipped with a lever 26 which projects through the slot 16 above mentioned, and forms a winding key. Upon movement of the winding key toward the door casing, the shaft will be rotated, and wind the main spring while the spring controlled pawl 25 will slip over the ratchet wheel and permit of the driving gear 23 remaining quiescent. The winding key is held in its farthest limit of winding movement by a winding finger which is attached to the door and will hereinafter be more fully described, such holding occurring when the door is closed, and as the door is opened, the winding key is released by the finger and the driving shaft is then rotated by the main spring, the spring controlled pawl locking the driving gear to the shaft during this movement of the parts so that the gear is rotated simultaneously with the shaft.

The driving gear meshes with a pinion 27 carried upon a shaft 28 arranged above the driving shaft, the shaft 28 being equipped with a gear 29 which in turn meshes with a pinion 30 arranged adjacent to the top of the casing. The shaft 31 is equipped with an escapement wheel 32, this wheel being peripherally engaged by the usual escapement 33 to the shaft of which is attached the above described clapper 18. Upon rotation of the main driving gear 23, the train of gearing just described will be actuated and serve to vibrate the clapper between the bells 17 and sound the alarm.

For winding the clock work mechanism a winding finger 34 is provided, this finger being preferably formed from a blank of material one end of which is bent to form

a hook 35, the bill of this hook being centrally cut away to form a concavity 36 with resultant divergent lugs 37 on opposite sides of the concavity. The winding key rests in the concavity and is prevented from escape therefrom by the lugs 37. A suitable countersink is formed in the top edge of the door for the reception of the finger shank, the latter being bolted or otherwise secured in the countersink to rigidly anchor the finger in position.

The operation of the device is as follows: Suppose the door to be open. In this position of the parts the winding key and finger will be in the positions shown in dotted lines in Fig. 1. As the door is moved to closed position, the finger is carried toward the door casing, and moves laterally in the depression between the legs of the fingers to conform to the arc of movement of the door, until finally when the door reaches closed position, the parts will assume the positions shown in full lines in Fig. 1. During this closing movement of the door, as above stated, the main spring is wound. Upon opening the door, the winding finger carried by the door is swung free from engagement with the winding key, and the latter then moves in an opposite direction to the movement above described, this movement being effected by the main spring unwinding and rotating the driving shaft as above de-

scribed. It will be noted, and it is deemed of importance that the unwinding movement of the main spring is limited by the winding key coming in contact with the outer end of the slot 16, the value of this feature being to limit the duration through which the bells 17 are sounded.

It will be noted that the closing movement of the door automatically winds the clock work mechanism so that after the initial winding of the mechanism, the alarm will require no further attention.

What is claimed, is:—

In an alarm for doors, a spring controlled alarm device adapted to be applied to a door casing and provided with a downwardly extending winding key, and a finger for actuating said key adapted to be applied to the door and comprising a single sheet of material bent at one end and forming a broadened hook, the end of the bill of said hook being cut away with a resultant concavity and divergent lugs on opposite sides of the concavity, said key bearing within said concavity and being prevented from escape therefrom by said lugs.

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

JACOB KRAMER.

Witnesses:

S. A. FISCHER,  
J. P. HENN.

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