(No Model.) 2 Sheets—Sheet 1.

N. CASE.

ALARM CLOCK.

No. 506,625. Patented Oct. 10, 1893.

Fig. I.

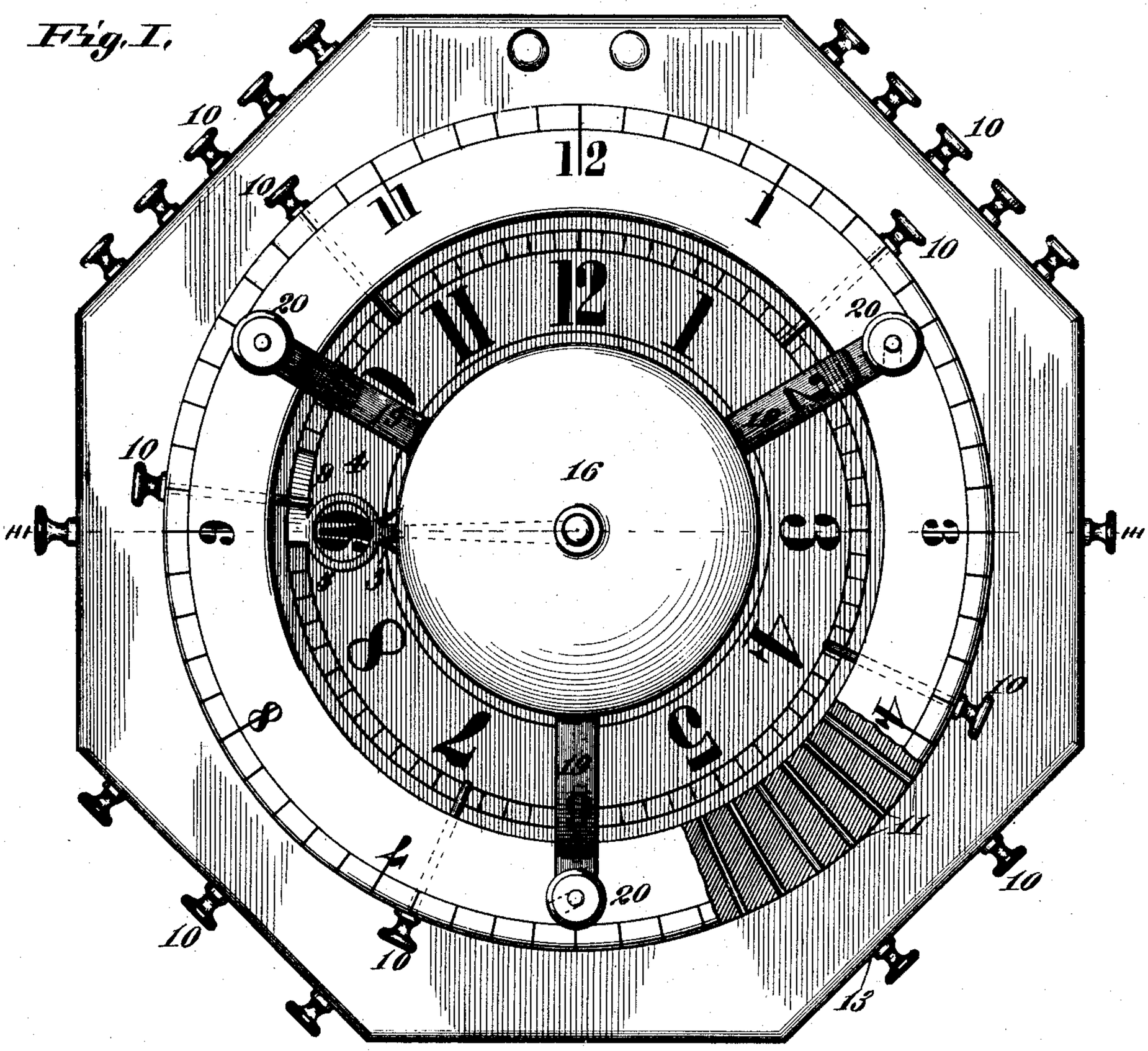
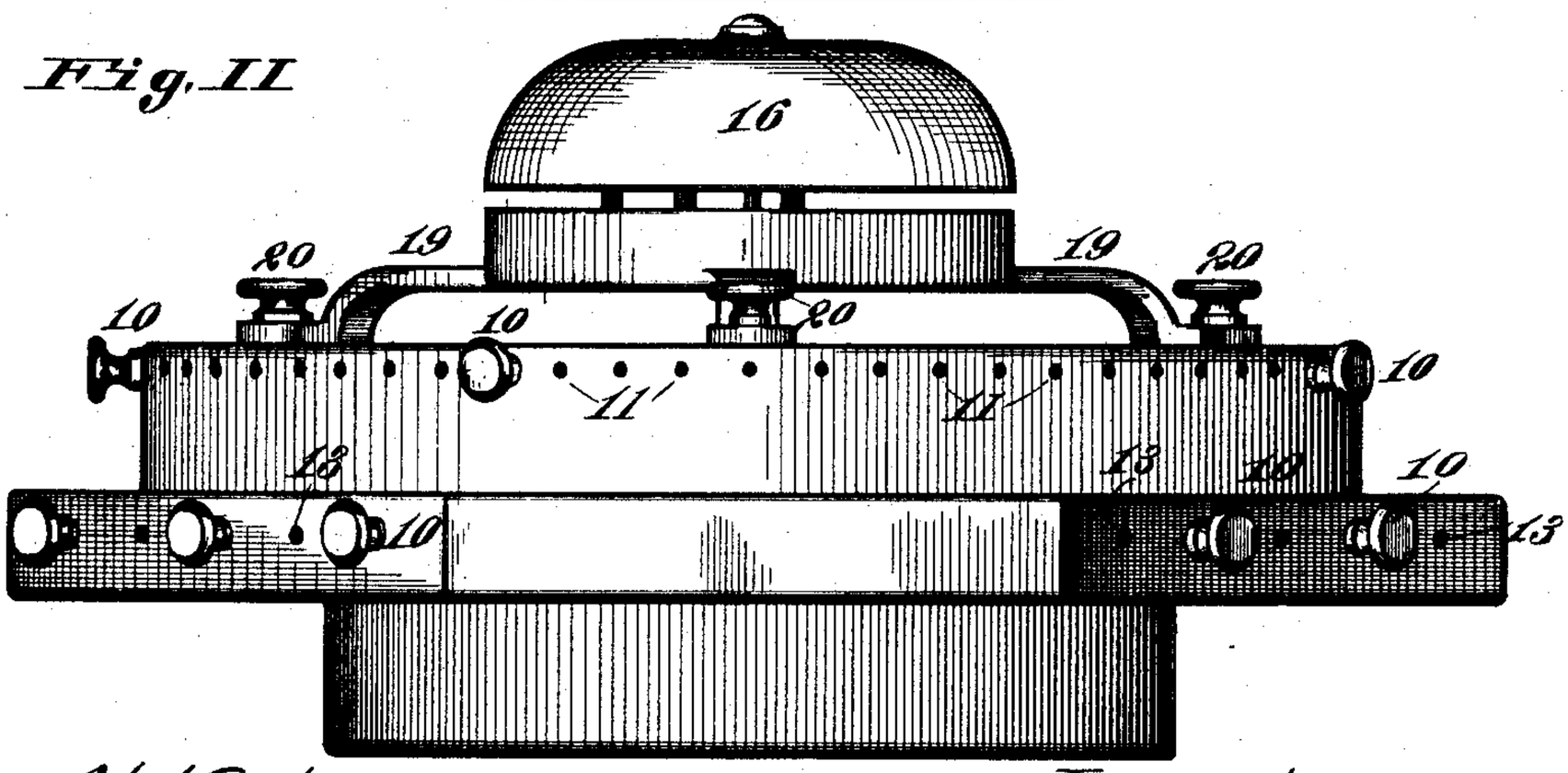


Fig. II.



Attest:
E. J. Knight
Albert W. Eberson

Inventor:
Norton Case
By Knight Bros.
Attys.

(No Model.)

2 Sheets—Sheet 2.

N. CASE.

ALARM CLOCK.

No. 506,625. Patented Oct. 10, 1893.

Fig. III.

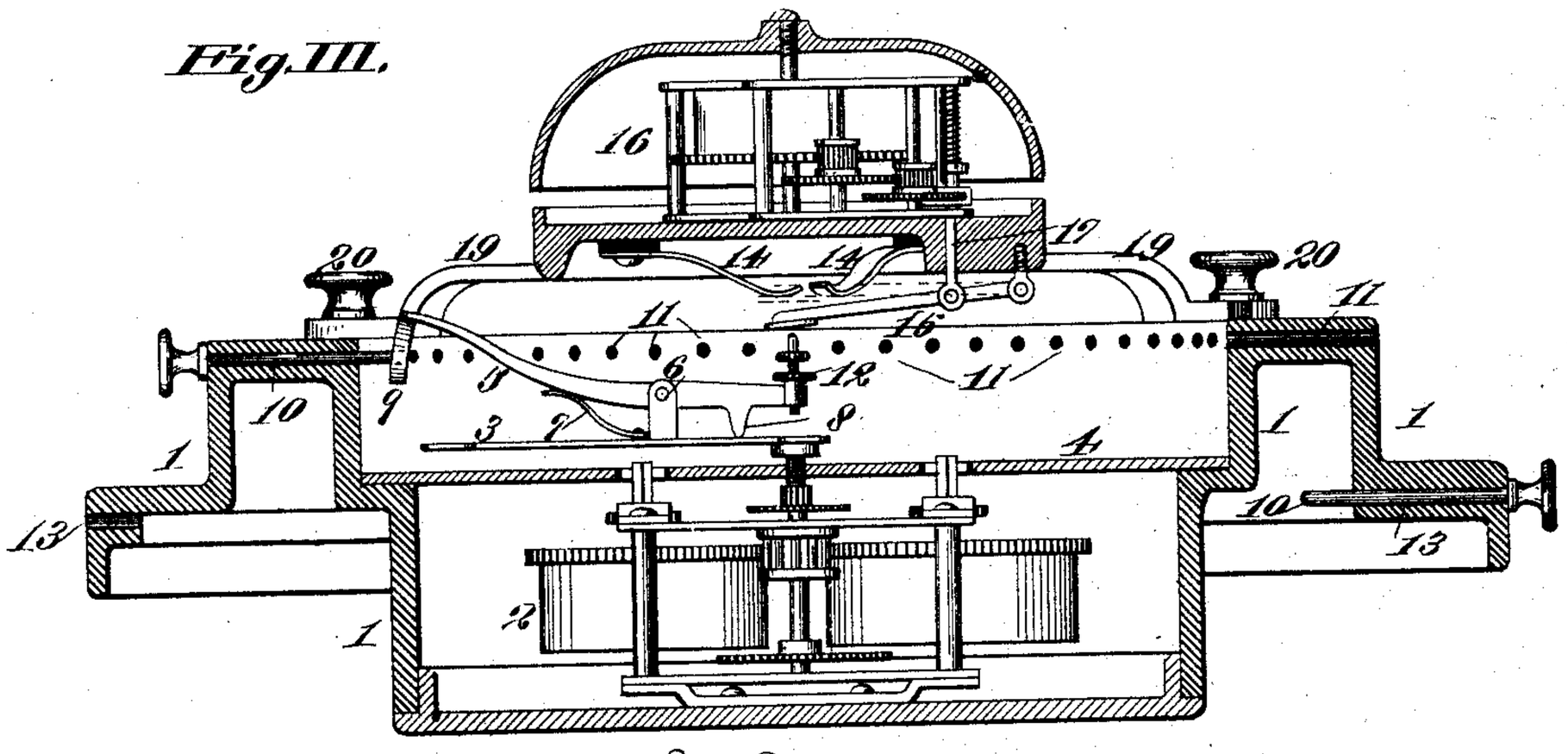


Fig. IV.

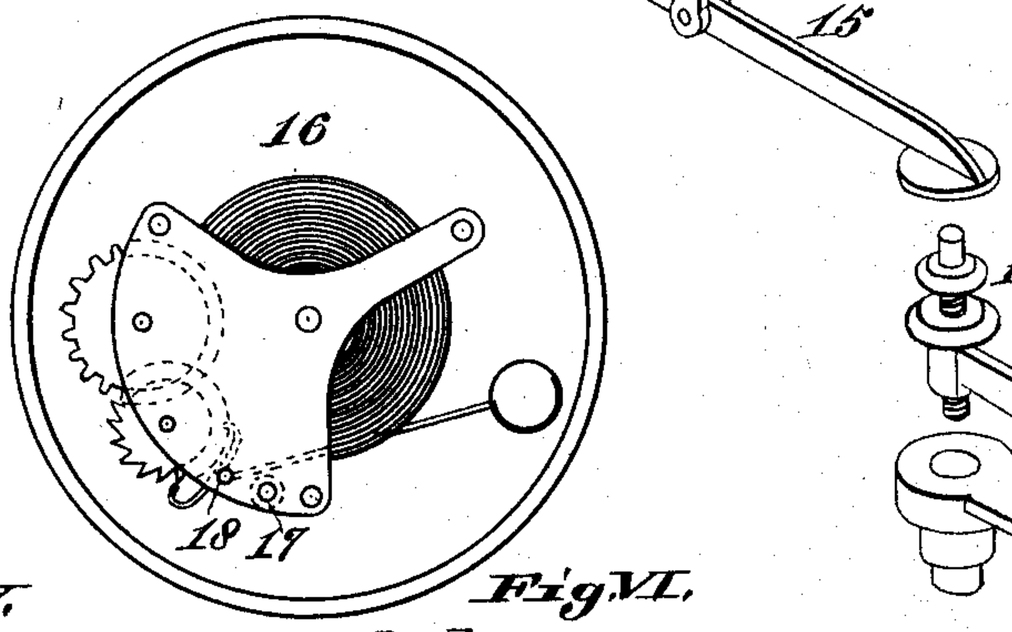


Fig. V.

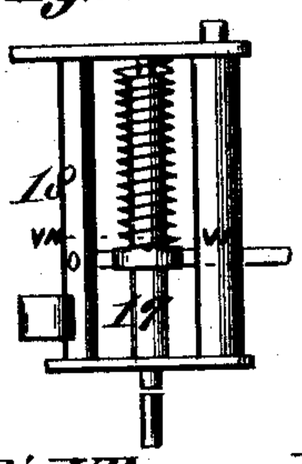


Fig. VI.

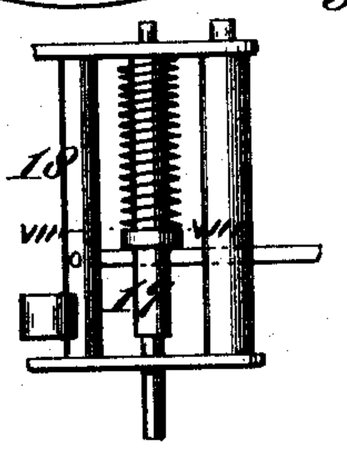


Fig. VII.

Fig. VIII.

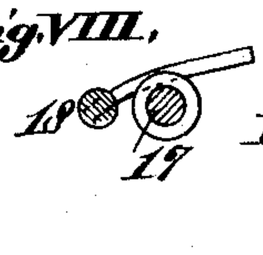


Fig. IX.

Fig. XIII.

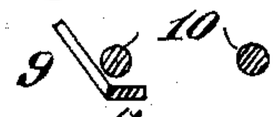


Fig. XIV.

Fig. XI.

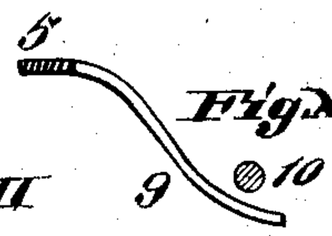


Fig. XII.

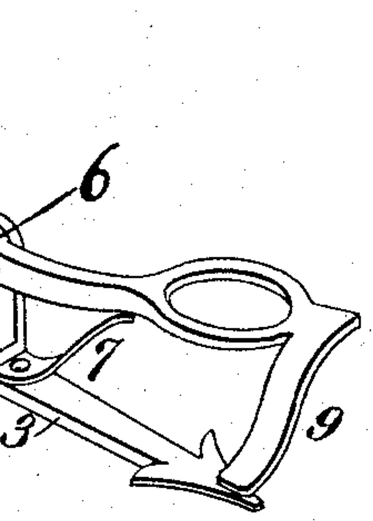
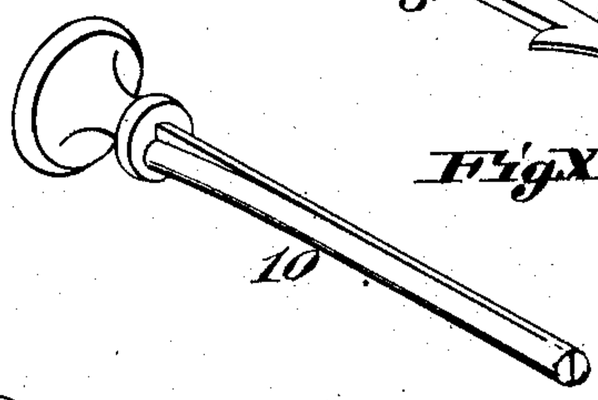
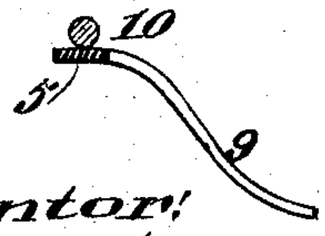


Fig. X.





Attest;
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Albert M. Eberach

Inventor;
Norton Case,
By Knight Bro
Attys.

UNITED STATES PATENT OFFICE.

NORTON CASE, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO BENJAMIN GRATZ, OF SAME PLACE.

ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 506,625, dated October 10, 1893.

Application filed December 5, 1892. Serial No. 454,080. (No model.)

To all whom it may concern:

Be it known that I, NORTON CASE, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Automatic Signals and Calls, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a simple and effective signal and call, and my invention consists in features of novelty hereinafter fully described and pointed out in the claims.

Figure I is a front elevation, part in section. Fig. II is an edge view. Fig. III is a section taken on line III—III, Fig. I. Figs. IV to VIII inclusive are detail views of an alarm bell, such as may be used in connection with my invention; Fig. VII being a section on line VII—VII, Fig. V and Fig. VIII being a section on line VIII—VIII, Fig. VI. Fig. IX is a perspective view of the hand of the clock and its lever; showing also the alarm lever. Fig. X is a perspective view of one of the contact pins. Figs. XI and XII are views illustrating the action of the clock-hand lever on the contact pins. Fig. XIII and XIV represent modifications of the clock-hand lever.

Referring to the drawings, 1 represents the frame or casing of the apparatus, in which is set a clock mechanism of any ordinary form of construction, 3 representing the hour hand and 4 the dial of the clock.

5 is a lever, pivoted at 6 to the hand 3, and which is maintained in its normal position on the hand by a spring 7 and a stop lug 8, see Figs. III and IX. The outer end of the lever is provided with a cam 9, adapted to engage pin 10 introduced in perforations 11 in the case 1, the perforations registering with the marks on the clock dial, as shown in the sectional part of Fig. I. The pins 10 may be split, as shown in Fig. X so that their friction in the perforations 11 will hold them in place. On the inner end of the lever 5 is a pin 12 which is preferably made adjustable by threading it into the lever, as shown.

The operation is as follows: One of the pins 10 is inserted in one of the perforations 11 at the hour or fraction of the hour the signal or call is to be given. As the hand 3 reaches this predetermined time, the cam 9 on the lever comes against the inner end of the pin, and as the cam passes under the pin (as the hand, carrying the lever with it, continues to move), the outer end of the lever 5 is depressed and its inner end is raised, sounding the alarm, and when the cam passes the pin, the lever is restored to its normal position by the spring 7. When the next pin is reached (any desired number of calls at predetermined times may be made, by inserting pins at the proper places), the operation will be repeated. Instead of projecting downwardly from the lever, the cam may project upwardly from it, as shown in Fig. XIII. In order to lessen the friction on the cam of the hand-lever 5 a friction roller 5^a may be provided as shown in Fig. XIV.

The pins 10 which are not in use, may be inserted in holes 13 in the outer part of the casing 1. (See Figs. I, II and III.)

When the inner end of the lever 5 is raised, as described, it sounds any suitable form of alarm. It may close the terminals 14 of an electric bell or alarm, or it may operate the lever 15 of a well known mechanical alarm 16, the lever 15 being connected, as is usual with this kind of an alarm, with a spring actuated post 17 (see Figs. III and VIII inclusive), which controls the escapement and hammer post 18 of the alarm. This form of alarm is well known, forms no part of my invention, and needs no description.

I have shown the alarm supported by arms 19 and posts 20, two of the arms having a slotted connection with their posts, as shown, so that the alarm can be swung on its other arm when the clock is to be wound. By thus pivoting a lever to the hand of a clock, a single contact between the clock mechanism and the alarm is permitted, that is to say: whatever position the hand 3 and lever 5 may be in, relatively to the dial, the inner end of the lever 5, which is over the pivot of the hand 3, is always in position, when raised, to make the contact, and sound the alarm, whether the alarm be a mechanical one or an electrical one. A signal call thus made is very simple and cheap, and is effective and reliable.

I claim as my invention—

1. In a signal or call, the combination of the clock mechanism, a pivoted lever carried by the clock mechanism, removable pins adapted to engage the outer end of the lever, and an alarm adapted to be engaged by the inner end of the lever, substantially as and for the purpose set forth.

2. In combination with a clock mechanism, a lever pivoted to the hand of the clock mechanism, a cam on the outer end of the lever, removable pins adapted to be engaged by said cam, a pin on the inner end of the lever, and an alarm, substantially as and for the purpose set forth.

3. In combination with a clock mechanism, a lever pivoted to the hand of the clock mechanism, a cam on the outer end of the lever, removable pins adapted to be engaged by said cam, to cause the inner end of the lever to sound an alarm; substantially as and for the purpose set forth.

4. In a signal or call, the combination of a case, having a number of perforations, a clock mechanism, a lever pivoted to the hand of the clock mechanism, a cam on the outer end of the lever adapted to engage pins fitting in the perforations of the case, an adjustable pin on the inner end of the lever, and an alarm adapted to be engaged by said pin when said lever is moved; substantially as and for the purpose set forth.

NORTON CASE.

In presence of—
ALBERT M. EBERSOLE,
ED. S. KNIGHT.