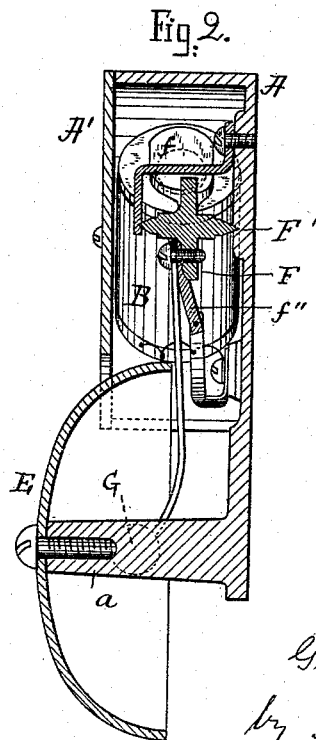
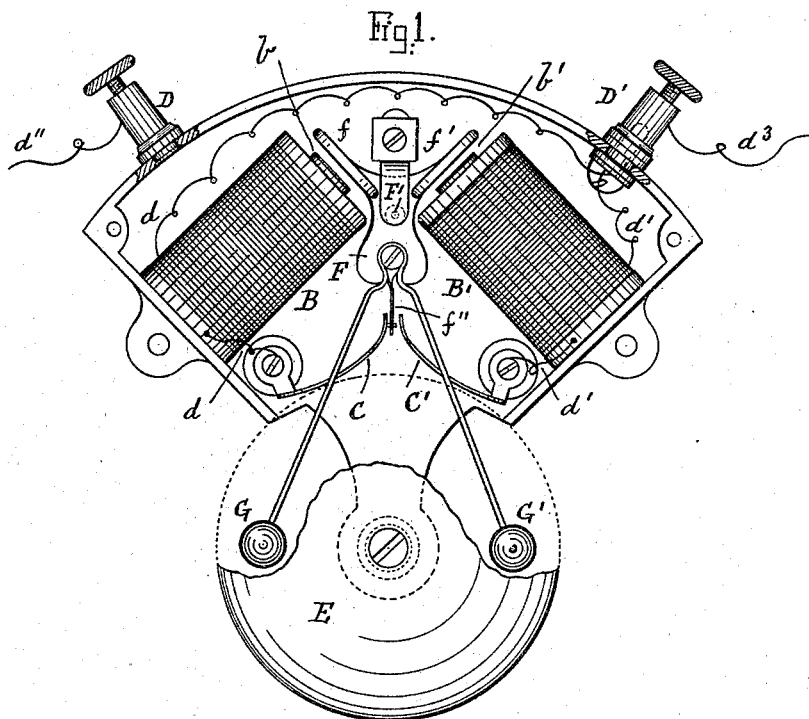


(No Model.)

G. L. REENSTIERNA.  
ELECTRIC BELL ALARM.

No. 492,309.

Patented Feb. 21, 1893.



Witnesses.

Lauritz N. Möller.  
George F. Syper.

Inventor.

Gustaf Libert Reenstierna  
by Alvan Audrién  
his atty.

# UNITED STATES PATENT OFFICE.

GUSTAF LIBERT REENSTIERNA, OF BOSTON, MASSACHUSETTS.

## ELECTRIC-BELL ALARM.

SPECIFICATION forming part of Letters Patent No. 492,309, dated February 21, 1893.

Application filed October 12, 1892. Serial No. 448,644. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAF LIBERT REENSTIERNA, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Electric-Bell Alarms, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in electric bell alarms and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a front elevation of the invention showing the detachable cover removed; and Fig. 2 represents a central vertical section of Fig. 1.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

A represents a suitable metal inclosing case to the front of which is detachably secured a plate or cover A' as shown. Within the case A are secured a pair of electro-magnets B and B' of which *b* and *b'* are the respective cores, the upper projecting ends of which are preferably provided with suitable insulating covers for the purpose of preventing the adhesion of the armature when attracted to said cores as is common in electro-magnetic devices. These electro magnets are arranged substantially at right angles to each other for preventing one spool from magnetizing the other.

C and C' are yielding spring electrodes secured in an insulated manner to the case A.

D is a binder post secured in metallic connection to the case A, and D' is a similar binder post secured in an insulated manner to said case as shown in Fig. 1; from the insulated binder post D' leads a wire *d* to the coil B and spring electrode C, and *d'* is a wire leading from said insulated binder post D' to the coil B' and spring electrode C' as shown in Fig. 1.

*d''* and *d'''* are wires leading from the respective binder posts D and D' to and through a battery and circuit closing press button in the usual manner of connecting electric bell alarms, such battery and press button being however not shown in the drawings.

E is the bell secured in any suitable man-

ner to the case A or a post or projection *a* thereon as shown in the drawings.

On a pivot F' supported by suitable bearings in the case A, is mounted an angular armature plate or lever F provided above the pivot F' with armatures *f* and *f'* which extend in different directions and lie opposite the cores *b* and *b'* of the electro magnets, and to the armature lever are attached the hammers or strikers G and G'. Below the armature lever F and its pivot F' is attached an electrode or circuit closer *f''*, the lower end of which passes between the upper free ends of the spring electrodes C, C', as shown; the said electrode *f''* is normally held in metallic contact with one of the spring electrodes C or C' which may be accomplished preferably by hanging the alarm slightly out of plumb or in any other desired manner.

The operation is as follows; As soon as the circuit is closed, by the depression of a button or other circuit closing device, the current will pass from post D' through coil B to spring electrode C and to armature electrode *f''* and post D metallically connected thereto, by which the core *b* will be magnetized so as to attract to it the armature *f* causing the hammer G' to strike the inside of the bell E, and at or about the time the hammer G' strikes, the electrode *f''* is brought in contact with the spring electrodes C' causing the spool B to be automatically cut out of the circuit and causing the current to pass through spool B' by which the armature *f'* is attracted toward the core *b'* causing the hammer G to strike against the bell and so on as long as the circuit is closed.

By this construction and arrangement an intense and rapidly sounding alarm is set in automatic motion by the use of a comparative weak battery as compared with other electric bell alarms now in use.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

The combination in an electric bell alarm, of the electro magnets B and B' arranged substantially at right angles to each other, an angular armature lever F pivoted between the electro magnets and provided with angularly arranged armatures *f* and *f'* extending in different directions and lying opposite the

cores of the magnets, a hammer or striker connected with the armature lever below its pivot, spring electrodes C C, located below the armature lever and having free extremities, an  
5 electrode *f''* extending between the free extremities of the spring electrodes, and suitable electrical connections, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification, in the presence of 10 two subscribing witnesses, on this 3d day of October, A. D. 1892.

GUSTAF LIBERT RÉENSTIERNA.

Witnesses:

ALBAN ANDRÉN,  
ALICE A. PERKINS.