

J. J. GALLAGHER.
ELECTRIC TIME ALARM.

Patented Mar. 24, 1891.

Fig.1.

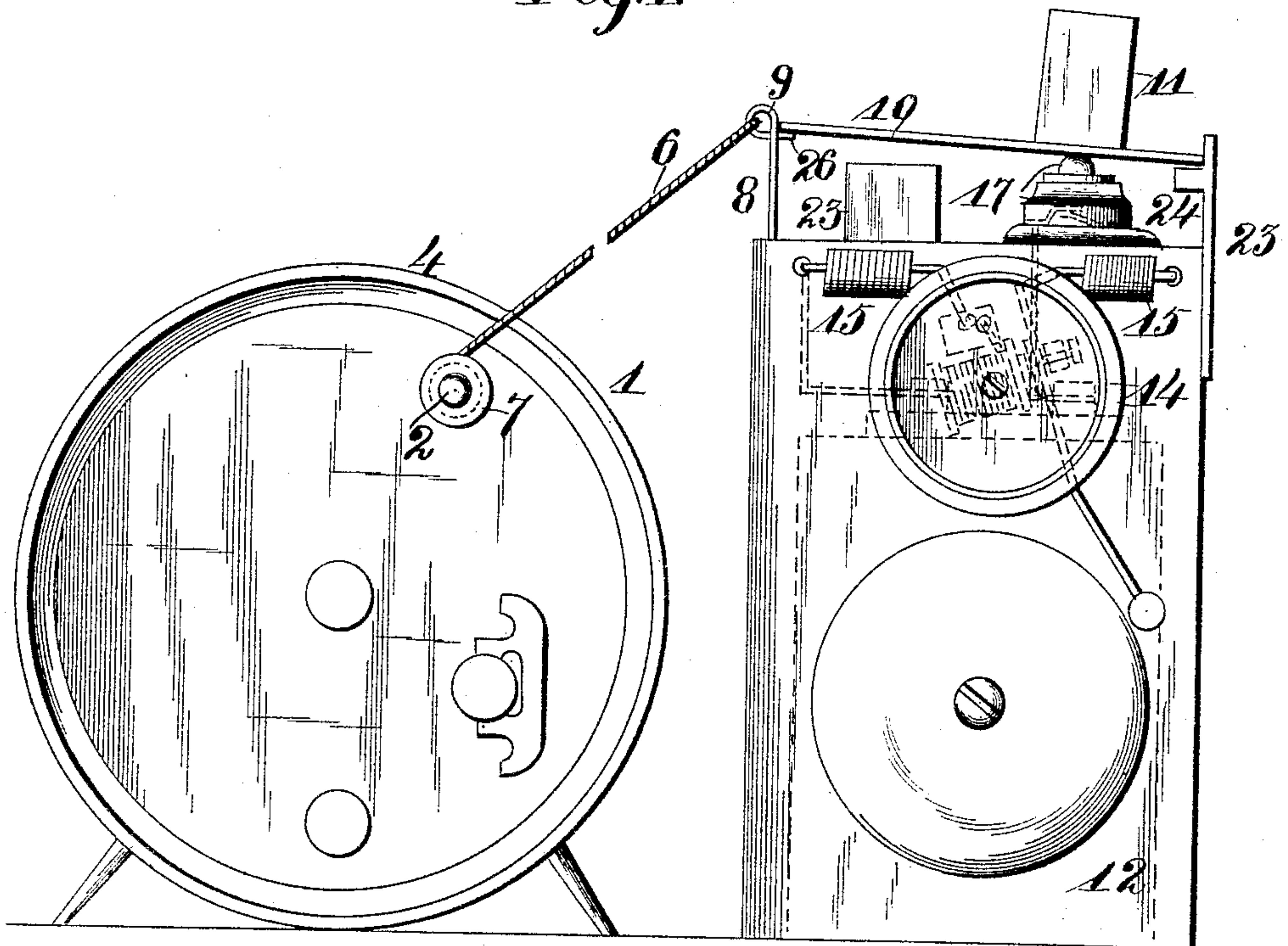


Fig. 2.

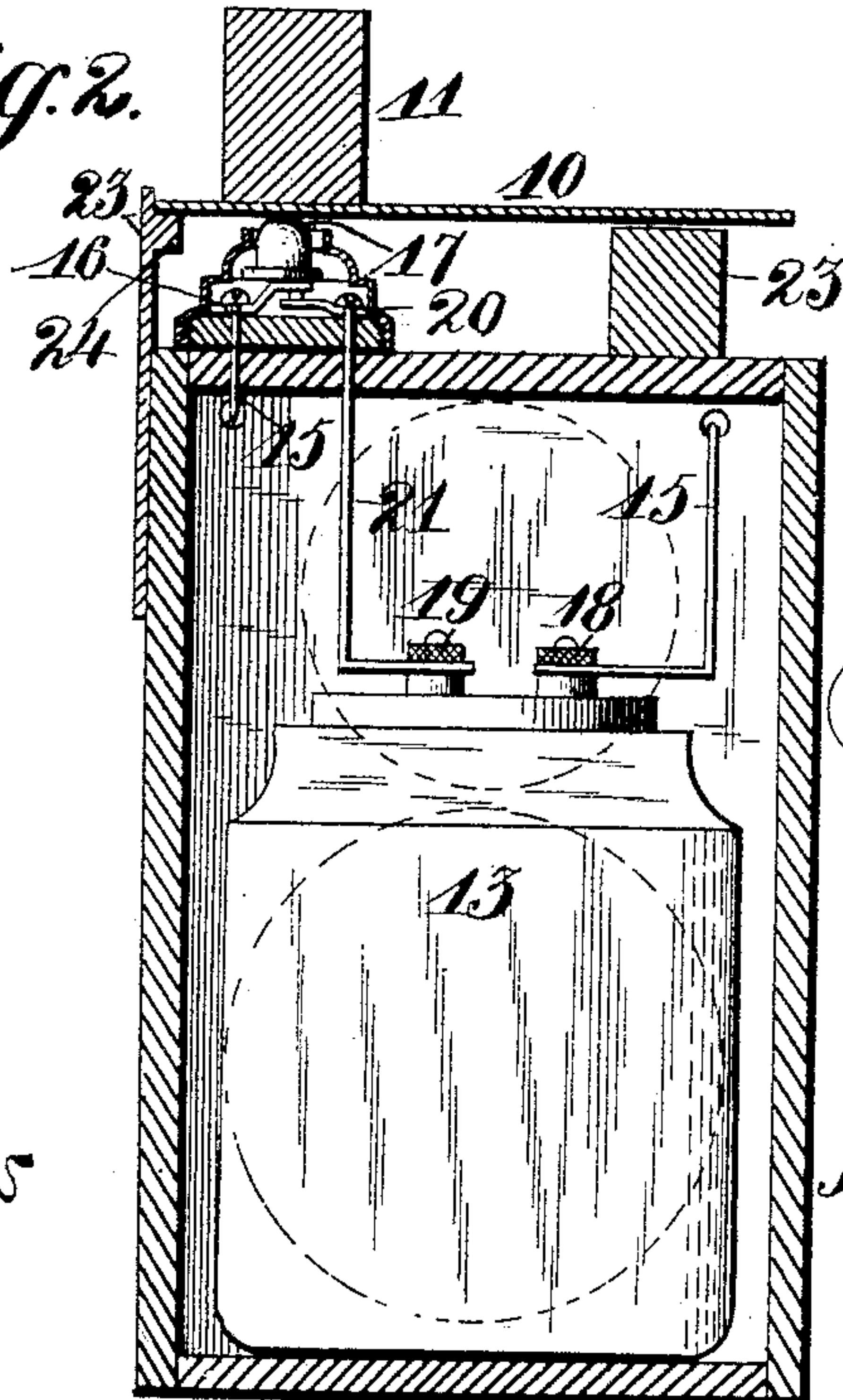
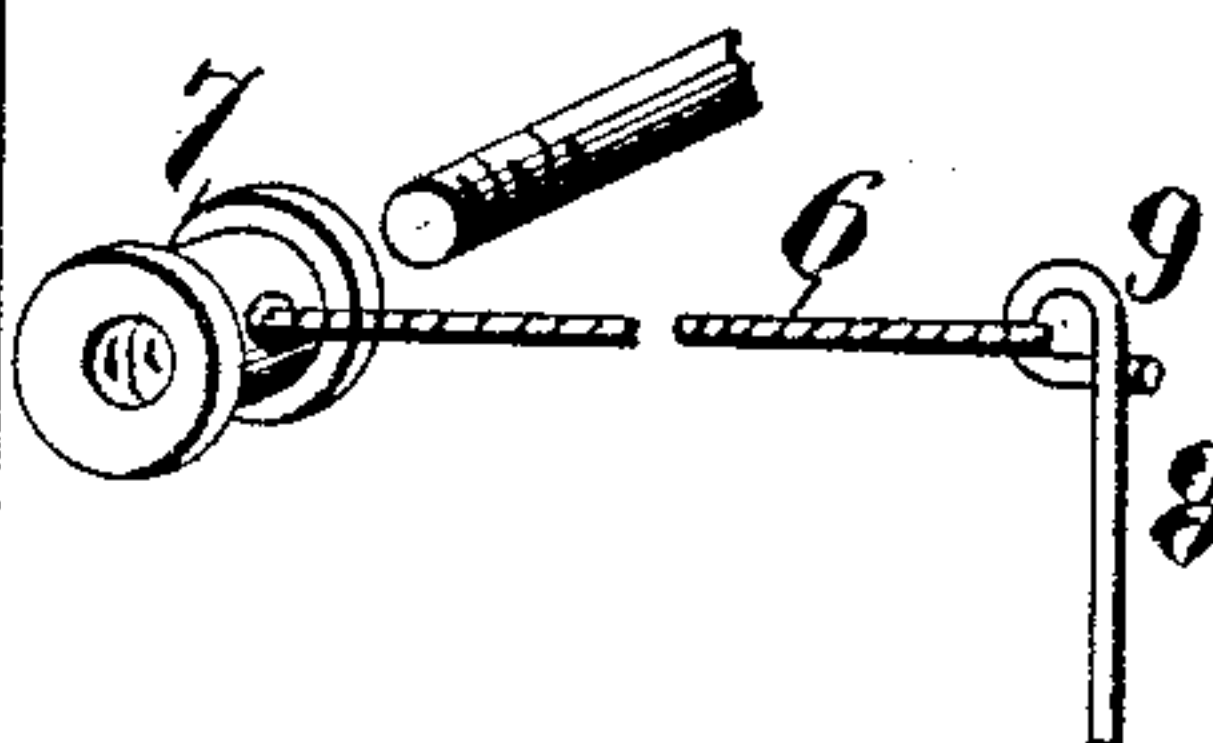


Fig. 3.



L. S. Heller
E. C. Angau

INVENTOR
John T. Gallagher.
BY *Higdon & Higdon*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN J. GALLAGHER, OF ST. LOUIS, MISSOURI.

ELECTRIC TIME-ALARM.

SPECIFICATION forming part of Letters Patent No. 448,712, dated March 24, 1891.

Application filed November 28, 1890. Serial No. 372,901. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. GALLAGHER, of the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Electric Alarms for Clocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in electric alarms for clocks; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described, and designated in the claims.

In the drawings, Figure 1 is a front elevation of my complete invention, showing the electric bell, the clock, and the drop-weight for making electrical contact set and in a position to be tripped. Fig. 2 is a vertical section of the same, showing the electrical connection between the battery and electric bell and also the construction of the electrical contact device or push-button. Fig. 3 is a perspective view of the attachment device connecting the clock and the drop-weight.

The object of my invention is to provide a simple and effective electrical alarm or device for attachment or connection to clocks for making or giving an ominous sound or noise or alarm at some predetermined time, as desired by the operator.

The ineffective alarm or sound produced by ordinary alarm-clocks is well understood, the ineffectiveness, however, arising from only a short or temporary alarm being produced by the clock, as the mechanism is so defectively constructed that it is incapable of producing a continuous sound, so as to arouse the slumberer.

Referring to the drawings, 1 represents an ordinary alarm-clock, which I employ in carrying out my invention, and 2 represents the shaft of the alarm attachment. The connecting-cord 6 is attached to a spool or bobbin 7, which is provided with internal screw-threads and adapted to be screwed on the end of shaft 2. One end of said connecting-cord 6 is also attached to a trigger 8. The ordinary shaft which rotates when the alarm goes off may be provided either on the outside or inside of the shell 4 of the clock with a perforation or aperture, through and in which said connecting-

cord 6, which is essential in carrying out my invention, is adapted to be attached. Should the perforation be formed in said shaft on the inside of the shell of the clock, a perforation should be made in said shell to permit the cord to pass therethrough in its functional operation. If the perforation should be formed in the stem on the outside of the shell, there is no necessity for a perforation being formed therein for the passage of said cord. Said trigger consists of a piece of wire or other suitable material, one end of which is bent into and forms an eyelet 9 and projects outwardly from the body of said trigger and forms a catch or support 26 for the plate 10 and drop-weight 11.

12 indicates a box or receptacle for an ordinary battery 13. To one side of said box or receptacle an electric bell 14, of ordinary and usual construction, is attached in any suitable and appropriate manner.

15 represents conducting-wires, which are connected to the positive and negative poles of the electro-magnet of the electric bell. Said wires pass through suitable perforations made in the side of the receptacle 12 and are connected one to a contact-spring 16 of the push-button 17 and the other to the positive pole 18 of the battery. The negative pole 19 of said battery is connected to a contact-spring 20 of the push-button by means of the conducting-wire 21.

11 is a drop-weight which is secured to a plate 10, which is adapted to rest on supports 23. One end of said plate which supports the drop-weight rests on a transverse strip 24 as a fulcrum. The weight of the drop-weight is adapted to be principally supported when it is tripped by the push-button 17.

Having given an explicit description of my invention, I will now proceed to describe its application and use. The operator or the person to be awakened should set the alarm of the clock at any predetermined time, as he may desire. The connecting-cord 6 should then be attached to the shaft 2 of said alarm and the trigger 8 set under one end of the drop-weight 11, keeping always said connecting-cord in a taut condition. When the alarm goes off at the time set, shaft 2 will rotate and carry round it said connecting-cord,

whereby the trigger 8 will be pulled from under the end of plate 10 of the drop-weight, and the weight of the same will be received by the push-button 17, which will bring the
 5 contact-springs 16 and 20 in electrical contact, and thereby complete a circuit through the electric bell 14, which causes it to ring, and will continue until the drop-weight is removed from off the push-button. When the
 10 drop-weight 11 is down and resting on the push-button 17, contact-spring 16 of said push-button is pressed downward on contact-spring 20 of the same, whereby electrical contact is formed between said springs. The electric
 15 current generated in battery 13 passes from the negative pole 19 of said battery into conducting-wire 21, then into contact-spring 20 of the push-button, and from the said spring it is adapted to be transmitted to spring 16
 20 of the push-button, and from spring 16 it is transmitted to one of the poles of the electro-magnet, thence through the coils of said electro-magnet, and from said coil it emerges and passes out through wire 15, which wire is
 25 connected to the positive pole 18 of battery 13.

Having described my invention, what I claim is—

1. In an electric alarm for clocks, the combination of a drop-weight 11, a trigger 8, provided with an eyelet 9 and catch 26 for setting said weight, a connecting-cord 6, secured in said eyelet and adapted to be operated by

an alarm-shaft 2 for tripping said weight, and a circuit-closing device adapted to be operated by the same, substantially as set forth. 35

2. In an electric alarm for clocks, the combination of a drop-weight 11, a trigger 8, provided with an eyelet 9 and catch 26 for setting said weight, an alarm-shaft 2, a spool 7, adapted to be received on the end of said
 40 shaft, a connecting-cord 6, secured to said trigger and said spool for tripping said weight, and a circuit-closing device adapted to be operated by the same, substantially as set forth. 45

3. The combination of a battery 13, a receptacle 12 for the reception of said battery, an electric bell 14, secured to said receptacle, an alarm-clock 1, provided with an alarm-shaft 2, a detachable spool 7, adapted to be
 50 received on said shaft, contact-springs 16 and 20, situated apart and one above the other, a drop-weight 11, located above said springs, a trigger 8 for setting said weight, and a connecting-cord 6, attached to said alarm-shaft 55 and to said trigger for tripping said weight, substantially as set forth.

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

JOHN J. GALLAGHER.

Witnesses:

C. K. JONES,
 E. E. LONGAN.