

No. 864,971.

PATENTED SEPT. 3, 1907.

A. LARSSON.
ELECTRIC SIGNALING DEVICE.
APPLICATION FILED JUNE 9, 1906.

Fig. 1.

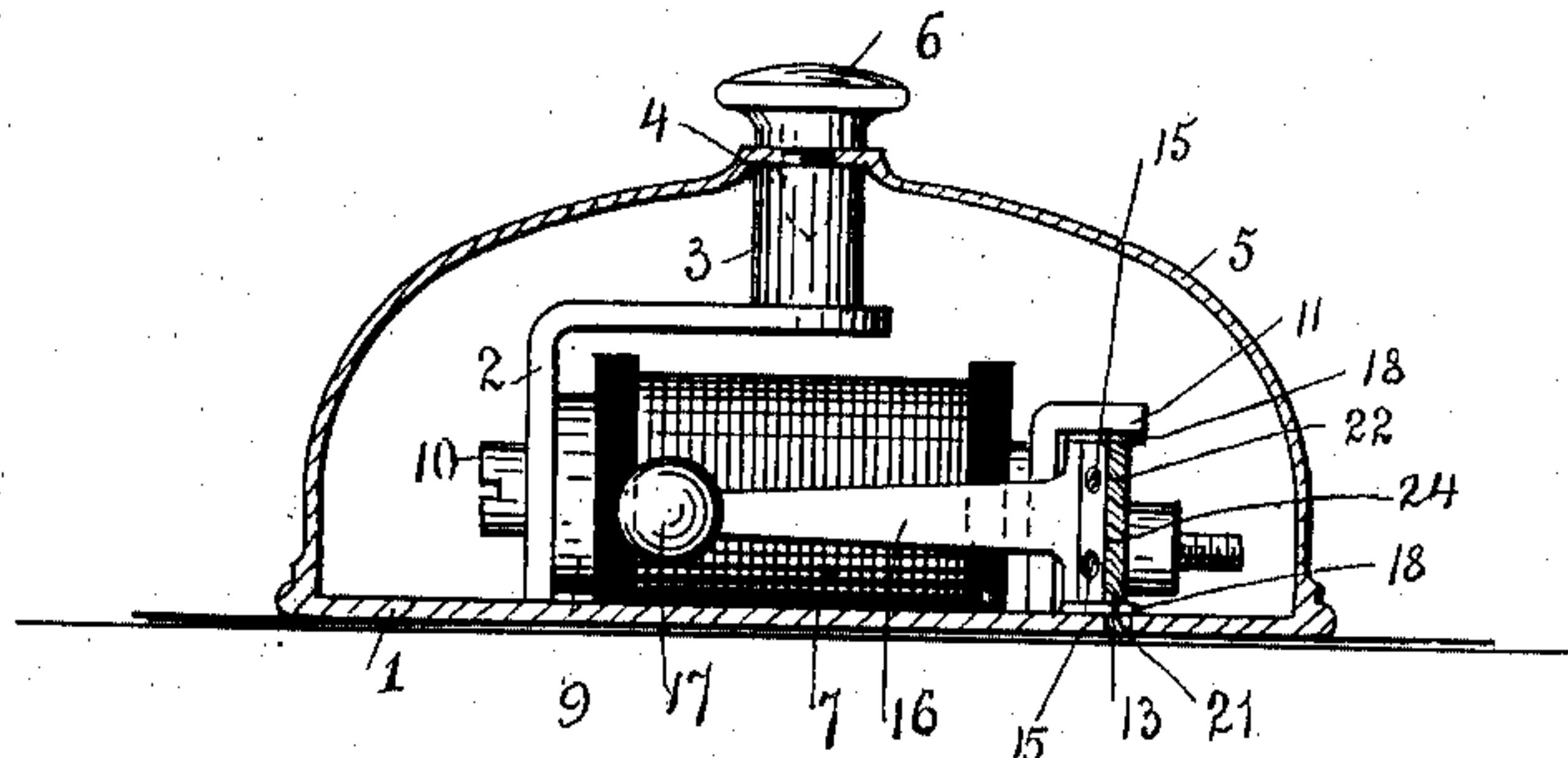


Fig. 3.

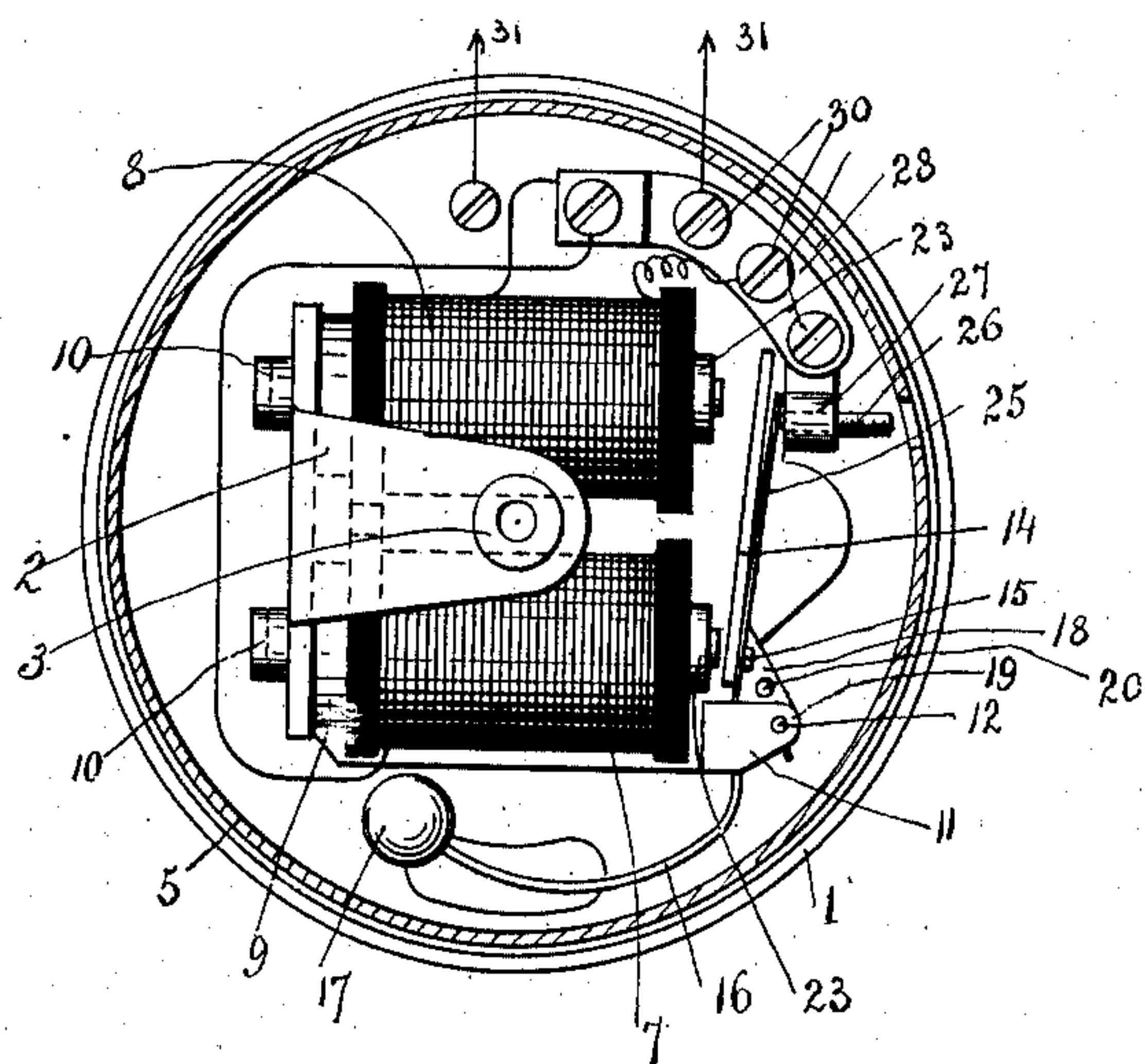
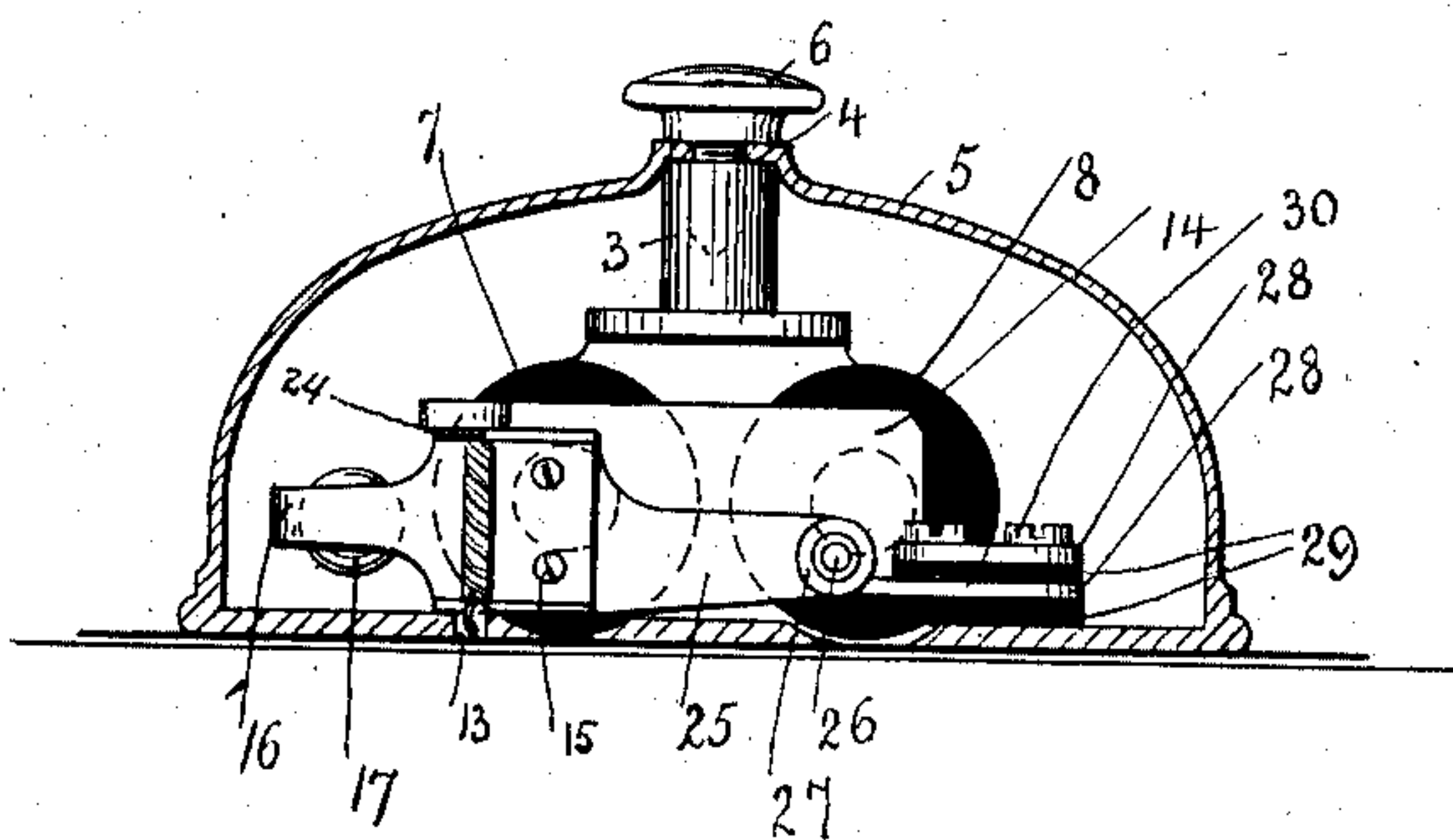


Fig. 2.



WITNESSES

J. M. Black
H. L. H. H. H.

INVENTOR

Alfred Larsson

BY

Attorney
his ATTORNEY

UNITED STATES PATENT OFFICE.

ALFRED LARSSON, OF BUFFALO, NEW YORK.

ELECTRIC SIGNALING DEVICE.

No. 864,971.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed June 9, 1906. Serial No. 321,018.

To all whom it may concern:

Be it known that I, ALFRED LARSSON, a subject of the King of Sweden, residing at Buffalo, in the county of Erie, State of New York, have invented certain new and useful Improvements in Electric Signaling Devices, of which the following is a specification.

The present invention relates to electric signaling devices, more particularly battery bells, and comprises various novel structural features and combinations of elements, hereinafter fully described and particularly pointed out in the appended claims.

One object of the invention is to produce a bell of this character of attractive appearance, simple and economical in construction, and positive in action.

Another object of the invention is to so construct the striking element, that when the hammer has struck the bell, the former will rebound from the latter and permit a clear free vibration.

Other objects of the invention will appear from the following specification, by aid of the accompanying drawing wherein,

Figure, 1 is a side elevational view of my invention, part of the gong and base member being broken away, and looking at the side of the electro-magnets. Fig. 2, is a view similar to Fig. 1, looking at the ends of the electromagnets, and Fig. 3, is a top plan view with the gong entirely removed.

Referring to the drawing 1 designates the base member which carries the essential features of the device. Mounted upon or struck up from the base member 1, is a bracket 2, preferably angular in form, to which is secured a post 3, having a shoulder 4 upon which the gong 5 is held by a removable nut 6.

The electromagnets, which rest upon the base member 1, are designated 7 and 8 and are provided with a bridge 9, by means of which the electromagnets are secured to the bracket 2, through the medium of screws 10.

For the purpose of pivotally retaining the armature movement in position, I provide a second bracket 11, upon the base member 1; this second bracket being preferably angular in form, and situated at such a point in reference to the pole pieces of the electromagnets that the armature may be readily attracted thereto. In the present instance the bracket 11 is arranged below the end and to one side of the center of the electromagnets and is perforated at 12 which perforation is in line with a perforation 13 in the base member 1.

The armature is designated 14 and by screws 15 is secured to a curved spring 16 carrying the hammer 17. The spring 16 at or near its end opposite the hammer 17 is provided with lateral flanges 18, adapted to fit loosely between the lateral arm of the bracket 11 and the base member 1. The flanges 18 are each provided with a perforation 19, which perforations, when the flanges are properly positioned, are designed to regis-

ter with the perforation 12 in the bracket and the perforation 13 in the base member 1. The upper flange 18 is provided with a second perforation 20, to one side of the first perforation, and the base member 1 is provided with a second perforation 21, on the opposite side of the perforation 13, each of the perforations 20 and 21 being designed to receive and retain one end of a spiral spring 22, which is adapted to normally draw the armature 14 away from the pole pieces 23 of the electromagnets 7 and 8. Passing through the perforations 12, of the bracket 11, the perforations 19 of the flanges 18, into the perforation 13 of the base member 1 and through the spiral spring 22 is a pin 24 which is riveted in position and which serves the double purpose of acting as a pivot for the armature 14 and tongue 16 and for retaining the spiral spring 22 when properly tensioned. Upon one side of the armature 14, and secured thereto by the screws 15 is a flat spring 25, which is adapted to normally contact with an adjusting screw 26, held in a collar 27. The collar 27 is formed from one of the terminal pieces 28, insulated from each other and from the frame 1 by insulation 29, and held in position by screws 30, to which the wiring 31 is suitably connected.

The operation of the invention will be readily understood. As current enters the electromagnet, the armature will be attracted thereto throwing the hammer 17 against the gong 5, and drawing the flat spring 25 away from the adjusting screw 26 thus interrupting the electrical circuit between these parts. The armature 14 being then no longer attracted to the electromagnet is withdrawn therefrom by the spiral spring 22, through the exercise of its normal tendency to draw the armature backward. As the hammer 17 strikes the gong, the spring 16 is partly straightened out momentarily, but as soon as the stroke is completed, the spring 16 again resumes its initial curved form, holding the hammer away from the gong and allowing the latter to vibrate freely and clearly. As long as the current is continued the make and break between screw 26 and spring 25 continues and the bell will ring.

The several advantages of the present construction will be obvious from the foregoing description; but especial attention is directed to the fact that when the spiral spring has been set to proper tension, it is not liable to be thrown out of adjustment owing to the inherent tendency and nature of a spiral spring to retain its original form and also in view of the fact that the spring is so placed as to be free from interference with other parts of the mechanism.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a device of the character described, the combination of a base member carrying electromagnets, a bracket projecting upwardly from said base member and having a perforated arm extending parallel to the base member, the

perforation in said arm being designed to register with a perforation in the base member, an armature associated with said electromagnets, a spring carrying a hammer at one end, secured to said armature, perforated lateral flanges formed on said spring, a pin passing through said several perforations and serving as a pivot for the armature, and a spiral spring encircling said pivot, the ends of said spiral spring being secured at points eccentric to said pivot.

2. In a device of the character described, the combination of a base member carrying electromagnets, a bracket projecting upwardly from said base member and having a perforated arm extending parallel to the base member, the perforation in said arm being designed to register with a perforation in the base member, an armature associated with said electromagnets, said armature carrying a spring which is curved toward the electromagnets and carries a hammer at its free end, perforated lateral flanges formed on said spring, a pin passing through said several perforations and serving as a pivot for the armature, and a spiral spring encircling said pin, the ends of said spiral spring being secured at points eccentric to said pivot.

3. In a device of the character described, the combination of a base member carrying an electromagnet, a bracket near the foot and to one side of the center of the electromagnet, a perforation in one arm of said bracket and a corresponding perforation in the base member, an armature associated with said electromagnet, a spring having laterally formed flanges secured to said armature, perforations

in said flanges adapted to register with the perforations in the arm of the bracket and in the base member, a pivot passing through said several perforations and being adapted to permit the armature to swing and a spiral spring surrounding said pivot and having a normal tendency to draw the armature away from the electromagnet.

4. In a device of the character described, the combination of a base member carrying an electromagnet, a bracket upon said base member having a perforated arm, a perforation in the base member in line with the perforation in the arm, an armature associated with said electromagnet, a curved spring secured to said armature, said curved spring being provided at one end with lateral flanges and at the opposite end with a hammer, a perforation in each of said lateral flanges adapted to register with the perforations in the arm and in the base member a second perforation in the upper flange at one side of the first perforation, a second perforation in the base member at one side of the first perforation, a pivot passing through the registering perforations and a spiral spring surrounding said pivot and having one end secured in the second perforation in said upper flange and the other end secured in the second perforation in the base member.

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

ALFR. LARSSON.

Witnesses:

CASE H. SMITH,
HERVEY J. DRAKE.