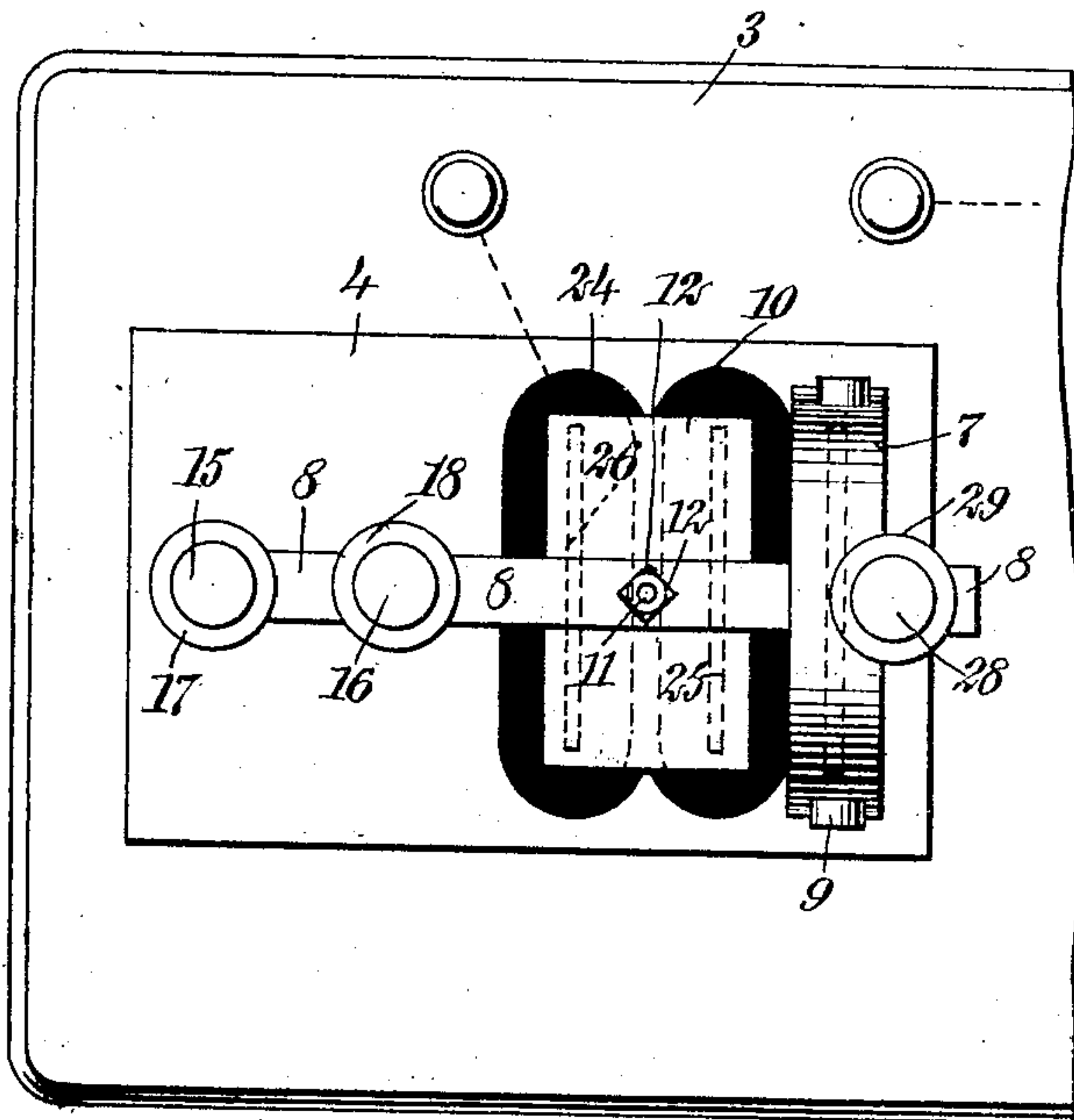
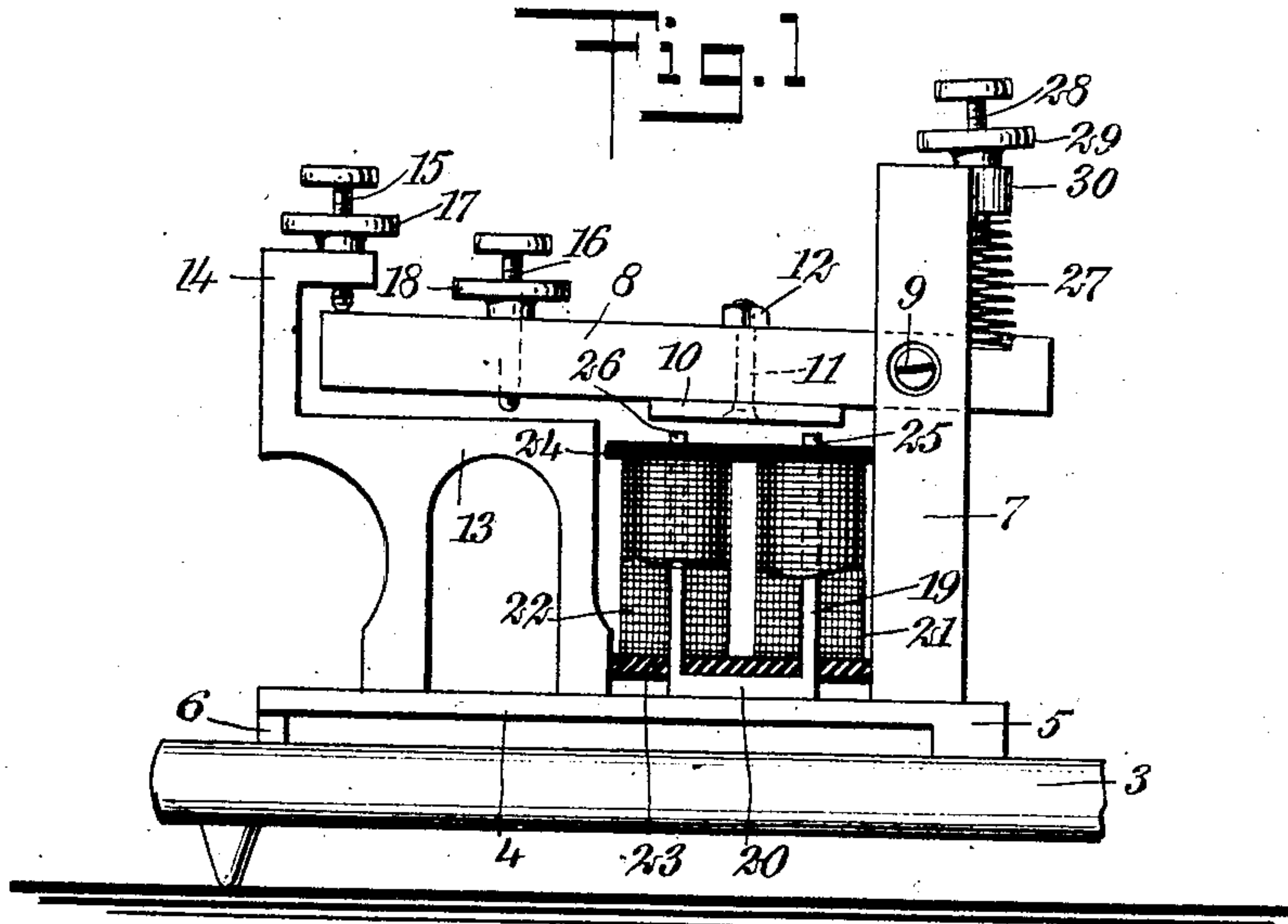


L. KIBLINGER.  
TELEGRAPH SOUNDER.  
APPLICATION FILED NOV. 18, 1907.

899,307.

Patented Sept. 22, 1908.



WITNESSES

*John A. Bergstrom*  
*Walton Harrison*

Fig. 2

INVENTOR

*Lee Kiblinger*

BY *Mum & Co.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

LEE KIBLINGER, OF JACKSON, LOUISIANA.

## TELEGRAPH-SOUNDER.

No. 399,307.

Specification of Letters Patent.

Patented Sept. 22, 1908.

Application filed November 18, 1907. Serial No. 402,625.

*To all whom it may concern:*

Be it known that I, LEE KIBLINGER, a citizen of the United States, and a resident of Jackson, in the parish of East Feliciana and State of Louisiana, have invented a new and Improved Telegraph-Sounder, of which the following is a full, clear, and exact description.

My invention relates to telegraph sounders, my more particular object being to provide the same with an improved form of electromagnet and armature mating the same.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a fragmentary side elevation of a sounder provided with my improved electromagnet, the latter being partially broken away; and Fig. 2 is a fragmentary plan of the sounder with its improved electromagnet and armature therefor.

A base is shown at 3 and a base plate at 4, the latter being supported upon lugs 5, 6, and thus having its middle portion free to vibrate. At 7 is a yoke having substantially the form of an inverted U. An armature lever 8 is mounted upon adjusting screws 9 which extend through this yoke. The armature lever is provided with an armature 10, having the form of a wide flat plate and secured to the armature lever by a bolt 11 and nut 12. A handle is shown at 13 and is provided with a lug 14 extending upwardly and backwardly therefrom. Adjusting screws are shown at 15, 16 and are secured rigidly in position by milled nuts 17, 18.

Cores 19 are connected together by a single back plate 20, and are wound with flat spools 21, 22 of wire, insulated at the ends by plates 23, 24 of insulating material. The spools, cores and insulating plates taken together constitute a pair of electromagnets, each provided with a flat core 19. The two cores terminate in pole pieces 25, 26. The pole pieces have a width nearly equaling the extreme width of the armature 10.

It will be noted that because of the flat shape of the electromagnets they can be made very wide and placed with their poles close together. Because of this fact, together with the shape of the armature 10, and pole

pieces 25, 26, the magnetic circuit is comparatively short and correspondingly powerful. The net result is that the magnet shown is capable of drawing the armature 10 with an unusually strong impulse. The armature lever 8 is retracted by a compression spring 27 held in position by an adjusting screw 28, the latter being secured by a milled nut 29 resting upon a lug 30. This lug is integral with the yoke 7.

The operation of my device is as follows: The magnets being energized, for instance by current from a local circuit, and being de-energized so as to produce Morse characters, or analogous signals, the armature 10 is drawn forcibly downward, carrying with it the armature lever 8. The operator, by listening to the sounds of the strokes, is enabled to read the characters or signals in the usual manner. The magnetic circuit being comparatively short and powerful, as above described, the suddenness of the click made by the descending armature lever is greater than usual, and the result is that less battery power is required for a given degree of loudness of the sounder. Conversely, for the same amount of battery power the action of the machine is much more satisfactory.

The type of magnet shown, while in this instance applied to a sounder, may be used in relays, electric bells, and various other forms of apparatus in which the magnet is employed.

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

In a sounder, the combination of a longitudinal armature lever, an armature connected therewith, a pair of electromagnets disposed adjacent to said armature and provided with wide flat pole pieces extending directly across the general length of said longitudinal armature lever and disposed adjacent to said armature for the purpose of equalizing the density of the magnetic field between the armature and different parts of the pole pieces.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEE KIBLINGER.

Witnesses:

M. L. WREN,

J. M. NORSWORTHY.