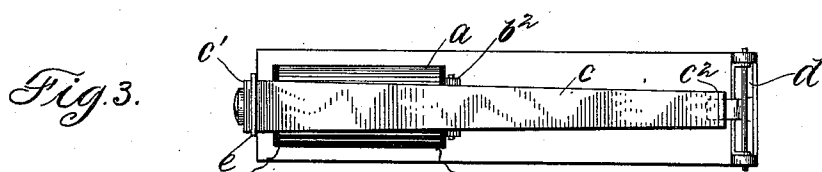
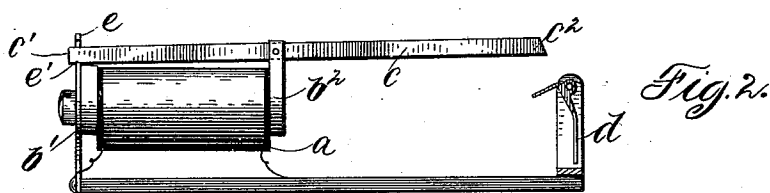
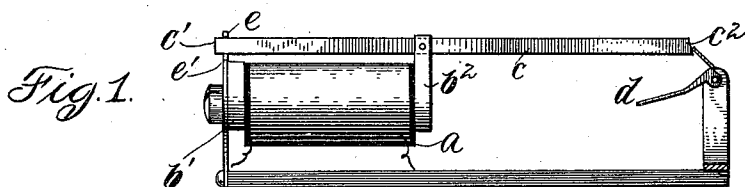


(No Model.)

J. W. OLSON.
ANNUNCIATOR.

No. 542,833.

Patented July 16, 1895.



Witnesses:

George L. Cragg.
W. Clyde Jones.

Inventor:
John W. Olson.

By Barton Brown
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN W. OLSON, OF CHICAGO, ILLINOIS.

ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 542,833, dated July 16, 1895.

Application filed November 21, 1894. Serial No. 529,487. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. OLSON, a subject of the King of Sweden and Norway, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Annunciators, (Case No. 1,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to annunciators, the object being to produce an annunciator of extreme simplicity and one that may possess maximum efficiency of operation.

In the preferable form of my invention I provide an electromagnet comprising a core upon which is mounted the annunciator-coil, the ends of the core being prolonged and extended upward. Upon one of the extended ends of the core is pivotally mounted a bar of soft iron, the bar being pivoted near the middle with one end resting opposite the end of the magnet-core, while the opposite end engages and retains the annunciator-drop. When the annunciator-coil is energized, the end of the pivoted bar is drawn toward the end of the magnet-core and the opposite end of the bar is raised to release the annunciator-drop and to permit the same to display its signal.

Referring to the accompanying drawings, Figure 1 is a view in elevation of an annunciator embodying my invention. Fig. 2 is a similar view showing the magnet excited and the drop released. Fig. 3 is a plan view of the annunciator.

Like letters refer to like parts in the several figures.

The annunciator-coil *a* is mounted upon the magnet-core, the ends *b'* *b*² of which are extended upward. The bar of soft iron *c* is pivoted near the middle to the extended end *b*² of the core, the end *c'* of said bar resting opposite the end *b'* of the core, while the opposite end *b*² of the bar *c* engages and retains the annunciator-drop *d*. The end *c*² of bar *c* is made heavier than the end *c'*, so that the bar

normally rests with the end *c'* elevated, said end resting in contact with a limiting-stop *e*. When the coil *a* is energized the end *c'* of bar *c* is attracted, being brought against limiting-stop *e*, and the end *c*² of said bar is raised to release the drop *d* and permit the same to display its signal. When the coil *a* is de-energized, the bar *c* returns to its normal position due to the predominating weight of the end *c*² of the bar.

By making the end *c*² of the bar of greater weight than the end *c'* a spring for restoring the bar to its normal position is dispensed with, and by mounting the end *c'* of the bar between the extended ends of the magnet-core, a completely-closed magnetic circuit results, which renders the annunciator of maximum efficiency in its operation. The bar *c* may be so nicely balanced that the weight of the end *c*² predominates over that of the end *c'* by a very small amount, in which case the force necessary to rotate the bar will be very small.

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

In an annunciator, the combination with the magnet core, of a coil *a* provided thereon, a vertical extension *b*² being provided upon one end of said core, a straight bar *c* of magnetic material pivoted near the middle to the upper end of said extension *b*², said bar *c* being adapted to lie parallel to and close against the coil *a*, one end of said bar resting opposite an extension provided upon the opposite end of said core, and an annunciator drop normally engaged by the opposite end of said bar, the end of the bar engaging the drop being of greater weight than the opposite end, whereby an annunciator of compact structure is produced, substantially as described.

In witness whereof I hereunto subscribe my name this 16th day of November, A. D. 1894.

JOHN W. OLSON.

Witnesses:

CHARLES A. ERICKSON,
W. CLYDE JONES.