Dec. 2, 1924. 1,517,770

A. A. ZIEGLER

ELECTROMAGNET

Filed Nov. 1, 1919

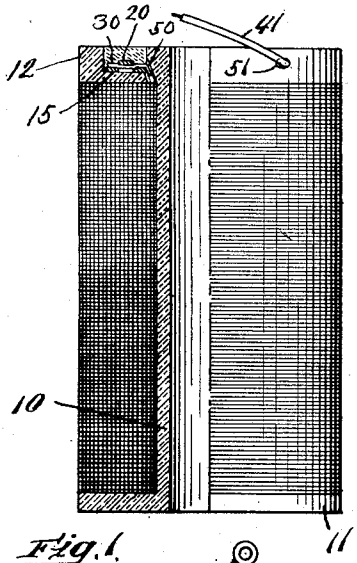


Fig. 1.

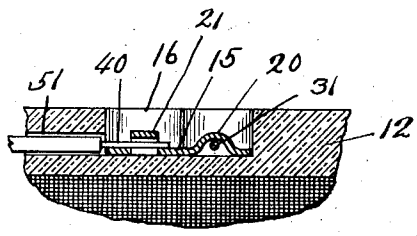


Fig. 3.

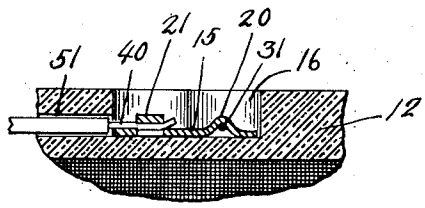


Fig. 4.

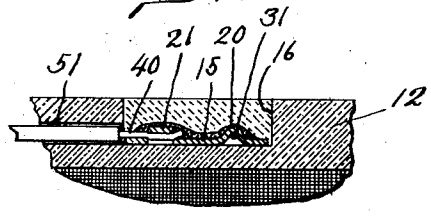


Fig. 5

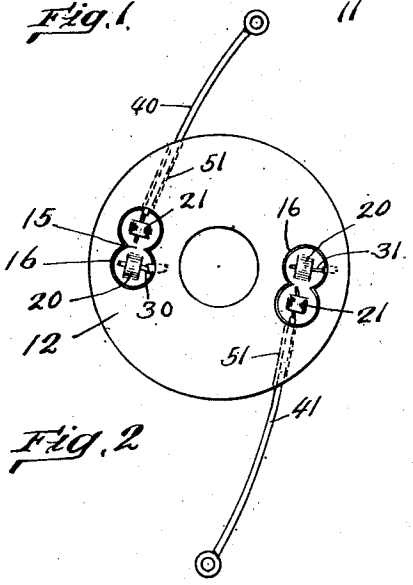


Fig. 2

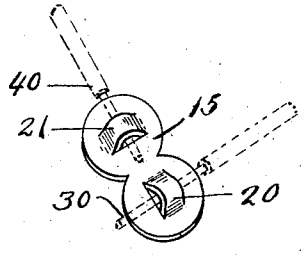


Fig. 6.

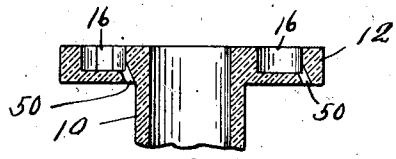


Fig. 7.

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UNITED STATES PATENT OFFICE.

ALFRED A. ZIEGLER, OF BOSTON, MASSACHUSETTS.

ELECTROMAGNET.

Application filed November 1, 1919. Serial No. 335,210.

To all whom it may concern:

Be it known that I, ALFRED A. ZIEGLER, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Electromagnets, of which the following is a specification.

This invention relates to electro-magnets, and has for its object to provide improved means for securing the ends of the coil wires and the ends of the lead wires, in conductive relation with each other which is simple, economical and efficient.

Fig. 1 is a side elevation and partial longitudinal vertical section of a portion of an electro-magnet embodying my invention.

Fig. 2 is an end view of the same.

Figs. 3, 4, 5 and 6, are enlarged details of the wire securing element.

Fig. 7 a sectional detail through the head of the electro-magnet and the terminal-receiving recesses therein.

10 represents the shank and 11, 12, the heads of a magnet spool of any well known or suitable construction, size and material.

Herein the securing means for the ends of the wires are arranged on one of the heads, as 12, being preferably embedded in said head and permanently attached thereto, although they may be otherwise arranged on said head.

The securing means consists essentially of a pair of attaching devices for the ends of the wires arranged on one of the heads and on opposite sides of its center.

The attaching devices are made alike so that one only need be described. It consists of an elongated plate 15, or other form, which is other than round to fit a correspondingly shaped recess 16 formed in the head, being disposed at the bottom of said recess, and held in place therein by solder, wax or some other compound or composition or material which covers it and fills the recess, thereby concealing it.

By making the plate other than round and then placing it in a correspondingly shaped recess it is held against rotation, and by concealing it in the head a smooth unobstructed surface is provided on the head as contrasted with obstructions caused by binding posts arranged thereon as heretofore.

The plate 15 is subjected to the action of suitable dies by which bars are struck up from its body, there being two straight parallel sided bars 20, 21, here shown, arranged at substantially right angles with relation to each other, said bars being thus deflected from the plate body to provide spaces beneath them, that is to say, between them and the plate of sufficient size to receive the end portions of the wires.

30, 31, represent the coil wires and 40, 41, represent the lead wires, the end portions of which extend beneath said bars.

The plates are composed of ductile metal as brass or copper, so that the deflected bars may be flattened by blows or pressure exerted upon them, and the end portion of the wires arranged beneath them firmly impinged or engaged, so that they will be securely held.

Solder may also be applied or wax by which the recess is filled so that the plate is held in place therein.

Thus it will be seen that all of the wires are attached to the plate and the plates are attached to the head and preferably concealed and that the securing means thus provided is of a permanent character.

The head has holes 50, leading from the inside to the plates through which the coil wires pass, and the head also has holes 51, extending from the edge inwards on a chord to the plates through which the lead wires pass, and in both instances it will be noted, said wires are concealed.

I claim;—

1. An electro-magnet having a head, a pair of plates of conducting material arranged on the head, each plate having portions struck up from it to form a pair of bars angularly disposed with relation to each other whereby to clamp wires in angular relation with each other, which bars are deflected with relation to the plate bodies to provide spaces beneath them for the end portions of the coil wires and the lead wires and are flattened to securely engage said wires.

2. An electro-magnet having a head with

a pair of other than round recesses, a pair of plates of conducting material shaped to fit said recesses, each plate having portions struck up from it to form a pair of straight parallel sided bars, which bars are deflected with relation to the plate bodies to provide spaces beneath them for the end portions of the wires and are flattened to securely engage said wires, said head having holes for the coil wires and for the lead wires leading to said plates.

In testimony whereof, I have signed my name to this specification.

ALFRED A. ZIEGLER.

Witness:

H. B. DAVIS.