April 5, 1932. R. H. SAMUEL 1,852,938

COIL

Filed Sept. 22, 1930

Fig. 1.

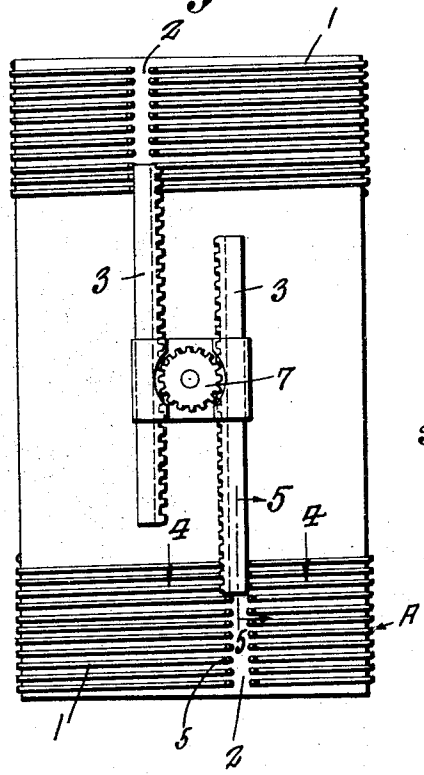


Fig. 2.

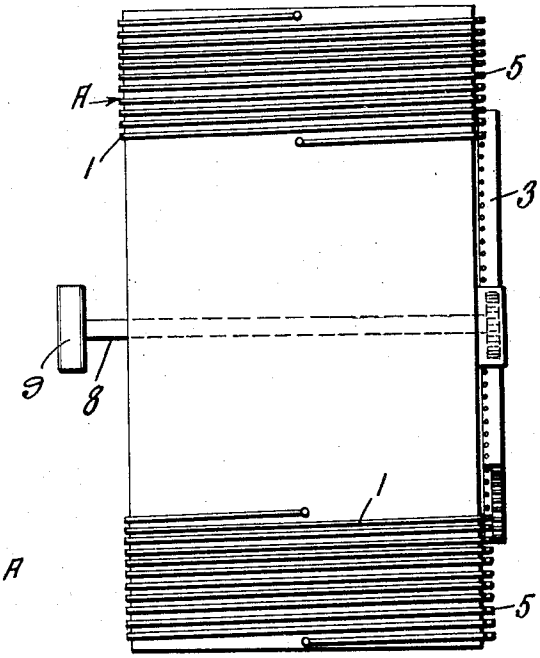
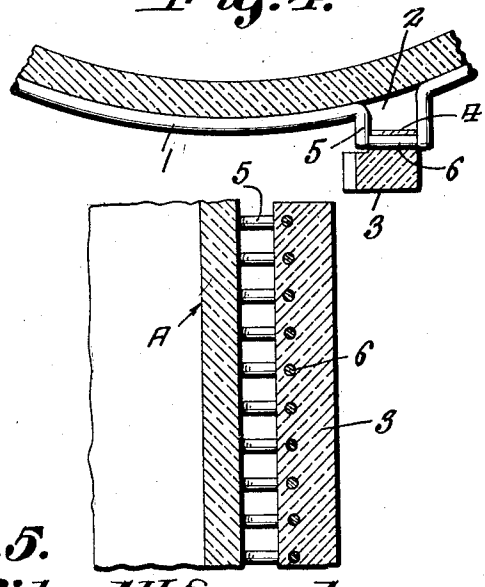


Fig. 4.



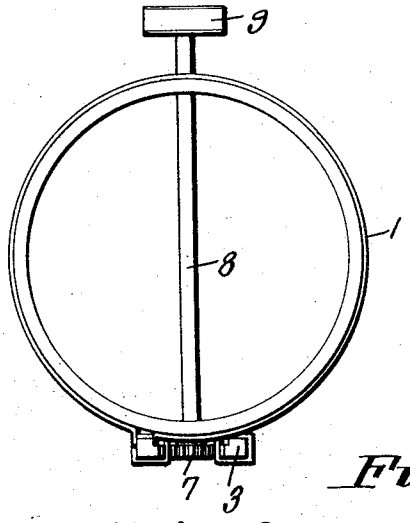


Fig. 3.

Fig. 5.

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Patented Apr. 5, 1932

1,852,938

UNITED STATES PATENT OFFICE

RICHARD H. SAMUEL, OF HOBOKEN, NEW JERSEY

COIL

Application filed September 22, 1930. Serial No. 483,690.

This invention relates to improvements in electric coils, the general object of the invention being to provide means for adjusting the length of the coil while eliminating dead end losses by providing means for preventing any current from passing through the convolutions of the coil which are not in use.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an elevation showing one manner of carrying out the invention.

Figure 2 is a view taken at right angles to Figure 1.

Figure 3 is a top plan view.

Figure 4 is a section on line 4—4 of Figure 1.

Figure 5 is a section on line 5—5 of Figure 1.

As shown in these views, each convolution of the coil A is formed continuous by a space 2 which supports the adjacent or meeting ends of the coil. A rack bar 3 has a part 4 adapted to move between the ends of the sections, and in order to permit the rack bar to connect all the sections of the coil together when desired, the spaces 2 are placed in alignment, as shown, and the adjacent ends of the sections of the convolutions are bent outwardly, as shown at 5, to receive the part 4 of the rack bar. The rack bar is formed of insulating material and conductors 6 are carried by the part 4 for bridging the spaces 2. Of course, these conductors 6 are spaced the same distance as are the convolutions of the coil so that by moving the rack bar into or from the row of spaces 2, any number of the convolutions of the coil can have their sections connected together by the conductors 6. Thus I have provided simple means for adjusting the length of a coil while eliminating dead end losses, as those convolutions of the coil not in use are electrically disconnected from the convolutions which are in use.

The rack bar is adjusted through means of a pinion 7 on a shaft 8 which is provided with a handle 9 so that it can be turned in either direction to cause the pinion to move the rack bar in either direction. The drawings show a pair of these rack bars for adjusting the length of a pair of coils.

This invention may be used in any device or wherever it is desired to adjust the length of a coil or coils or the number of windings of the coils which are to be electrically connected together.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A coil comprising a series of convolutions, each convolution having outwardly bent portions providing a space between and adjacent the ends thereof, and means for bridging the spaces of any desired number of convolutions.

2. A coil comprising a series of convolutions, each convolution having outwardly bent portions providing a space between and adjacent the ends thereof, means for bridging the spaces of any desired number of convolutions, said means comprising a rack bar, conductors carried by the rack bar and electrically connecting the adjacent ends of the convolutions together, a pinion meshing with the bar and a shaft for rotating the pinion.

3. A coil comprising a series of convolu-

tions, each convolution having outwardly bent portions providing a space between and adjacent the ends thereof, and slidable means for bridging the spaces of any desired number of convolutions.

4. A coil comprising a series of convolutions, each convolution having outwardly bent portions providing a space between and adjacent the ends thereof, and oppositely slidable means for bridging the spaces of any desired number of convolutions.

In testimony whereof I affix my signature.

RICHARD H. SAMUEL.