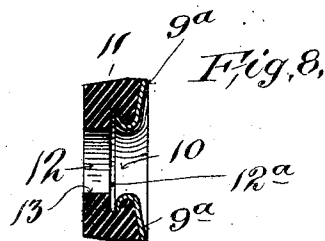
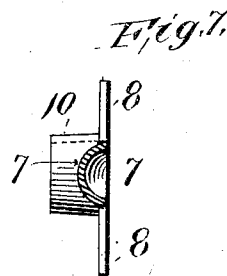
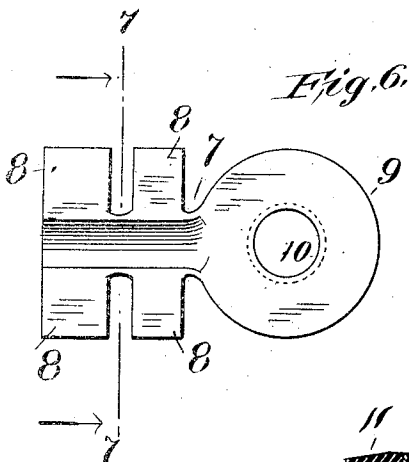
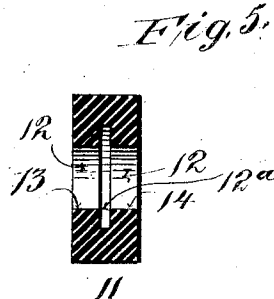
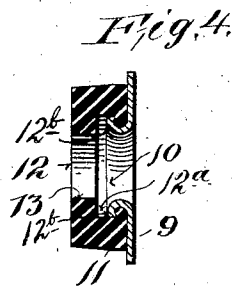
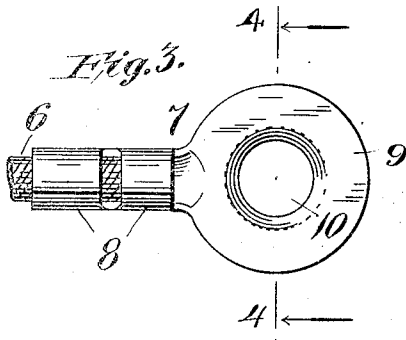
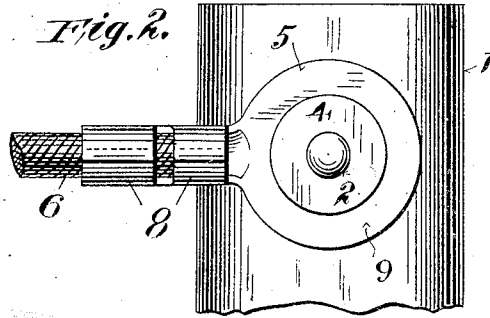
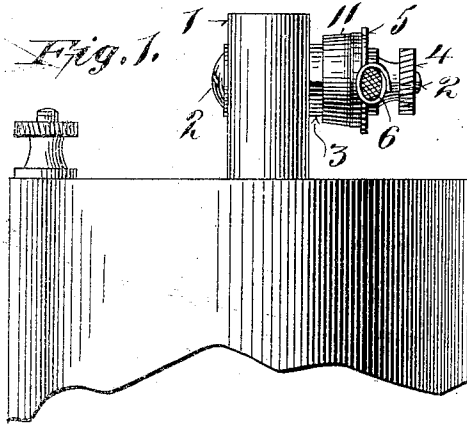


No. 799,748.

PATENTED SEPT. 19, 1905.

W. MILLS.
CONNECTING WIRE TO BINDING POSTS.

APPLICATION FILED DEC. 27, 1904.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM MILLS, OF ELIZABETH, NEW JERSEY.

CONNECTING-WIRE TO BINDING-POSTS.

No. 799,748.

Specification of Letters Patent.

Patented Sept. 19, 1905.

Application filed December 27, 1904. Serial No. 238,344.

To all whom it may concern:

Be it known that I, WILLIAM MILLS, a citizen of the United States, and a resident of Elizabeth, county of Union, and State of New Jersey, have invented a new and useful Improvement in Means for Connecting Wires to Binding-Posts, of which the following is a specification.

Heretofore wherever gas-engines have been used and caused vibration of the battery or other electric device used to ignite the mixed gases of the engine either in launches, automobiles, or other structures great trouble has been experienced by the disconnection of the conductors and the binding-posts, as these vibrations seldom fail to cause the nuts or screws to work loose. From this cause the circuit is broken.

The object of my invention is to avoid this trouble wherever it may occur and without in any way altering or changing the terminals. This I accomplish by my invention, which consists, broadly speaking, in securing an expansive and resilient washer to the conductor, which washer is adapted to be compressed on the binding-post when in use and which will then hold the conductor in place and cause it to make a good contact.

For a more particular description of my invention reference is to be had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a side elevation of a battery-terminal connected to a conductor by my improved means. Fig. 2 is an enlarged front of the terminal, taken at right angles to Fig. 1. Fig. 3 is a front view of the improved connecting means. Fig. 4 is a sectional view taken on the line 4 4 of Fig. 3 looking in the direction of the arrows, the washer being slightly coned, owing to its expansion at one end. Fig. 5 is a sectional view of the washer. Fig. 6 is a view of the metal portion of conventional form unattached to either the conductor or rubber. Fig. 7 is a sectional view taken on the line 7 7 of Fig. 6 looking in the direction of the arrows. Fig. 8 is a sectional view showing a slightly-modified structure.

Throughout the various views of the drawings similar reference characters designate similar parts.

I indicates the battery-terminal or other device having a binding-post 2, with the usual nuts 3 and 4, between which a conductor may be secured.

By my improved means 5 the conductor 6

is secured firmly under all conditions, although its connection with the binding-post may be subjected to continual vibration.

The conductor 6 is preferably soldered to the plate 7 and inclosed in part by the bent-over arms 8 of the means 5. One end of the plate 7 is formed into a disk 9, from the center of which is struck the annular flange 10, which is preferably integral with the disk 9, although it may be made separate and secured thereto, if desired.

A peculiar washer 11, of rubber or other resilient material, is formed, as shown in Fig. 5, preferably with a cylindrical exterior and a cylindrical bore 12, somewhat enlarged, as at 12^a, between shoulders 13 and 14, for reasons hereinafter set forth.

In the structure shown in Fig. 8 the disk 9^a is slightly cupped to give the washer 11 additional resiliency. The washer 11 is secured to the disk 9^a in the manner described above by means of the flange 10. This washer 11 is forced over the flange 10, its rim 12^b entering the annular extension 12^a of the bore 12, as indicated in Fig. 4, until the washer 11 is firmly pressed against the disk 9. The affixture of the washer to the flange 10 changes its exterior from a cylindrical to a conical form. The flange 10 pressing on the shoulder 14 of the washer, the washer and disk are firmly held together.

The conductor 6 is held firmly in place by means of the soldering and the arms 8. Between these arms 8 the plate 7 is slightly depressed, as shown in Fig. 7, to better hold the conductor.

To connect the conductor 6 to the post 2 by my improved means 5, as shown in Figs. 1 and 2, the nut 4 is turned and presses the disk 9 and the washer 11 between it and the nut 3, whereby this plate is securely held, an electrical contact between the conductor 6 and binding-post 2 made through the disk 9 and nut 4, and all danger of a broken circuit or broken connection between the binding-post and conductor is obviated. The nut 4 should preferably be turned till the shoulder 13 is forced against the projection-flange 10, as this makes the best contact and obtains the best results. The extension 12^a of the bore 12 lends expansibility to the washer in addition to the resiliency of the material of which it is made, enabling the washer to be moved home and compressed gradually and more readily than if the washer were entirely solid between its faces. The release of the

washer is effected in the same way, the first
turn being against the resistance of the
washer fully compressed, which pressure is
quickly eased up owing to the separation
5 of the shoulders 13 14 from each other. The
capped or concaved disk 9^a lends additional
resiliency to the connection through its
springiness. Thus in addition to the sub-
stantial immovability of the connection of
10 the conductor 6 to the binding-post my in-
vention lends additional facility in securing
the conductor to and releasing it from the
binding-post.

Having thus described my invention, what
I claim is—

In a device of the class described, a disk
with a flange, and a resilient washer with in-
wardly-extending annular shoulders sepa-
rated by a space, said washer being secured
upon said flange which enters said space.

Signed this 21st day of December, 1904.

WILLIAM MILLS.

Witnesses:

GEO. B. ARFKEN,
E. J. WILSON.