E. L. MILLER.

TIMER BRUSH.

APPLICATION FILED NOV. 17, 1917.

1,296,420. Patented Mar. 4, 1919.

Fig. 1.

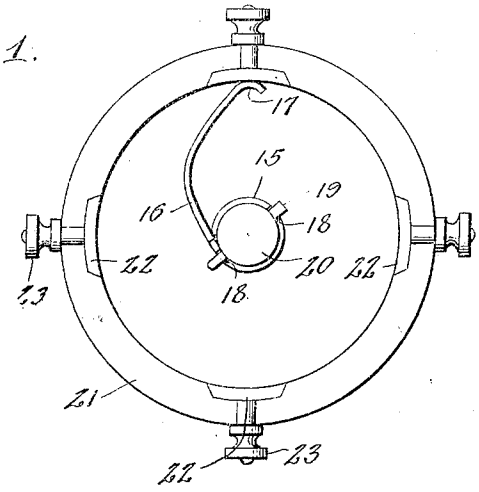


Fig. 2.

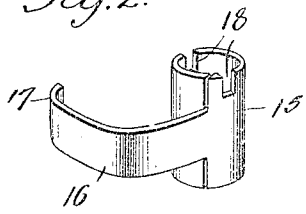


Fig. 3.

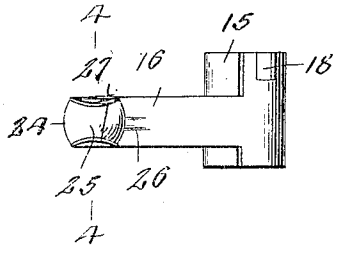
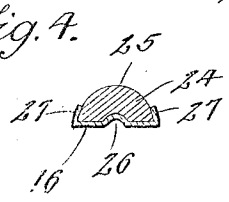


Fig. 4.



Inventor

E. L. Miller,

Witnesses

E. Andrews Jr.

B. R. Morgan

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

EARL L. MILLER, OF OVERBROOK, KANSAS.

TIMER-BRUSH.

1,296,420. Specification of Letters Patent. Patented Mar. 4, 1919.

Application filed November 17, 1917. Serial No. 202,586.

To all whom it may concern:

Be it known that I, EARL L. MILLER, a citizen of the United States, residing at Overbrook, in the county of Osage and State of Kansas, have invented new and useful Improvements in Timer-Brushes, of which the following is a specification.

This invention relates to a contact brush for timing devices for internal combustion motors.

The invention has for its object to produce a very simple and efficient contact brush, of inexpensive construction and which may be easily mounted and detached, as required.

A further object of the invention is to produce a contact brush of a resilient nature, the same having a contact point of hard metal which may be used a long time without deterioration on account of wear.

A further object of the invention is to form a contact brush in a simple and inexpensive manner from a single piece of metal.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawing has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claims may be resorted to when desired.

In the drawings:—

Figure 1 is a sectional elevation of a timer equipped with the improved contact brush.

Fig. 2 is a perspective view showing the brush, detached.

Fig. 3 is a side elevation showing the brush provided with a hard metal point.

Fig. 4 is a sectional view taken on the line 4—4 in Fig. 3.

Corresponding parts in the several figures are denoted by like characters of reference.

The improved contact brush is formed of a single piece of sheet metal preferably of a resilient nature, the same having a relatively wide portion which is bent to form a tubular sleeve 15 and a relatively narrow portion constituting an arm 16 which extends tangentially with respect to the sleeve, said arm being suitably bent to form a contact portion 17. That portion of the sleeve or hub which projects at one side of the arm 16 is provided with diametrical opposite notches 18 for the reception of a cotter pin 19, whereby the device is mounted on the revolving shaft 20 of the timer. The timer casing is shown at 21, the contact segments at 22 and the terminals at 23.

It is evident that when the shaft 20 rotates, the contact portion 17 of the arm 16 will successively wipe the segments 22, thereby providing a positive contact, whereby the explosions in the cylinders of the engine will be controlled in the well known manner which it is not necessary herein to describe or illustrate.

In the form of the invention illustrated in Figs. 3 and 4 the arm 16 is equipped with a special contact point here designated 24, the engaging portion of which is rounded as shown at 25, said point being constructed of special hard metal, suitable for the purpose. It is preferred that the arm 16 be provided with a shallow recess 26 affording a seat for the member 25, the latter being retained on the seat by means of wings or flanges 27 upstruck from the sides of the arm 16. By this construction the durability and wearing qualities of the device will be greatly promoted.

What is claimed is:—

1. The combination with a timer shaft having radial projections, of a brush to be removably secured upon said shaft comprising a single sheet of metal bent at one end to form a sleeve to fit over the shaft and project it beyond the sleeve portion in reduced width to form a contact arm, one end

edge of the sleeve being formed with notches to engage said radial projections, the projections being removable to permit application of the sleeve.

2. The combination with a timer shaft, of a brush removably secured upon said shaft comprising a single sheet of metal bent at one end to form a sleeve adapted to fit over the shaft and projected beyond the sleeve portion in reduced width to form a contact arm, lateral ears on the contact arm and a hardened contact point held in position at the extremity of the arm by said ears.

In testimony whereof I affix my signature.

EARL L. MILLER.