

R. N. BROWN & A. H. RINTELMAN,  
STYLUS HOLDER.

APPLICATION FILED FEB. 28, 1918.

1,292,575.

Patented Jan. 28, 1919.

Fig. 1.

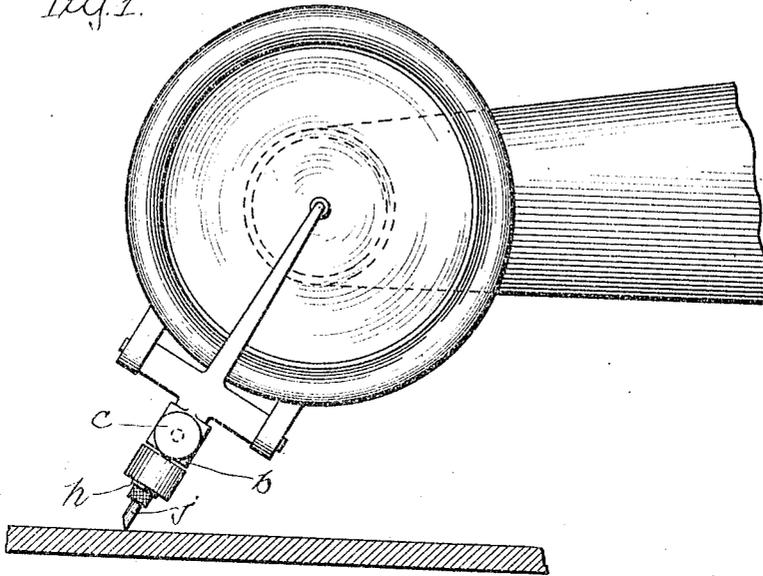


Fig. 2.

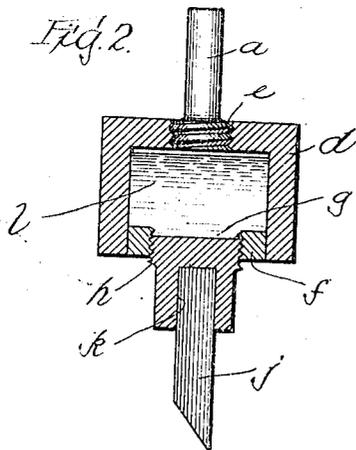
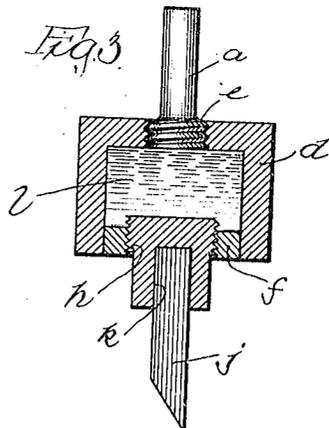


Fig. 3.



WITNESS

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# UNITED STATES PATENT OFFICE.

ROY N. BROWN AND ANTON H. RINTELMAN, OF CHICAGO, ILLINOIS.

## STYLUS-HOLDER.

1,292,575.

Specification of Letters Patent.

Patented Jan. 28, 1919.

Application filed February 28, 1918. Serial No. 219,607.

*To all whom it may concern:*

Be it known that we, ROY N. BROWN and ANTON H. RINTELMAN, citizens of the United States, and residents of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Stylus-Holders, of which the following is a full, clear, and exact specification.

Our invention is concerned with needle-holders for sound reproducing machines and is designed to produce a needle-holder of simple construction, and by the use of which the tone can be easily and quickly modified so as to change it through any desired intermediate gradations from a powerful tone to a much less powerful one without changing the needle or removing it from its holder.

To illustrate our invention, we annex hereto a sheet of drawings in which the same reference characters are used to designate identical parts in all the figures, of which—

Figure 1 is a side elevation of the sound box having our invention applied thereto;

Fig. 2 is a central vertical section through the needle holder on a larger scale showing it adjusted for a soft tone; and

Fig. 3 is a similar view showing it adjusted for a loud tone.

Our invention is primarily intended for a detachable needle-holder, in which case the shank *a*, which is preferably composed of brass, is adapted to be placed in the socket of the customary needle-holder *b* and secured by the set-screw *c* in the same manner as an ordinary needle is directly secured. It will, however, be understood that the body *d* of the needle-holder of our invention might be secured directly to the lower end of the stylus in place of the regulation socket *b*.

The body *d* of the holder preferably takes the form of a cup preferably composed of hard rubber and having the threaded aperture in its upper end into which the enlarged threaded end *e* of the shank is screwed and secured. The bottom of the cup is preferably partially closed by a hard rubber annulus *f* permanently secured therein in any suitable manner and provided with the comparatively large screw-threaded aperture *g* therein. The socket proper *h*, preferably consists of a piece of brass, having its threaded upper end portion adapted to be screwed into the threaded aperture *g*, and to facilitate screwing it in and cut for the pur-

pose of adjustment we preferably mill the lower portion thereof beneath the threaded head: as indicated in Fig. 1. The needle *j* may be of the customary steel needle type or it may be a fiber needle, in which case the socket *h* will be provided with a set-screw to secure the needle removably in the socket *h*, but we preferably employ a needle composed of some very hard mineral, such as natural agate, or other crystalline product, in which case the socket is shaped to correspond to the preferably equilateral triangular cross-section of the needle and the needle is permanently secured in the socket by being cemented therein.

The closed hollow center of the holder is partially filled with mercury *l*, and when the needle is to be used to produce a soft tone the socket *h* is unscrewed, as indicated in Fig. 2, so that there is not a solid metallic body under compression between the needle *j* and the shank *a*, but the vibrations must pass through the hard rubber casing *d*. When the more powerful tone is desired the socket *h* is screwed up, as indicated in Fig. 3, so as to make a solid body of mercury from the metal shank *a* to the metal socket *h*, and when the socket *h* is screwed in as tight as possible, the loudest possible tone will be produced by the instrument and it will be likewise apparent that as the socket is gradually unscrewed, the tone will gradually be softened.

We have found by demonstration that our invention produces a decidedly more satisfactory tone than has been possible with the plain needles heretofore employed, and that the volume of tone is capable of wide variation by the adjustment shown.

While we have shown and described our invention as embodied in the form which we at present consider best adapted to carry out its purposes, it will be understood that it is capable of modifications and that we do not desire to be limited in the interpretation of the following claims, except as may be necessitated by the state of the prior art.

What we claim as new and desire to secure by Letters Patent of the United States is:

1. A needle-holder comprising a closed cup adapted to be secured to the free end of a stylus lever and having a needle socket therein, and a liquid in said cup for the purpose described.

2. A needle-holder comprising a closed

cup adapted to be secured to the free end of a stylus lever and having a needle socket therein, a liquid in said cup, and means for putting pressure on said liquid for the purpose described.

5 3. A needle-holder comprising a closed cup secured at its permanently closed end to the free end of a stylus lever, and having an internally screw-threaded aperture in its opposed end, a needle-holding socket  
10 screwed into said threaded aperture, and a liquid in said cup adapted to be put under pressure by screwing in said socket, for the purpose described.

4. A needle-holder comprising a closed  
15 cup formed of a rigid material adapted to be secured to the free end of a stylus lever and having a needle socket therein, and mercury in said cup for the purpose described.

In witness whereof, we have hereunto set  
20 out hands and affixed our seals this 23rd day of February, A. D. 1918.

ROY N. BROWN. [L. S.]  
ANTON H. RINTELMAN. [L. S.]

Witnesses:

E. C. LIGHTHEART,  
W. K. OSTERBERG.