J. W. GREENBOWE.

CLEANING DEVICE.

APPLICATION FILED DEC. 14, 1914.

1,268,343. Patented June 4, 1918.

Fig. 1.

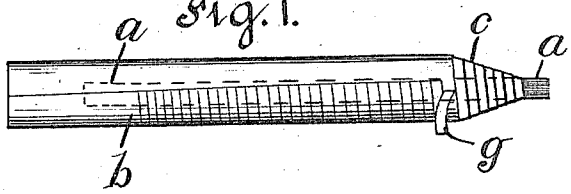


Fig. 2.

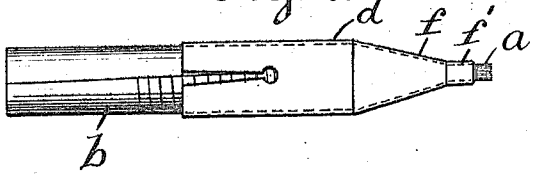


Fig. 3.



Fig. 4.

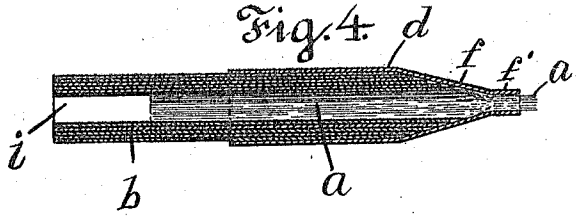


Fig. 5.

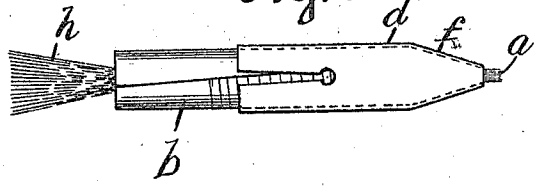


Fig. 6.



Fig. 7.

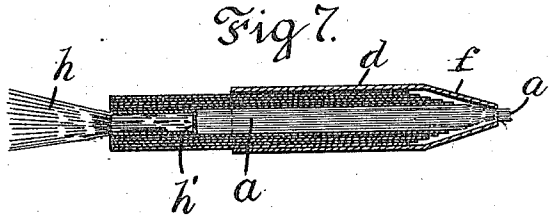
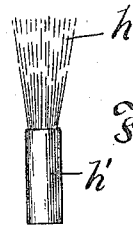


Fig. 8.



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UNITED STATES PATENT OFFICE.

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CLEANING DEVICE.

1,268,343. Specification of Letters Patent. Patented June 4, 1918.

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To all whom it may concern:

Be it known that I, JAMES WALTER GREENBOWE, a citizen of the United States, residing cor. West and Union streets, West Hoboken, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Cleaning Devices, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to a cleaning device in the form of a prismatic bar, such as is used for cleaning china and metal, and for the erasing of ink marks and the like.

The object of the invention is to furnish a means of confining and supporting a tuft of fibers for use in such a cleaning device, and of exposing successive portions of the tuft as the end is worn away. When desired the operative end of the tuft may be held in a form of flat or oval cross section, and to confine said end a metal casing is applied thereto to confine and support the exposed portion of the tuft. In this invention the greater part of the tuft is confined and supported by a wrapping of paper or equivalent material to form a holder for the body of the tuft. Such a wrapping is readily wound so as to present a yielding conical end, and the casing may be made with a tapering nozzle having a flat or oval opening, and when such a casing is applied to such a wrapper over the yielding conical end, it operates to mold or force the wrapper and fibrous core or tuft to the shape of the nozzle, and the mere application of such a nozzle to the wrapper and tuft thus serves to hold the normally round tuft in any desired cross section when in use.

The device which attains the object of the invention consists primarily of a tuft of fibers such as metal or spun glass adapted to effect cleaning or erasing, and a wrapper covering the body of the tuft to form a holder for the same and having sections of detachable character which may be successively removed to expose a new portion of the tuft-body as the end is worn away.

The precise construction of the holder for the tuft is immaterial as the essential features of the invention are; a holder adapted to inclose and protect the tuft, and to be progressively shortened as the tuft is worn; and the combination therewith of a casing held adjustably upon the holder and adapted to follow up the tuft as it is worn shorter and portions of the holder successively removed.

To facilitate the winding of the wrapper if used to form the holder the body of the tuft is preferably made of cylindrical form and when the operative end of the tuft requires a flat or oval shape, a metal casing is applied to the wrapper and provided with a nozzle tapering to its smaller end and having an oval opening. The length of the exposed portion of the tuft may be several times the length of the portion necessary to project through the nozzle, and thus, as the tuft is worn away the nozzle may be moved backward to expose a new working portion. Such an excess length of unwrapped tuft offers another advantage, namely:—when the working portion of the tuft at the end of the nozzle becomes clogged or filled with small particles of carbon or products of erasure, the casing may be readily removed and the tuft fibers spread apart and the products of erasure removed by rubbing them over a straight edge. If desired, a very firm and extended support for the working portion of the tuft may be provided by forming a tubular mouth-piece upon the end of the nozzle, to embrace the tuft for a considerable portion of its length. The other end of the wrapped tuft may be provided with a fiber brush for sweeping away the products of erasure.

The invention will be understood by reference to the annexed drawing in which Figure 1 is a side view of the wrapped tuft; Fig. 2 a view of the wrapped tuft with a metal casing on one end; Fig. 3 is an end view of Fig. 2; Fig. 4 is a longitudinal section of Fig. 2; Fig. 5 is a side view of the cleaning device with a flattened nozzle at one end and a brush at the other end; Fig. 6 is a view at the right hand end of Fig. 5; Fig. 7 is a longitudinal section of Fig. 5; Fig. 8 a view of the brush detached.

Figs. 2 and 4, show a fibrous tuft *a* having a wrapping of paper or analogous fabric, such wrapping having detachable sections formed by the configuration of the fabric, which thus forms a covering or holder *b* of cylindrical form, having one end *c* tapered, from which tapered end the working portion of the tuft projects a suitable distance. Such wrapped tuft may be of suitable size for use in cleaning china, metal etc. but where the tuft is made relatively small as for use in an ink eraser, the cas-

ing *d* is of tubular shape adapted to fit snugly upon the wrapper *b*. One form of said casing is shown in Figs. 2 and 4 being tapered at one end to form a nozzle *f* so that the inner wall of the nozzle contacts with the tapered end of the wrapper, thus permitting a fraction of the tuft to project through the end of the nozzle, the said end *f* being elongated to form an extended tubular mouth-piece for supporting the working end of the tuft.

In Figs. 5 and 7, the nozzle *f* is shown without the extended support for the tuft, but is tapered to its working end, and with this construction a sufficient part of the tuft may be exposed as required for repeated use; the nozzle being slipped backwardly upon the wrapper as the tuft is used up; which avoids the repeated removal of the nozzle to unwrap the tuft. For many uses this construction affords all the support that is necessary for the tuft.

By the use of paper or equivalent material, the wrapper in which the tuft is contained is made yielding, and when the nozzle is oval or of other form in cross section, will readily adjust itself to the form of the nozzle and thus adapt the tuft to any variation in form.

When the wear upon the end of the tuft makes it necessary to provide a new working surface, a section *g* of the covering (see Fig. 1) is removed and a new portion of the tuft is thus exposed. Where a metal casing is used, the said casing is removed and replaced after the section of the wrapper has been detached. In the manufacture of the eraser the working length of the tuft to be exposed may be varied by varying the width of the detachable sections, wrapped upon the tuft.

The end of the holder opposite to that from which the tuft projects may be equipped with a removable brush *h* composed of bristles secured in a suitable shank *h'*, such shank being adapted to fit an aperture *i* in the holder. This brush may be permanently fastened into the holder by a cement or may be removable therefrom, and as the eraser may wear out before the brush, the brush may be preserved and inserted in a new eraser.

Now having described my improvements I claim as my invention.

As an article of manufacture, an erasing device comprising a core composed of a plurality of strands permanently embraced and secured in a holder of destructible material, and immovable relatively thereto, said holder adapted to have one end progressively shortened to expose the operative end of the core as the latter becomes worn through use, and a tapering sleeve removably secured upon the holder and adapted to confine and support the strands of the core and to follow up the same as it is worn and the holder progressively shortened.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES WALTER GREENBOWE.

Witnesses:
L. LEE,
WALTER N. HARRIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C.