

No. 632,935.

Patented Sept. 12, 1899.

J. M. BLACK.  
COMB CLEANER.

(Application filed Mar. 16, 1899.)

(No Model.)

Fig. 1.

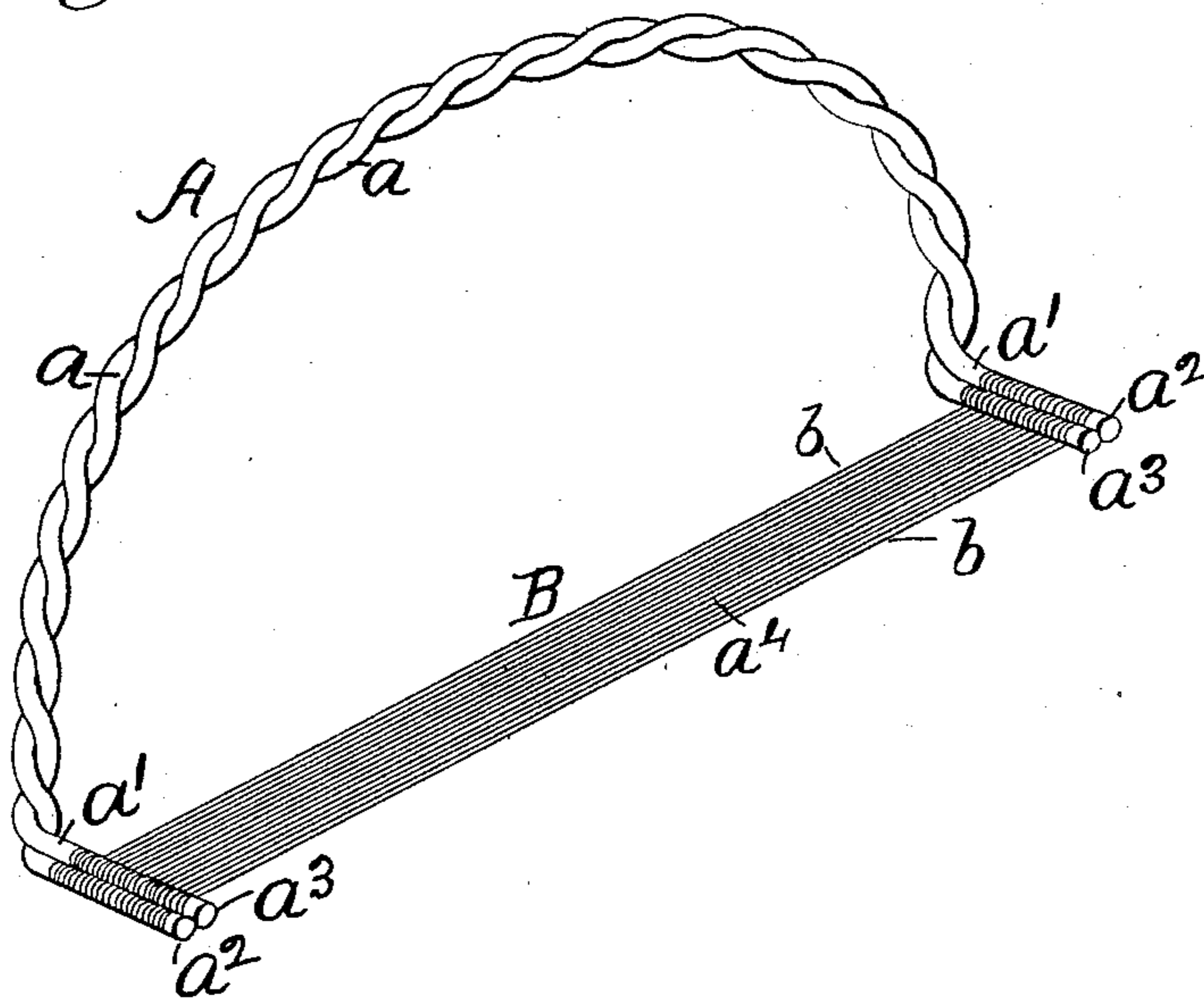
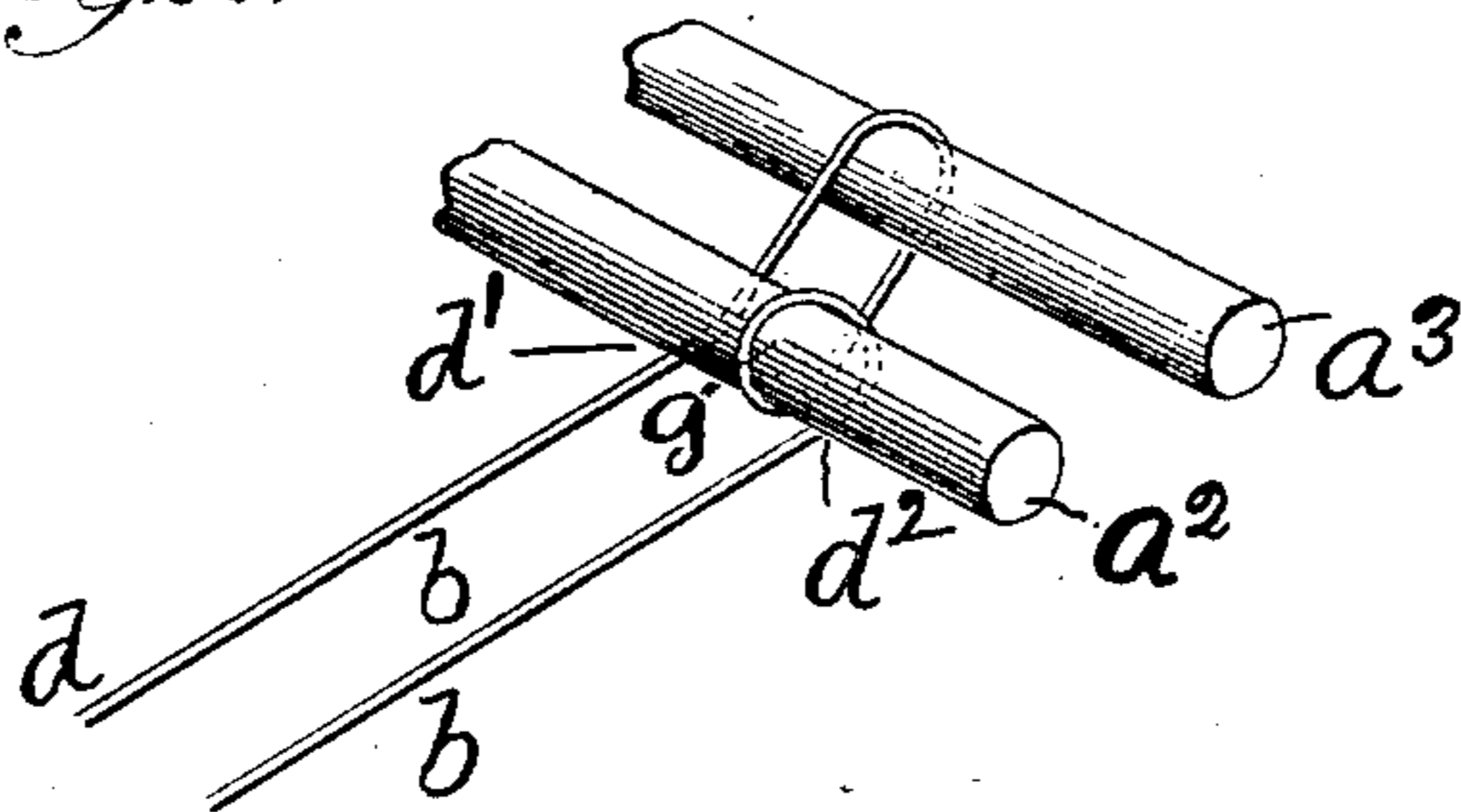


Fig. 2.



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# UNITED STATES PATENT OFFICE.

JAMES M. BLACK, OF WAUKEGAN, ILLINOIS.

## COMB-CLEANER.

SPECIFICATION forming part of Letters Patent No. 632,935, dated September 12, 1899.

Application filed March 16, 1899. Serial No. 709,259. (No model.)

*To all whom it may concern.*

Be it known that I, JAMES M. BLACK, a citizen of the United States, residing at Waukegan, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Comb-Cleaners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in that class of devices intended for use in cleaning combs, and has for its object to provide an article of this character that is simple, convenient, and very efficient.

In the accompanying drawings, Figure 1 is a view in perspective of my improved device, and Fig. 2 is a broken-away detail showing the method of winding the cleaning-threads.

A may represent the bow-shaped handle part of the device, which in this instance consists of two wires  $a$ , twisted together to the point  $a'$ , where the terminal integral ends  $a^2$  are turned at right angles, untwisted, and lie parallel in a horizontal plane. These terminal ends may be of any desired length and form the holding-ground for the cleaning-strands  $a^4$ , which usually consist of a continuous thread  $b$ .

The thread is wound around the supporting parts in a peculiar and uniform manner in forming the flat web B, connecting the respective ends and leaving a distinct line of separation between each strand, so that each strand will always return to and remain in its normal position, thus avoiding any twisting or intertwining and maintaining the uniformity of the cleaning-web as a whole.

The manner of winding the thread is as follows: Supposing the end  $d$  of the continuous thread to be permanently fastened to one of the outside holding ends  $a^2$  at a point adjacent to the junction of the handle part, from this point the thread is passed under one of the outside ends  $a^2$ , as at  $d'$ , then runs over and returns back under the inside ends  $a^3$ , Fig. 2, and then under and clear around the outside ends and running from the under side, as at  $d^2$ , to the opposite supporting ends, around which the thread is wound in

the same manner, and so on continuously until the desired width of web has been woven. It will be noted that one complete coil is made around the outside ends  $a^2$ , as at  $g$ , bringing the run of the thread each time on the outside of the part thereof coming from the inside end  $a^3$ , thus making a distinct division or separating line between each strand in the make-up of the web, so that the strands will readily enter and thoroughly clean the finest as well as the coarsest teeth of a comb.

In making the device out of two pieces of spring-wire twisted together in the manner shown the terminal untwisted ends possess a certain degree of spring action or pressure in the direction of each other and clamp the coils of the cleaning-strands firmly therebetween and assist in retaining the same in their relative position. The device may, however, be made of a single piece of wire and the terminal ends split to make the two parts necessary for the peculiar weaving of the cleaning-threads. A handle may also be made of a single piece having double integral terminal ends.

Ordinarily thread will be used in forming the cleaning-strands; but a fine cord or even very fine wire may be substituted, as will be best adapted for doing the work with facility.

In the operation of cleaning the device is held in one hand and the comb in the other. The teeth are inserted in the web, the strands entering the space between, and the comb then moved back and forth, the effect of which will be to expeditiously and thoroughly clean each tooth.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A comb-cleaning device consisting of a handle part, formed of two wires twisted together and having terminal untwisted double ends turned at right angles with reference to the handle part, and a cleaning-web, formed by weaving or running a continuous thread back and forth around and between said double ends which have a clamping action on the coils in retaining the same in their relative position, substantially as described.

2. A comb-cleaning device, consisting of a

5 handle, having its respective terminal ends bifurcated and turned at right angles to the plane of the handle, and a cleaning-web, formed by running a continuous thread back and forth and passing over, under and around the double ends so as to leave a coil between and separating each strand which are retained in place by the spring clamping ac-

tion of the double ends, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES M. BLACK.

Witnesses:

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