(No Model.)

# T. J. WINANS.

## COMB.

No. 327,372. Patented Sept. 29, 1885.

Fig. 1.

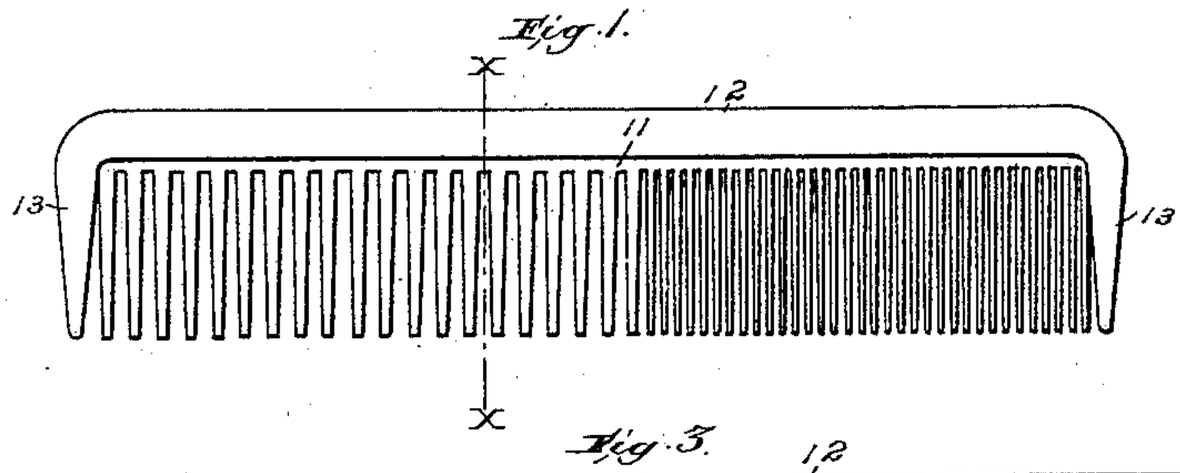


Fig. 2.


Fig. 3.

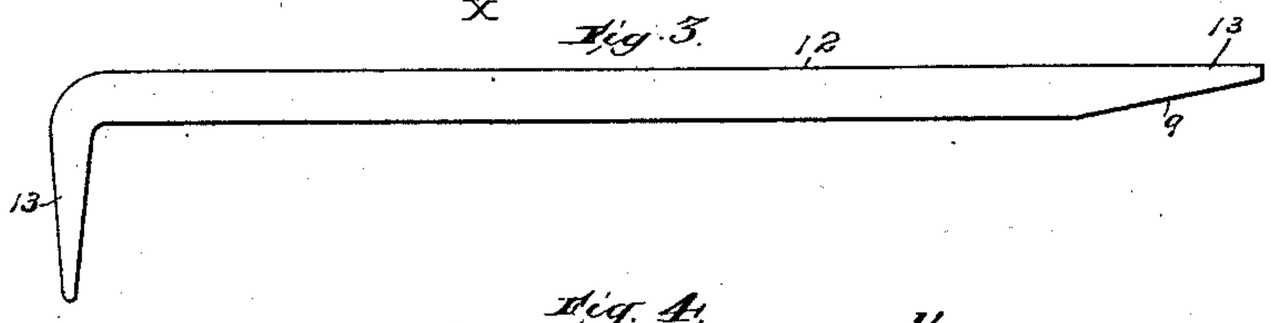


Fig. 4.

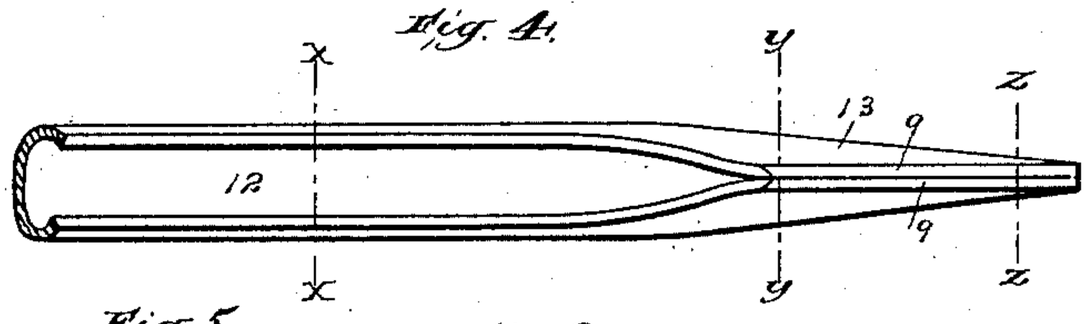


Fig. 5.

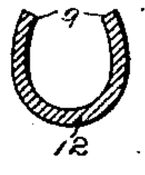


Fig. 6.


Fig. 7.


Fig. 8.




Fig. 9.

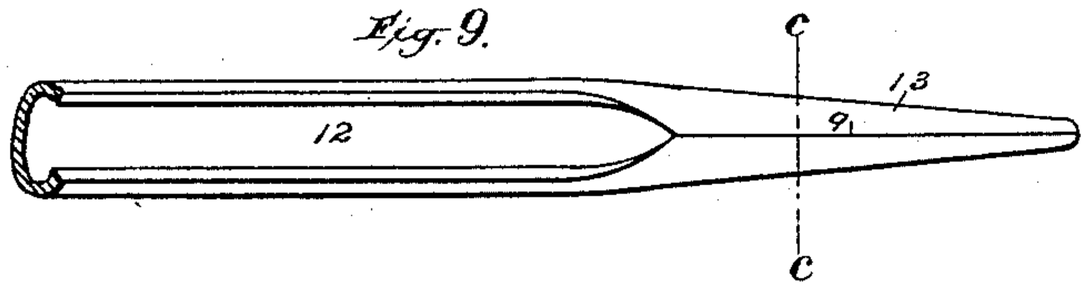


Fig. 10.

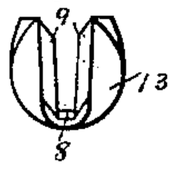


Fig. 11.

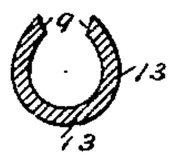


Fig. 12.

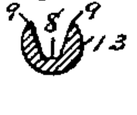


Fig. 13.

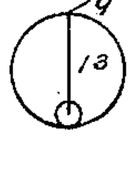


Fig. 14.


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# UNITED STATES PATENT OFFICE.

THOMAS J. WINANS, OF BINGHAMTON, NEW YORK, ASSIGNOR TO JOSEPH P. NOYES & CO., OF SAME PLACE.

## COMB.

SPECIFICATION forming part of Letters Patent No. 327,372, dated September 29, 1885.

Application filed June 27, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS J. WINANS, a citizen of the United States, residing at Binghamton, county of Broome, and State of New York, have invented certain new and useful Improvements in Combs, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to that general class of combs which are provided with metal backs, and particularly to the combs of this class in which the ends of the back are extended and bent downward, so as to form end guard-teeth for the comb, which protect the other teeth from being broken when the comb is dropped, such a comb being described in United States Letters Patent No. 76,650.

The invention relates particularly to the formation of the end guard-teeth, whereby their construction is simplified and they are given a more perfect and finished appearance.

As a full understanding of the invention can only be imparted by a detailed description of the manner in which the back of the comb and the end guard-teeth are formed, such description will now be given, reference being had to the accompanying drawings, in which—

Figure 1 is a view of an ordinary comb provided with a metal back and end guard-teeth constructed according to the present invention. Fig. 2 is a cross-section of the comb, taken upon the line *x x* of Fig. 1, showing the manner in which the metal back is applied. Fig. 3 is a side elevation of the metal back after one of the guard-teeth has been formed, but before the other is completed. Fig. 4 is an inside view, upon an enlarged scale, of one end of the back and one of the guard-teeth, illustrating the manner in which the guard-teeth have been made prior to my invention. Fig. 5 is a section taken upon the line *x x* of Figs. 4 and 8. Figs. 6 and 7 are sections taken, respectively, upon the lines *y y* and *z z* of Fig. 4. Figs. 8 and 9 are views similar to Fig. 4, illustrating the manner in which the guard-teeth are formed according to the present invention. Fig. 10 is an end view of Fig. 8. Figs. 11 and 12 are sections taken, respectively, upon the lines *a a* and *b b* of Fig. 8. Fig. 13 is an end view of Fig. 9, and Fig. 14 is a section taken upon the line *c c* of Fig. 9.

Referring to said figures, it is to be understood that Fig. 1 represents an ordinary toilet-comb, the back 11 of which is provided with a metal back, 12, of the ordinary form, which is extended at the ends and bent downward, so as to form guard-teeth 13 at both ends of the comb. The back 12 is made from a piece of U-shaped metal of the form shown in Fig. 5, the ends of which are bent at right angles to the main part or back proper, so as to form the guard-teeth 13. The back 11 of the comb is then inserted in the groove or recess of the metal back, and the edges of the back brought together against the sides of the comb, so as to grasp the same, as shown in Fig. 2, which completes the operation and produces a comb of the construction shown in Fig. 1.

In forming the guard-teeth 13 it has heretofore been customary to shear off the under or inner edges of the ends of the back 12, so as to make them of the form shown at the right of Fig. 3, the action of the shears upon the U-shaped blank serving to close the edges 9 together and to the condition shown in Figs. 4, 6, and 7, so as to form the end guard-teeth, after which the teeth were bent down at right angles to the body of the back, as shown at the left of Fig. 3. When the teeth were formed in this manner, the square and rough sheared edges 9 were left exposed and to form the inner edges of the guard-teeth, as shown in Figs. 6 and 7. This made it necessary either to expend considerable labor in smoothing and finishing the insides of the guard-teeth or to leave them in an imperfect and rough condition, which impaired the appearance and value of the comb. To avoid this objectionable feature, and to save the expense and labor involved in finishing the insides of the guard-teeth, is the object of the present invention. To effect this, the back 12 is gripped in a suitable device, and its ends, instead of being sheared off, as shown in Figs. 4, 6, and 7, are subjected to the action of a rotary cutter, by which they are cut away and beveled inward and the ends of the back channeled out, as shown at 8, so as to be reduced to the form shown in Figs. 8, 10, 11, and 12. By this means

the edges 9 are made of such form that when they are closed together by the action of the die they are entirely concealed, and a smooth and perfect joint is formed, as shown in Figs. 9, 13, and 14. When the guard-teeth are formed in this manner, only the smooth surface of the original sheet of metal is left exposed, so that all necessity for hand-finishing is avoided and the guard-teeth are left in a perfect condition.

What I claim is—

The metal back 12, having the edges 9 of its ends beveled and brought together to form the guard-teeth 13, substantially as described.

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

THOMAS J. WINANS.

Witnesses:
WM. PRICE,
GEORGE WHITNEY.