(Model.)

# A. H. NORTH.

## RAZOR.

No. 264,742. Patented Sept. 19, 1882.

*Fig. 1*

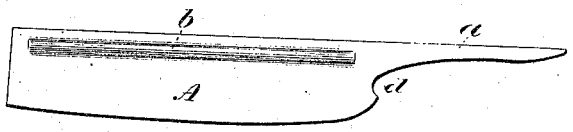


*Fig. 2*

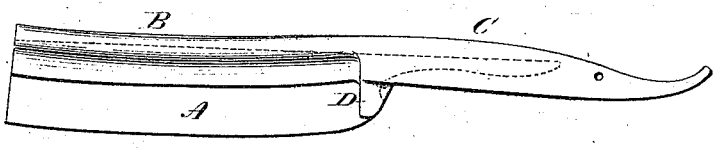


*Fig. 3*


*Fig. 4*


Witnesses.
J. H. Shumway
Jos. C. Earle

Albert H. North
Inventor.
By atty-
John C. Earle

# UNITED STATES PATENT OFFICE.

ALBERT H. NORTH, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO JAMES D. FRARY, OF SAME PLACE.

## RAZOR.

SPECIFICATION forming part of Letters Patent No. 264,742, dated September 19, 1882.

Application filed March 10, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, ALBERT H. NORTH, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new Improvement in Razors; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the blank for the blade; Fig. 2, a side view of the blank with the back and shank cast thereon; Fig. 3, a transverse section through the blade; Fig. 4, a transverse section of the blade complete.

This invention relates to an improvement in the manufacture of razor-blades.

In the usual construction of blades which present a concave surface upon both sides—that is to say, which in transverse section are substantially the shape seen in Fig. 4—the blade and shank are forged complete from steel into nearly the required shape, then ground and finished. This forging operation is usually done by hand for the best class of razors, and requires the most skilled labor.

To avoid the expense of forging, razors have been made with the blade, cut from sheet-steel, introduced and secured into a back of different metal, the back forming simply a bead-like ridge on the back of the blade. This construction, while it avoids the forging, permits the making of the blade from sheet-steel, and the tempering of that blade before the back is attached, is equally expensive, because of the labor in forming the back and inserting the blade; but when done the shape of the blade does not possess the advantages of the double-concave razor.

The object of this invention is to construct the double-concave razor with a sheet-metal blade; and it consists principally in a blank for the blade cut from sheet-steel, having a back or upper part and shank cast thereon, the back extending down onto the blank, so that the sides may be ground and attain the usual double-concave shape, as more fully hereinafter described.

A represents the blank for the blade, which is cut from sheet-steel, tempered, and with a tang, *a*, at the heel to extend into the shank, and with a longitudinal rib or corrugation, *b*, near its upper edge, and also with a notch, *d*, at the heel. The blank for the blade is tempered or hardened, and when thus prepared is placed in a mold, and upon it the back B and shank C are cast, with an extension, D, therefrom down upon the heel part, the shank of this cast part being substantially of the usual form. The corrugations *b* serve to engage the casting with the steel part of the blade, and the tang *a*, extending into the shank, serves to strengthen that part and prevent its bending.

I prefer to use for the casting what is commonly termed "white-metal," or an alloy which will present nearly the steel color when highly polished; but it must be a metal such as known as "soft metal"—that is, a metal which fuses at so low a degree of heat that when it is poured upon the blank in its fused state it will not materially affect the tempered steel.

In making the casting I leave sufficient thickness at the lower edge, as seen in Fig. 3, to insure an even flow of the metal. The blade thus prepared is then ground in the usual manner for grinding razors, so that the regular concave is given to the sides, as seen in Fig. 4, extending from the upper edge or back down to the edge of the blade, the concavity depending upon the diameter of the stone. Thus I produce a razor the blade of which has all the advantages of the best forged steel, but without the expense of forging, the casting of the back and shank being much cheaper than the process of forging.

Instead of the corrugations, perforations may be made through the blank A, so that the metal cast thereon will flow through the perforations, and thus unite the two sides of the back; or the blank may be tinned, so that the metal cast thereon will unite with the tinned surface of the blank, or any irregular-

ity may be made in the surface of the blank in casting.

The tang *a* may be omitted; but I prefer to employ it, because of the liability of the shank to bend in strapping or using the razor, which bending is prevented by the steel tang.

I claim—

A razor-blade consisting of the steel blank A, with the soft-metal back and shank cast thereon, the sides of the casting and blank ground together to present a concave surface, substantially as described.

ALBERT H. NORTH.

Witnesses:
JOS. C. EARLE,
J. H. SHUMWAY.