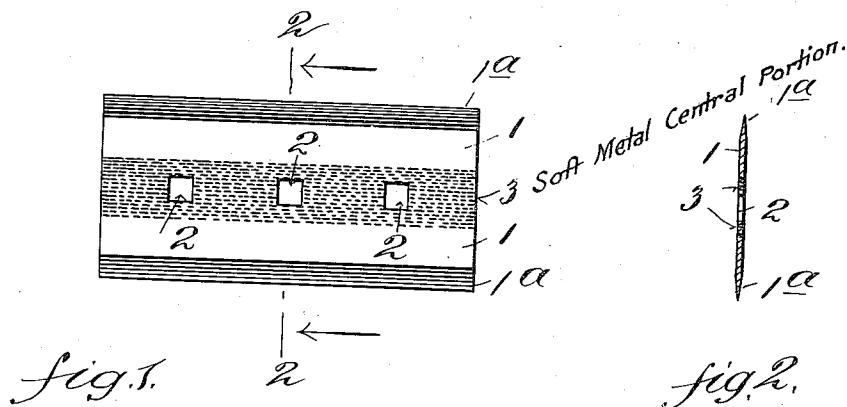


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 RAZOR BLADE.
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1,011,938.

Patented Dec. 19, 1911.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY J. GAISMAN, OF NEW YORK, N. Y., ASSIGNOR TO AUTO STROP COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

RAZOR-BLADE.

1,011,938.

Specification of Letters Patent.

Patented Dec. 19, 1911.

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To all whom it may concern:

Be it known that I, HENRY J. GAISMAN, a citizen of the United States, and resident of New York city, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Razor-Blades, of which the following is a specification.

The wellknown thin or wafer-like safety razor blades that are sharpened on opposite edges and bent while in use to stiffen them are usually provided with a plurality of alined holes to receive holding pins and the like, and such blades are customarily tempered throughout to such a high degree that when they are bent or curved in use they are liable to crack or break lengthwise between their opposite cutting edges.

The object of my invention is to provide thin or wafer-like blades with one or more cutting edges which may be tempered to the highest degree desired and yet so arrange said blade that it will not be liable to crack or break between its longitudinal edges when bent or curved, and to this end I provide the blade with the desired temper at its cutting edge or edges and with a centrally or intermediately disposed portion that is either annealed or of such less temper than the edge portion or portions as will permit the blade to bend or to curve between its longitudinal edges without danger of breaking or cracking.

My improved blade may be made by first tempering the entire blade, either before or after its cutting edge or edges are sharpened or honed, and then drawing the temper or annealing the blade between such edges, or the steel of which the blade is made may be tempered on opposite sides along its edge or edges without tempering the intermediate portion, as by covering or protecting such intermediate portion from the effects of heat while the exposed edge portion or portions are being tempered. In such case the cutting edge or edges may be formed either before or after tempering the same.

Reference is to be had to the accompanying drawings forming part hereof, wherein, Figure 1 is a face view of a razor blade embodying my invention, and Fig. 2 is a cross section on the line 2, 2, in Fig. 1.

The numeral 1 indicates a blade which may be of any suitable shape, and which

in the instance illustrated is shown of relatively thin or wafer-like material, such as steel, having its opposite edges 1^a beveled and sharpened, said blade being shown provided with a plurality of holes 2 centrally disposed to receive holding devices, such as pins or projections of a suitable blade holder or frame. Blade 1 is of such character as to be bent or curved longitudinally between its edges 1^a. Between the edges 1^a, as at 3, the blade is annealed or without temper, or it is tempered as much less as desired, than the temper given the longitudinal edge portions on opposite sides of the portion 3, which may be done in the manner before described. A preferable form would be to first sharpen and temper the blade and then anneal or draw the temper at the portion 3. Such portion 3 may be of any suitable width, but as the same coincides with the holes 2 the danger of the blade breaking at or adjacent such holes when bent or curved, or at a part between the sharpened longitudinal marginal sides of the blade, is reduced. Thus, when a blade embodying my invention is pressed between opposing clamping devices in well-known manner, the blade may bend and as the longitudinal portion 3 is of less temper than the tempered marginal portions the danger of the blade breaking is reduced or practically eliminated, and thereby the advantage is afforded that the blade will remain intact and not be liable for parts of the same to shift in its holder, obviating dangers that would result from such shifting. Razor blades without holes may also be made in accordance with my invention.

With thin razor blades made according to my invention, especially those having cutting edges on opposite sides, such as well-known safety razor blades, which are bent while in use by means of opposed curved clamping members between which the blade is held, the blade may bend and remain set or in a curved condition, which affords the advantage that when the blade has been once used and then removed from the holder for cleaning, the blade may be replaced in substantially the same relation, with the edges presented for use in the same position as before, so that such edges may continue in use in the same relation with respect to the guard.

Having now described my invention what I claim is:—

1. A blade made of a relatively thin piece of metal having a cutting edge and tempered at said edge, the metal of the blade adjacent said edge being of less temper than the edge portion to permit the blade to bend back of the edge without danger of fracture.
2. A blade having cutting edges on opposite sides and an intermediate portion between said edges of less temper than said edges to permit the blade to bend between said edges without danger of fracture.
3. A double edged razor blade provided with one or more holes between the edges, a portion of the blade between said edges being of less temper than the edge portions of the blade.
4. A double edge blade provided with a plurality of holes between its cutting edges, the portion of the blade between said edges and at said holes being of less temper than the edge portions.
5. A double edge blade having a plurality of holes between its cutting edges, a portion of the blade between said edges being annealed.
6. A double edge blade having an intermediate portion annealed between the edges.
7. A razor blade consisting of a strip of metal having cutting edges on its opposite parallel edges, the cutting edges being hardened, the center of the strip between the cutting edges and parallel therewith being of metal softer than the cutting edges but integral therewith.
8. A razor blade comprising a strip of metal having hardened cutting edges, and having an integral soft strip through the center of the blade to facilitate its bending.

Signed at New York city, in the county of New York, and State of New York, this 31st day of March, A. D. 1909.

HENRY J. GAISMAN.

Witnesses:

MAX DAVIS,
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