

T. B. LASHAR.
METHOD OF ATTACHING STEEL BLADES TO SOLID WHITE METAL HANDLES.
APPLICATION FILED SEPT. 4, 1908.

915,777.

Patented Mar. 23, 1909.

Fig. 1

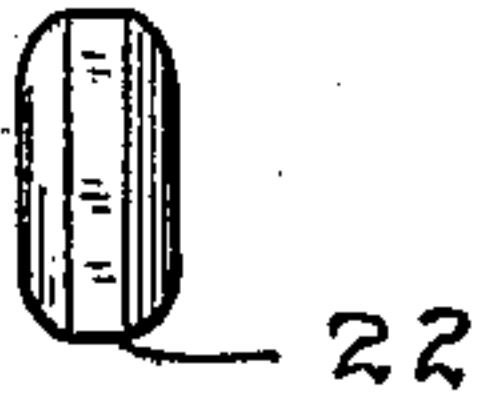


Fig. 2.

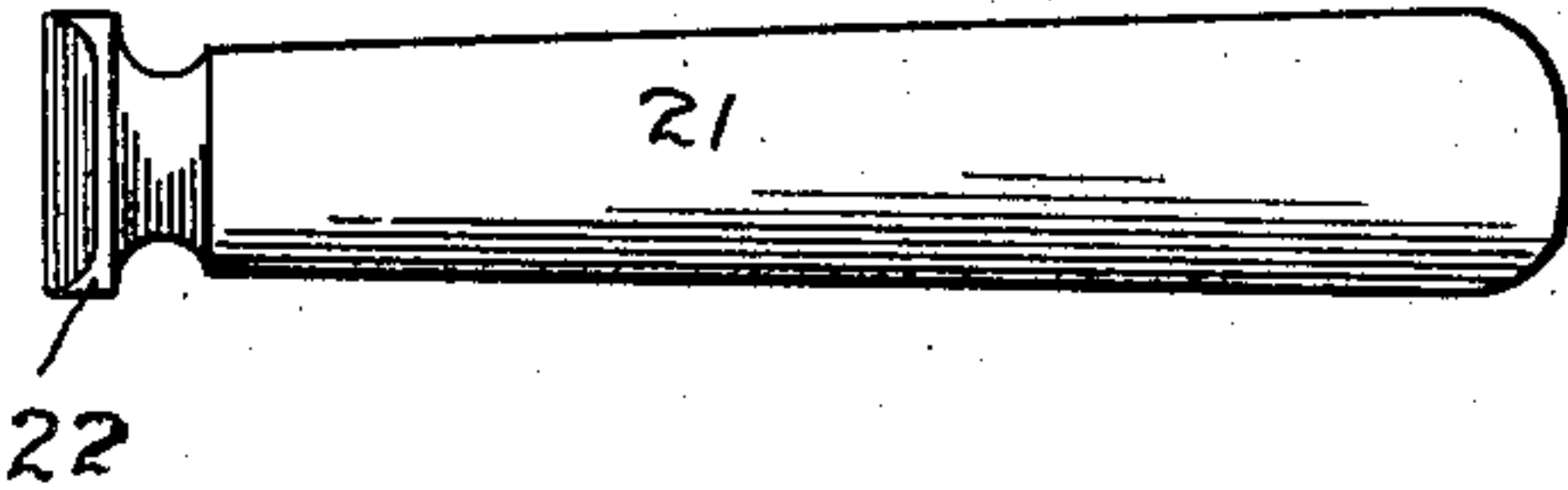


Fig. 3.

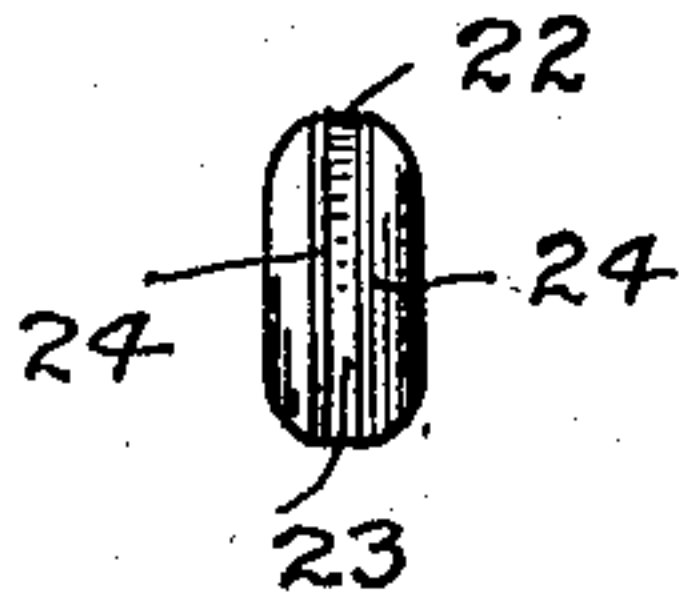


Fig. 4

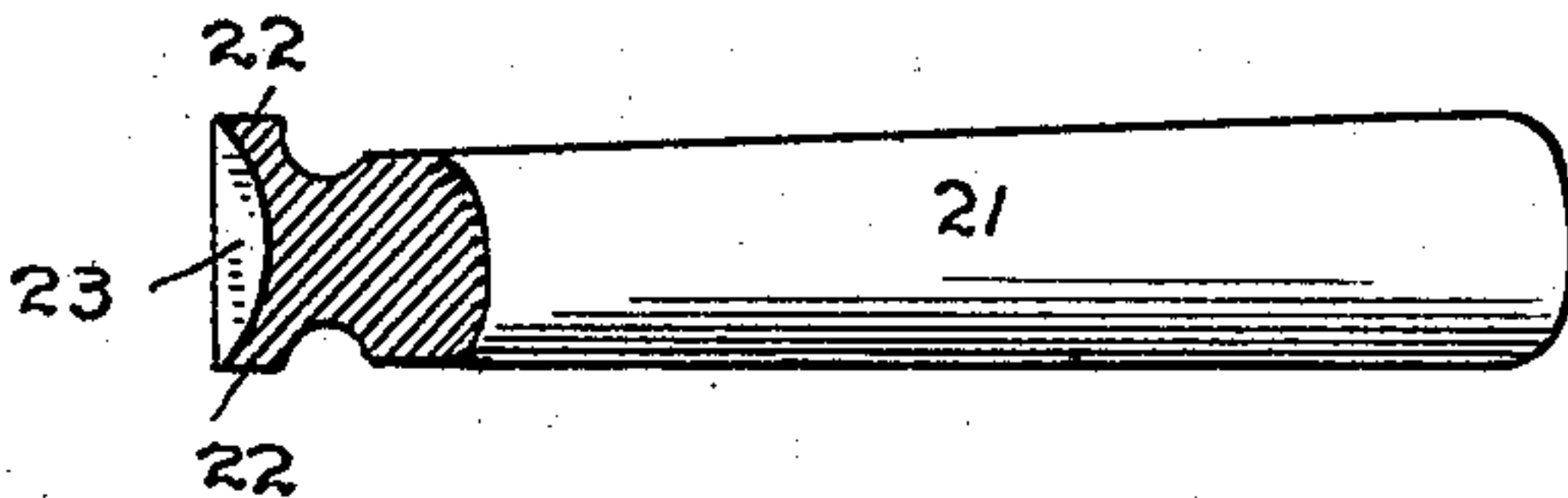


Fig. 5. Fig. 6. Fig. 7. Fig. 8.

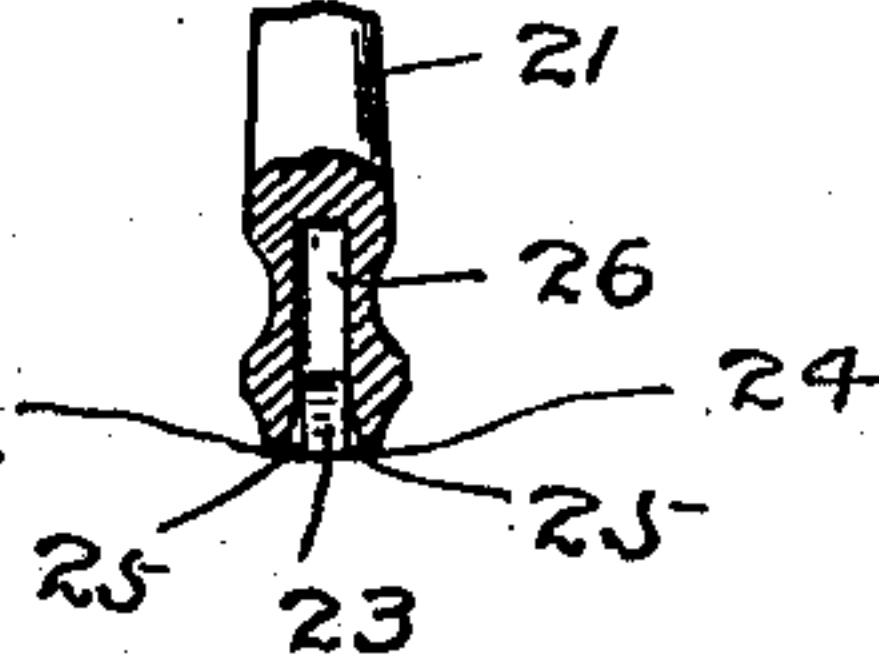
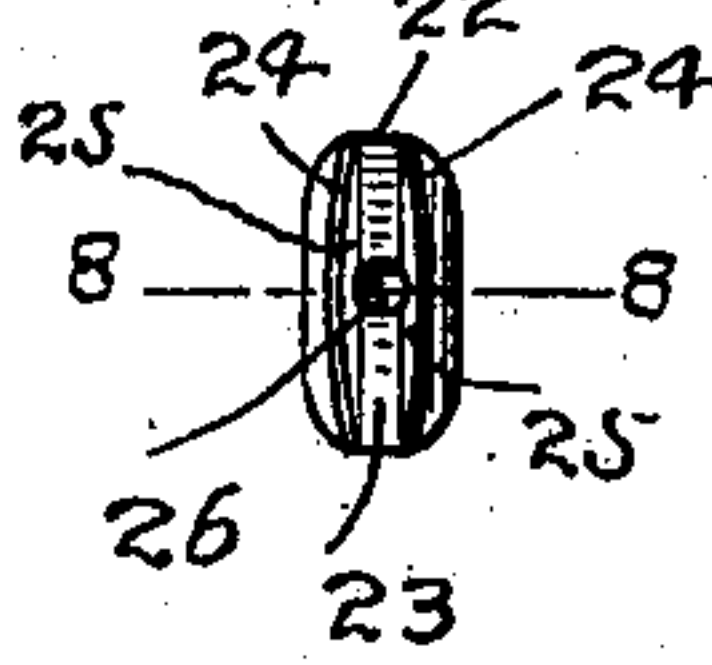
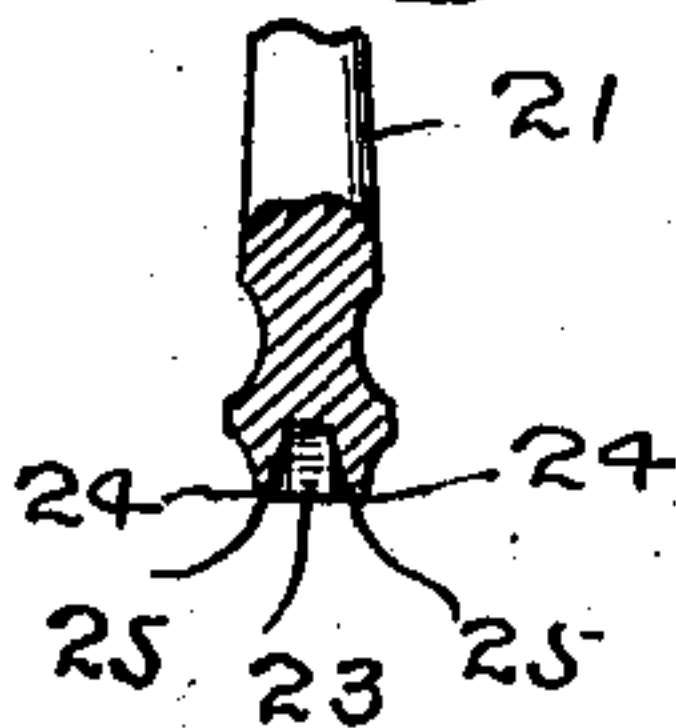
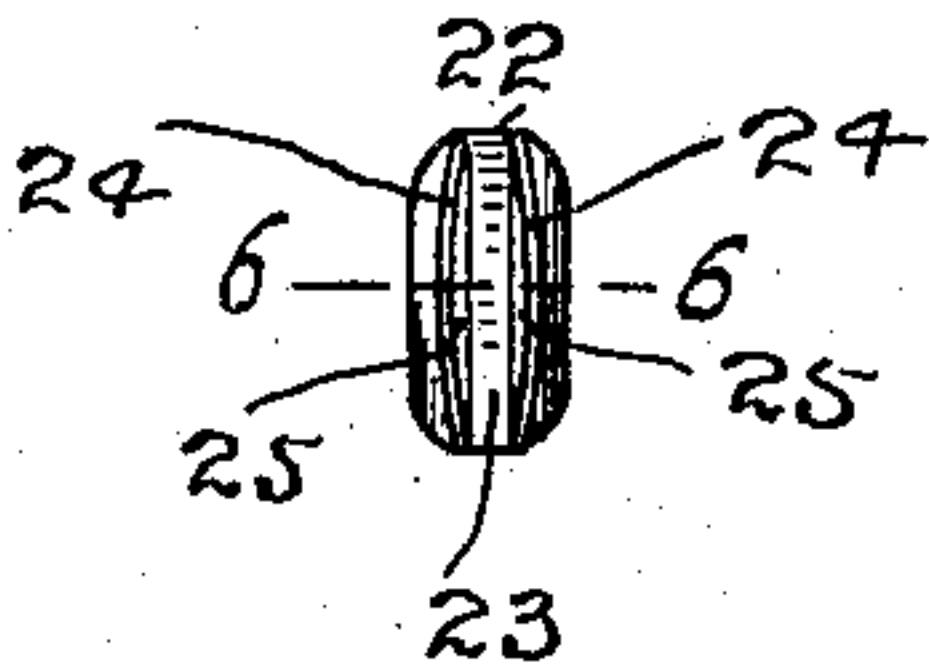


Fig. 9

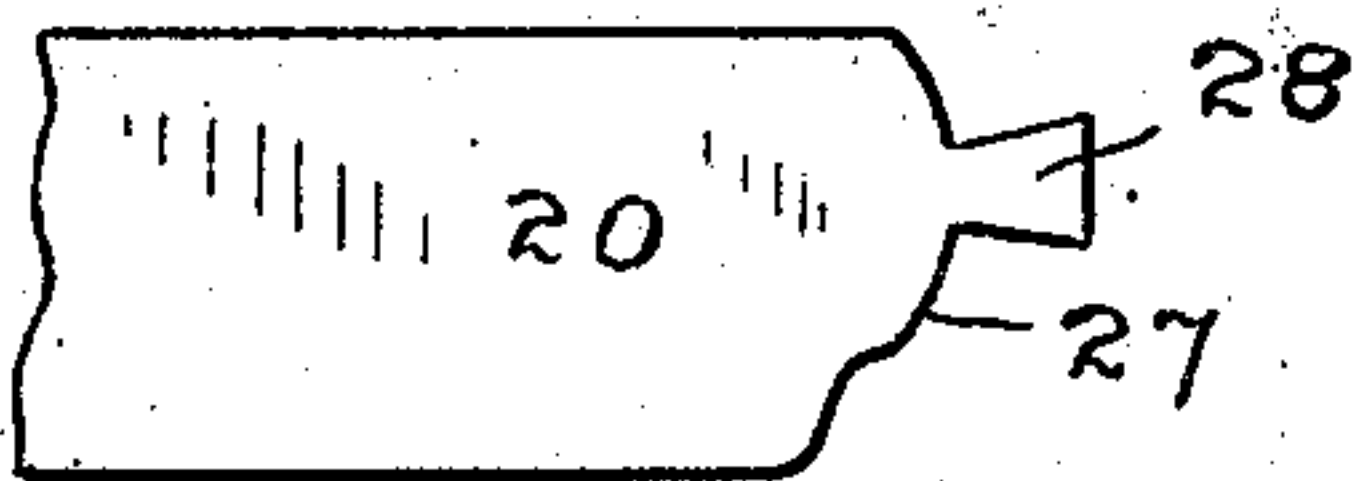


Fig. 10.



Fig. 11.

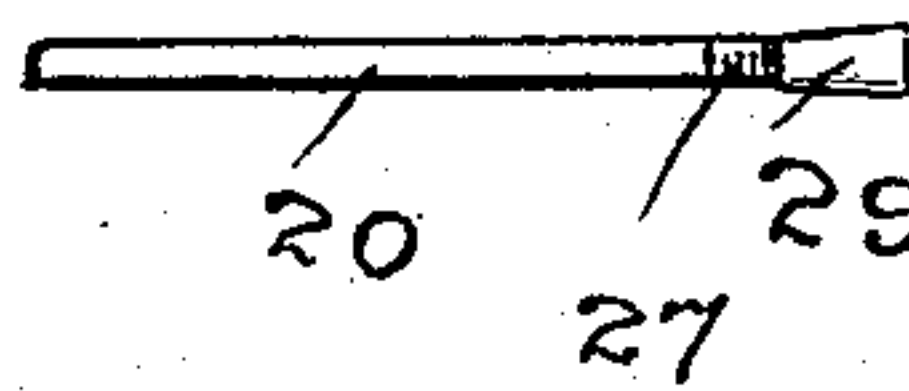


Fig. 12

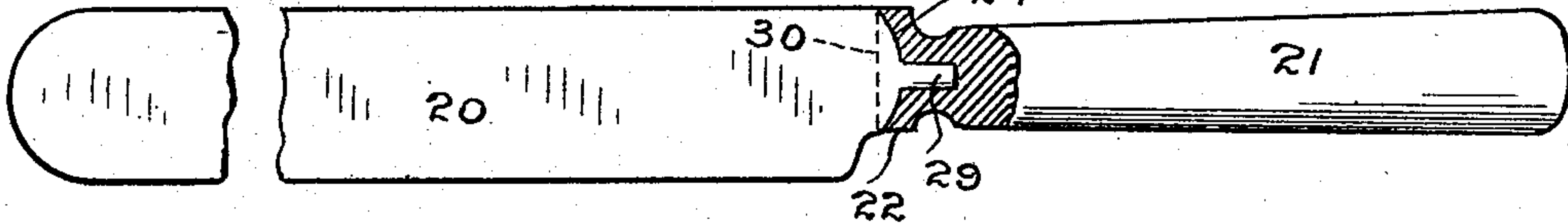
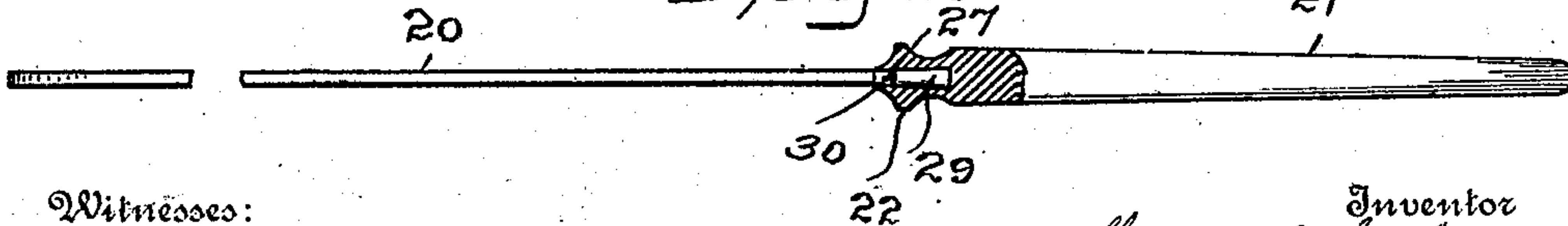


Fig. 13.



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS B. LASHAR, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE INTERNATIONAL SILVER COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF NEW JERSEY.

METHOD OF ATTACHING STEEL BLADES TO SOLID WHITE-METAL HANDLES.

No. 915,777.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed September 4, 1908. Serial No. 451,719.

To all whom it may concern:

Be it known that I, THOMAS B. LASHAR, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented a new and useful Method of Attaching Steel Blades to Solid White-Metal Handles, of which the following is a specification.

This invention has for its object to provide a method of attaching steel knife blades to solid white metal integral bolsters and handles.

It is of course well understood that the most satisfactory and useful blade for table, fruit and other knives is a steel blade as it is impossible to make any but steel blades retain a cutting edge. Knives in which both blades and handles have been made from white metal, as any of the various alloys which are collectively known as German silver, have not been satisfactory owing to the fact that the blades would not retain a cutting edge. Knives in which both blades and handles have been made from steel have likewise been unsatisfactory owing to the great weight of the handles if made of sufficient size for convenient use, and to the fact that the handles corrode. It has furthermore been common to cast handles made of an alloy upon steel blades. These knives, however, have not been satisfactory for two reasons: first, that it has not been possible to make a high grade handle in this manner, all cast handles being rough and full of blow holes, and second, that the casting of a handle upon a steel blade is very likely to destroy the temper of the blade.

The specific object of the present invention is to enable the production of a high grade of knives having steel blades and rolled white metal integral bolsters and handles. No knife of this character has been heretofore produced owing to the fact that it has been impossible to securely attach the blades to the handles. The requirements for the handle are that the metal shall be light and strong, approximately white in color and of a quality that will not blacken or tarnish. All alloys, so far as I am aware, having these qualities require to be rolled and cannot be cast upon the tangs of the blades owing to the fact that they cast roughly and the castings are full of blow-holes, and furthermore the heat draws the temper of the blades.

My present invention enables me to attach a steel blade to a rolled white metal handle which may be given any required configuration or ornamentation and may be provided with a bolster of any required shape or size. These handles may or may not be plated and if plated do not blacken when the plating wears off.

My novel method is simple and inexpensive and provides a knife that the trade has long demanded but which has never been furnished; that is, a knife having a steel blade and a light, hard, firmly-attached handle which shall be perfectly smooth and free from flaws, shall be nearly the color of silver, shall be adapted to be plated or not plated, as preferred, and which will not tarnish whether plated or polished.

With these and other objects in view I have devised the novel method of attaching knife blades to handles, of which the following description in connection with the accompanying drawing is a specification, reference characters being used to indicate the several parts.

Figure 1 is an end elevation of the handle as formed to shape as seen from the left in Fig. 2; Fig. 2 a side elevation corresponding with Fig. 1; Fig. 3 an end elevation as seen from the left in Fig. 4, after the bolster has been milled; Fig. 4 a side elevation partly in section, showing the cut made by the milling tool; Fig. 5 an end elevation showing the spreading of the lips of the tang after the milling operation; Fig. 6 a section on the line 6—6 in Fig. 5; Fig. 7 an end elevation showing the drilling of the bolster after the spreading operation; Fig. 8 a section on the line 8—8 in Fig. 7; Fig. 9 an elevation of the blade as formed, showing the dove-tail tang; Fig. 10 a similar view showing the tang swaged to shape for insertion; Fig. 11 an edge view corresponding with Fig. 10, showing the taper of the swaged tang at right angles to the plane of the blade; Fig. 12 an elevation partly in section, showing the completed knife, the blade having been attached to the handle by swaging the metal of the handle about the base of the blade and the outwardly tapering tang; and Fig. 13 is an edge view of the completed knife partly in section on a plane at right angles to the plane in Fig. 12.

20 denotes the blade, 21 the handle and 22 the bolster. The handle and bolster are

rolled to any required form, as for example in Figs. 1 and 2. The blade end of the bolster is then subjected to the action of a circular mill which cuts a curved groove 23 in the blade end of the bolster, the groove being longitudinal to the bolster and being preferably concave; that is, deepest at the center and running out at the ends, so as to remove as little metal as possible from the bolster and provide a firm support for the base of the blade, as is clearly shown in Figs. 4 and 12. The next operation, the effect of which is illustrated in Figs. 5 and 6, consists in subjecting the milled bolster to the action of a punch which opens out the lips, indicated by 24, on opposite sides of the groove, the opening, which is indicated by 25, being widest at the center and of the width of the groove only at the ends. The next operation, which is illustrated in Figs. 7 and 8, consists in drilling a hole 26 into the bolster longitudinally to the handle, this hole being of slightly greater diameter than the width of the groove but there being very little removal of the metal of the lips owing to the fact that the lips have been opened out by the previous operation.

The blade is blanked out to the form shown in Fig. 9 and is provided with a convex curved base 27, corresponding with the concave groove in the bolster, and with a dove-tail tang 28. The next step, which is illustrated in Figs. 10 and 11, consists in swaging the dove-tail tang to a form which tapers outward in a plane at right angles to the plane of the blade, as clearly shown in Figs. 11 and 13, the completed tang being indicated by 29. It will be noted, (see Fig. 9) that the dove-tail of the tang as originally formed (see 28) tapers outward in the plane of the blade. After the swaging operation the taper of the tang is at right angles to the plane of the blade. This step is not an essential feature of the invention and may be omitted if preferred. The completed tang is then placed in hole 26 in the bolster and the knife is finished ready for the trimming and polishing or plating of the handle and bolster by swaging the metal of the bolster closely about the tang and swaging lips 24

closely about the sides of the base of the blade, it being understood that the convex curved edge of the base of the blade is seated firmly in the curved groove, the curvature of the base and groove corresponding. The tang of the blade is thus firmly locked in the bolster, the blade being firmly held against any movement by the seating of the base of the blade in the correspondingly - curved groove, the engagement of the lips with the sides of the base of the blade, and the closing of the metal of the bolster tightly about the outwardly-tapering tang so that separation of the blade and handle or loosening of the blade in the handle is made impossible. This operation may be performed by means of a drop or hydraulic press or in any suitable manner.

Having thus described my invention I claim:

1. The method of attaching a knife blade to a handle, which consists in providing the blade with a tang having an enlarged end, and the handle with a groove and a hole, then assembling the two with the tang in said hole and with base portions of the blade each side of the tang seated in the groove of the handle, and finally closing in or swaging the sides of the hole and groove on said tang and base portions.

2. The method of attaching a knife blade to a handle, which consists in providing the blade with a tang having an enlarged end, and the handle with a concave groove, opening out the lips on opposite sides of the groove to form an opening widest at the center, forming a hole in the handle, assembling the blade and handle with the tang in said hole and with base portions of the blade seated against the bottom of said concave groove in the handle, and finally closing in or swaging the sides of the hole and groove on said tang and base portions.

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

THOMAS B. LASHAR.

Witnesses:

A. M. WOOSTER,

S. W. ATHERTON.