No. 859,929. PATENTED JULY 16, 1907.

G. W. DOVER.

PIN TONGUE.

APPLICATION FILED FEB. 15, 1907.

2 SHEETS—SHEET 1.

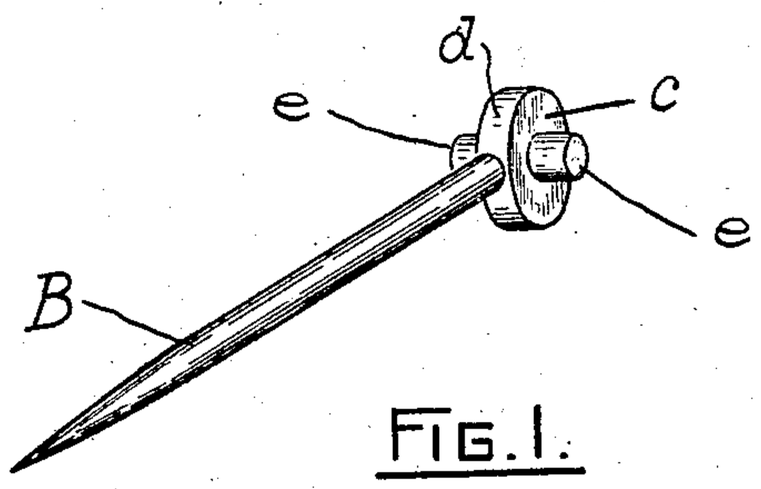

FIG. 1.

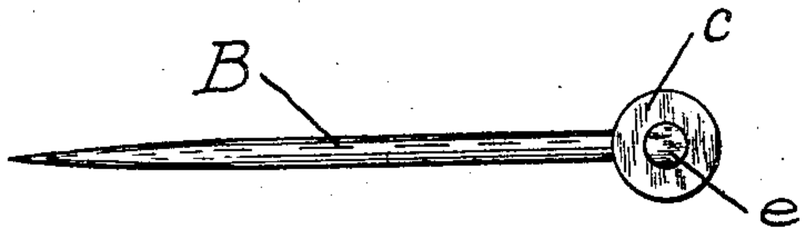

FIG. 2.

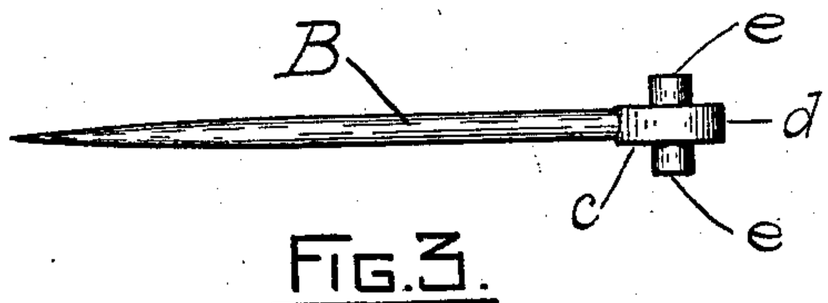

FIG. 3.

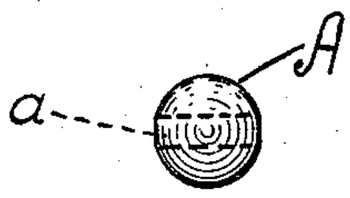

FIG. 4.

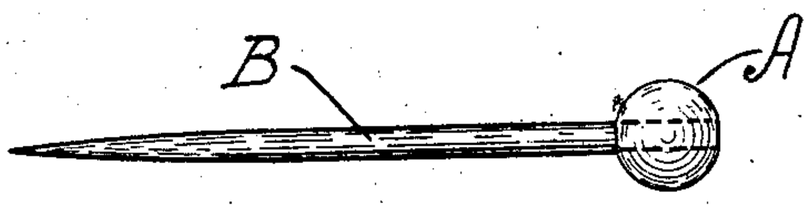

FIG 5

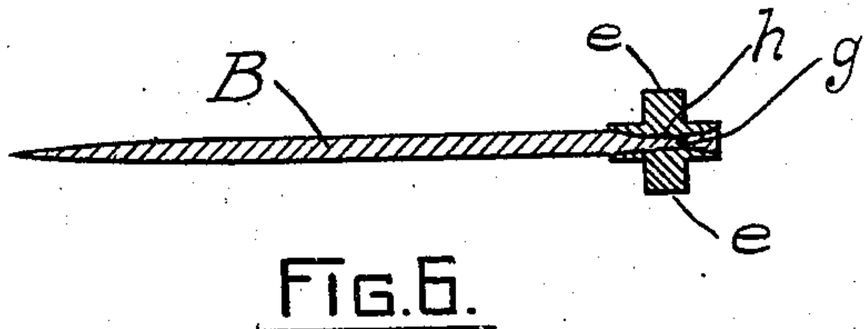

FIG. 6.

WITNESSES

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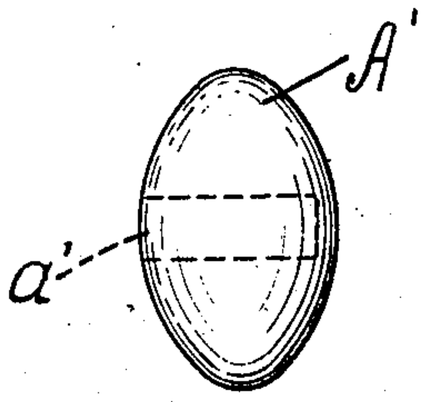

FIG. 7.

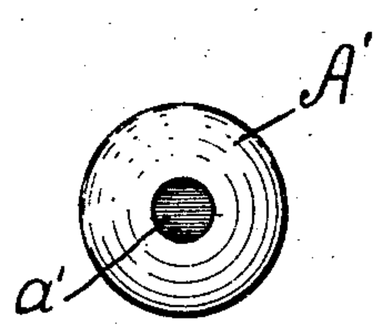

FIG. 8.

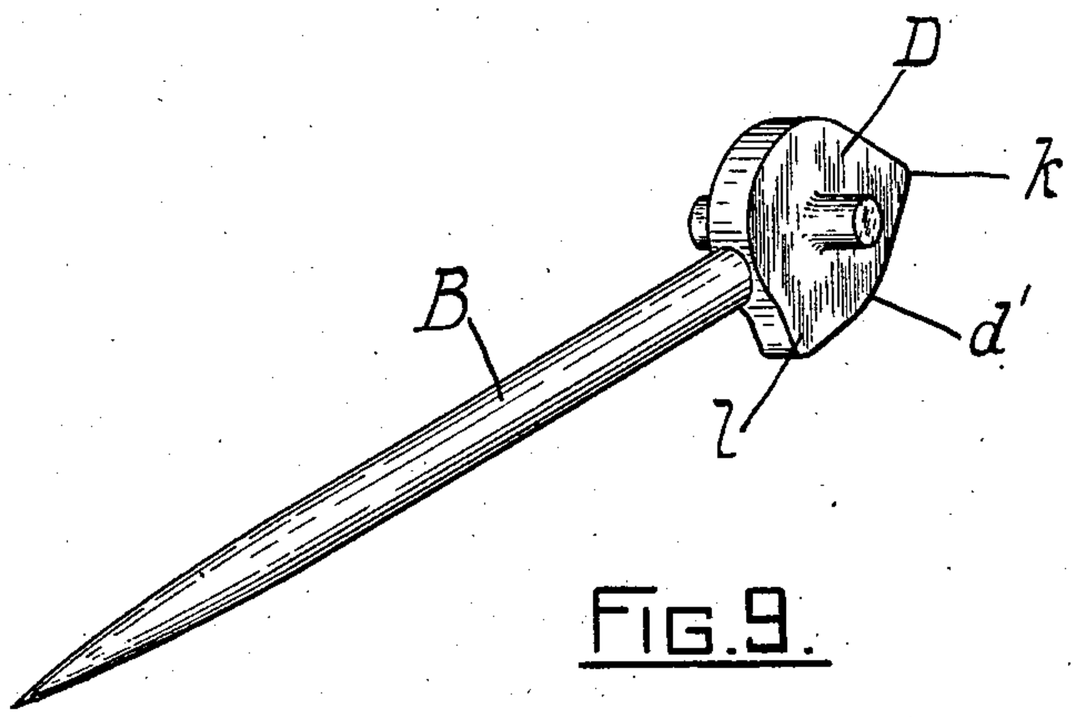

FIG. 9.

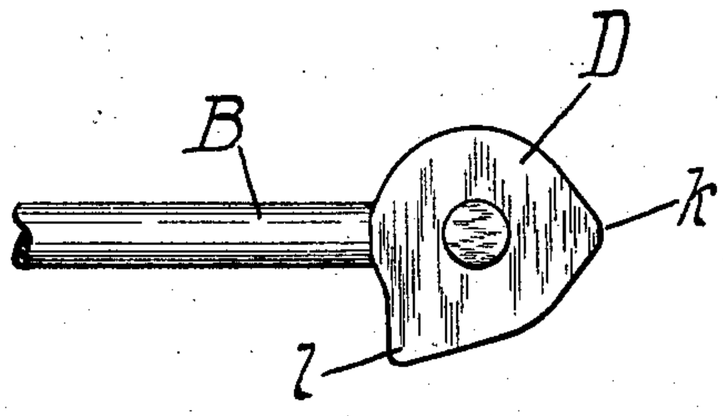

FIG. 10.

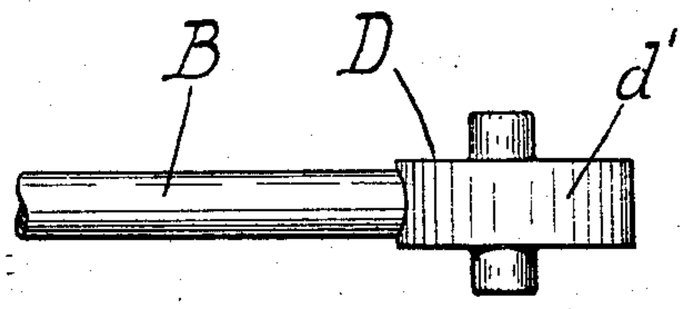

FIG. 11.

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GEORGE W. DOVER, OF PROVIDENCE, RHODE ISLAND.

PIN-TONGUE.

No. 859,929. Specification of Letters Patent. Patented July 16, 1907.

Application filed February 15, 1907. Serial No. 357,473.

To all whom it may concern:

Be it known that I, GEORGE W. DOVER, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Pin-Tongues, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to pin-tongues adapted for use in pins, brooches and other articles of jewelry, and has for its object the ends commonly sought in such structures, but more particularly increased strength and cheapness.

To the above ends essentially my invention consists in the novel construction and combination of parts hereinafter described, and illustrated in the accompanying drawings, wherein

Figure 1 is a perspective view of my novel pin-tongue. Figs. 2 and 3, side and plan elevations respectively of the same. Fig. 4, a side view of the original head. Fig. 5, a like view of the same attached to the pin-shaft. Fig. 6, a longitudinal central section of the pin-tongue complete. Figs. 7 and 8, side and front views respectively of a modified shape of ball. Fig. 9, a perspective view of a modified form of my pin-tongue, and Figs. 10 and 11, side and plan views respectively of the modified head shown in Fig. 9.

Like reference characters indicate like parts throughout the views.

My pin-tongue is constructed by drilling or otherwise piercing through or into a metal ball, A, an opening, *a*, as shown in Fig. 4. Into the ball, A, through the diametrical opening, *a*, is inserted the blunt end of the pin shaft, B. When the parts are thus assembled, the head, A, is subjected to the action of suitably shaped dies which converts the ball, A, into a pin-tongue head of the following construction. The body portion, C, is either circular or cam-shaped, and flattened and has either a cylindrical or irregular periphery, *d d'*. Integral lateral projections or trunnions, *e*, project from the flattened sides. The pin-shaft, B, projects from the cylindrical surface, *d*, of the head in the horizontal plane of the trunnion, *e*.

The action of the dies in forming the pin-tongue head is sufficient to more or less irregularly groove or contract the metal of the pin-shaft at *g*, beneath the pin-tongue head; and into this groove or grooves extends a corresponding internal swell, or swells, *h*, upon the interior of the body, *c*, of the head.

The original form of the ball, A, may be spherical, as shown in Fig. 4, or ellipsoidal, A', as shown in Figs. 7 and 8. That is, the head is elliptical in longitudinal section, and circular in transverse section. In short, the original form of the head may be of any such irregular shape as would permit the dies to flatten the same and raise a trunnion thereon.

The diametrical opening, *a*, may extend through the head, as in Fig. 4, or partially through, as shown in Fig. 7.

The cam form of head, D, shown in Fig. 11, is flattened in dies such as to make its periphery, *d'*, irregular or cam-shaped. That is, the head is nearly circular, but is provided with cam swells, *k*, *l*, one in alinement with the shaft, B, and the other, *l*, at right angles thereto. The cam-shaped head, D, serves the purpose of a forward and rearward stop for the pin-tongue.

The tongue, B, will be observed to be in the horizontal plane of the trunnions, *e*, whereby a compactness of form is attained which is especially important when it is necessary to mount the tongue upon small articles.

An important reason for the tight union of the head, A, with the shaft, B, displayed in this structure is to create a joint so tight as not to leak. That it to say, the base metal head and shaft of the pin tongues have to be immersed in acid prior to the application of the gold plate. If two parts present a joint, the acid enters, and after plating the acid ultimately works outwardly, discoloring the adjacent plate. The swaged structure herein shown overcomes this important defect, by embedding the metal of the ball in the pin shaft.

It is found advantageous to have the metal of the ball somewhat softer than that of the shaft. The compression of the head hardens it.

What I claim is,—

1. In a pin-tongue the combination with the pin-shaft of a head composed of softer metal than the material of the pin-shaft embedded in the pin-shaft.

2. In a pin-tongue the combination with the pin-shaft of a head composed of softer metal than the material of the pin-shaft united with the pin-shaft by swaging.

3. In a pin-tongue the combination with the pin-shaft, of a solid cam shaped head upon the end of the pin-shaft provided with a cam swell in alinement with the pin-shaft, and with a cam swell at right angles to the pin-shaft, and a trunnion in one piece with the head and in a plane with the pin-shaft.

4. In a pin-tongue the combination with the pin-shaft, of a flat solid head upon the end of the pin-shaft, and a trunnion in one piece with the head and in a plane with the pin-tongue.

5. In a pin-tongue the combination with the pin-shaft provided with a contracted area of a flat solid head embedded in the contracted area of the pin-shaft.

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

GEORGE W. DOVER.

Witnesses:
HORATIO E. BELLOWS,
WALTER E. GOODWIN.