R. S. BOWEN.

ORNAMENTAL CAP FOR SCREWS AND OTHER FASTENINGS.

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915,068. Patented Mar. 16, 1909.

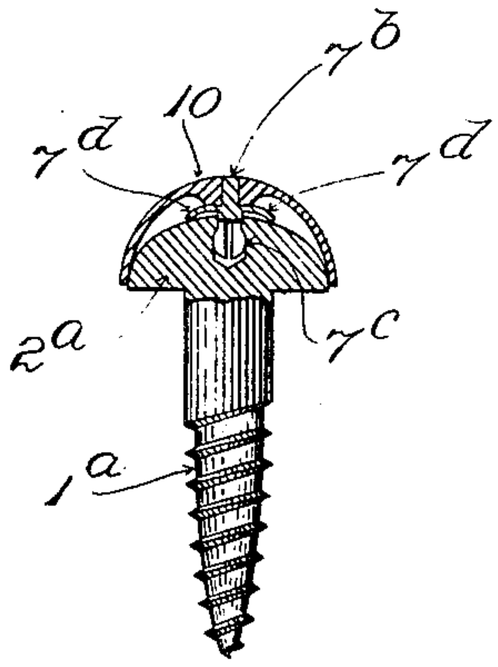

Fig. 6.

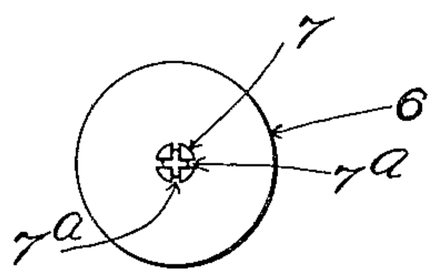

Fig. 4.

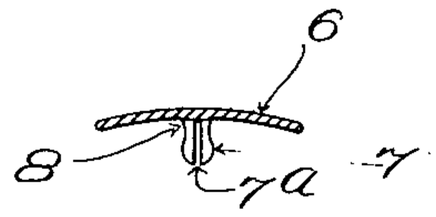

Fig. 5.

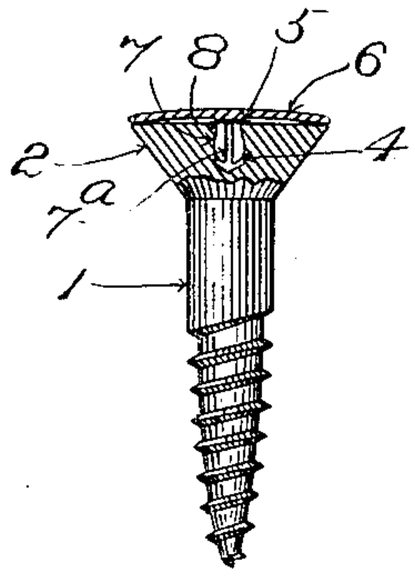

Fig. 1.

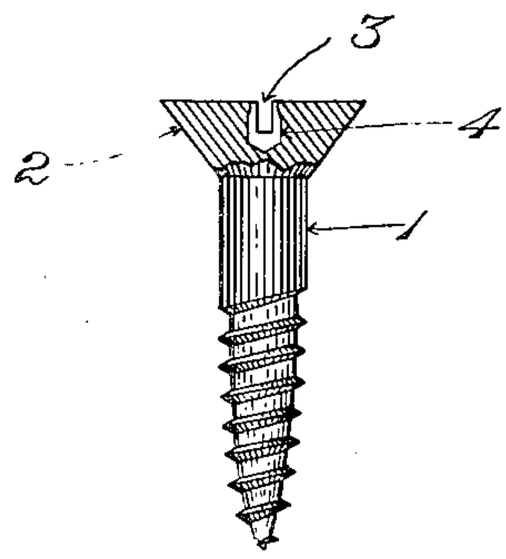

Fig. 2.

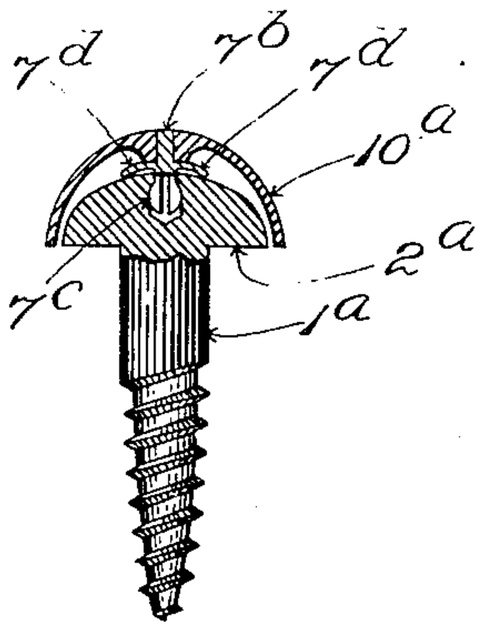

Fig. 7.

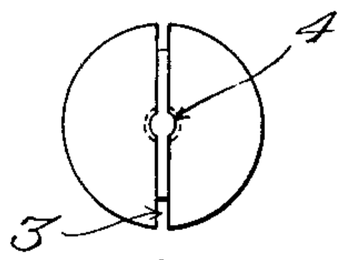

Fig. 3.

Witnesses:
Oscar F. Hill
Edith J. Anderson.

Inventor:
Robert S. Bowen
by Chas. F. Randall
Attorney.

UNITED STATES PATENT OFFICE.

ROBERT S. BOWEN, OF NEWTON, MASSACHUSETTS.

ORNAMENTAL CAP FOR SCREWS AND OTHER FASTENINGS.

No. 915,068. Specification of Letters Patent. Patented March 16, 1909.

Application filed June 20, 1908. Serial No. 439,500.

To all whom it may concern:

Be it known that I, ROBERT S. BOWEN, a citizen of the United States, residing at Newton, in the county of Middlesex, State of Massachusetts, have invented a certain new and useful Improvement in Ornamental Caps for Screws and other Fastenings, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to screw-threaded and driven fastenings, and has for its general object to provide such fastenings with ornamental heads of improved character, capable of convenient and ready application, which shall remain securely in place after being applied, and which shall be adapted to be removed at will.

The invention consists in a novel and improved construction of a fastening of the general class aforesaid, the cap or cover therefor, and means for disconnectibly attaching such cap or cover to the head of the said fastening, all contrived to cause the cap or cover to be elastically secured in place and its margin kept close to the surface of the said head, or to an adjacent surface, as the case may be.

More specifically, the invention consists in the combination with a fastening (exemplified by a screw in each of the illustrated embodiments of the invention) having formed in the head thereof a socket with contracted mouth, of a cap consisting wholly or in part of a disk or its equivalent of elastic material and dished or curved so as to possess a central upward bulge, convexity, or crown, such cap being formed with a split stud projecting from the under side thereof, adapted to enter the said socket, and reduced in diameter to form a neck above a portion of greater diameter.

In applying the cap to the head of the fastening, the margin of the disk or its equivalent takes bearing against the head of the fastening or an adjacent surface, before the stud has arrived fully home within the socket, so that the continued application of pressure in completing the insertion of the stud operates to flex and partly flatten the disk or its equivalent and thereby call its elasticity into play. When the neck of the stud has entered the contracted mouth of the socket, and the said presure has been discontinued, the tension of the disk or its equivalent, acting with a tendency to partly withdraw the stud from the socket, will operate to keep in contact with the under side of the said lip the shoulder which is formed on the stud just below its neck, and as the extent of the withdrawal under the spring action is thereby limited, the elastic presssure of the margin of the disk or its equivalent against the outer surface of the head of the fastening will be maintained.

Embodiments of the invention in connection with different forms of screws are shown in the drawings, in which latter,—

Figure 1 is a partly-sectional side elevation of a wood-screw having in connection therewith one of said embodiments. Fig. 2 is a partly-sectional side elevation of the screw of Fig. 1, with the cap removed. Fig. 3 is a top view of the head of the screw of Figs. 1 and 2. Fig. 4 is a bottom view of the cap of Fig. 1. Fig. 5 is a sectional view of the said cap, shown separately. Fig. 6 is a partly-sectional elevation of a second embodiment of the invention. Fig. 7 is a similar view showing a further embodiment.

Having reference to the drawings,—At 1, Figs. 1 and 2, is shown a wood-screw having a flat-topped head 2, the nick in such head for the reception of the end of a screw-driver being shown at 3, Fig. 3. This nick mars the finish and appearance of fine cabinet work, in cases in which the heads of screws show. It also catches and holds dust, lint, oil or the like.

The socket which I provide in the head of a fastening is designated 4. It may be formed by boring or drilling into the head from the top, using a cylindrical tool, and the lip 5 at the mouth of the socket may be produced by a metal-spinning operation acting to dislodge inwardly a portion of the metal of the screw-head around the said mouth.

The cap of Figs. 1 to 5 consists of a simple disk 6, slightly dished to give it a concavo-convex shape. Its stud is designated 7, and projects downward from the concave under side of the said disk, as aforesaid. The neck, of reduced diameter, of the said stud is indicated at 8. To render the stud compressible and expansible in diameter, it is slitted longitudinally, two slits 7^a, 7^a, crossing each other at right angles, preferably being formed therein. These slits enable the stud to be contracted in diameter as its lower portion is forced through the mouth of the socket, either in being inserted into such socket or being withdrawn therefrom, and

the elasticity of the segmental portions of the stud causing them to expand again as soon as the large portion of the stud has passed the lip 5.

Fig. 1 shows the cap applied to the screw, with the large portion of the stud occupying the undercut portion of the socket and expanded therein, and with the lip 5 accommodated in the peripheral groove around the stud at its neck 8. The contact of the shoulder of the stud, immediately below the neck, with the under side of the lip 5, operates to prevent the stud from being raised farther by the tendency of the partly-flattened dished disk 6 to resume its normal shape. Consequently, the said disk is maintained in a state of tension, keeping its margin in bearing contact with the top surface of the head of the screw. Thereby the cap is held snugly and tightly in place.

To facilitate the introduction of the edge of a sharp-edged implement between the margin of the cap and the head of the screw, for the purpose of effecting the removal of the cap, the edge of the cap is rounded underneath, as shown in Figs. 1 and 5.

The disk 6 is shown as a completely circular piece in Fig. 4, bearing uniformly around its margin. These features are preferred, but are not absolutely indispensable.

In Figs. 1 to 5 the elastic disk itself forms the cap. Its top surface, in this instance, is smooth and in practice will be suitably finished.

Fig. 6 shows a construction in which a shell, 10, forms the exterior of the cap, it being fitted upon the elongated upper stem or prolongation, 7^b, of the stud, here designated 7^c. An equivalent of the elastic disk of the preceding embodiment is constituted by the oppositely projecting wings 7^d, 7^d, which are integral with the stud and take bearing by their down-curved free ends against the head 2^a of the screw 1^a. In this case the head 2^a is convex, as in the case of round-head screws, and the margin of the shell 10 fits down around the outer portion of the said head, and is held in contact therewith by the elastic tension of the wings 7^d, 7^d.

In Fig. 7 the construction is similar to that of Fig. 6, except that the shell, therein designated 10^a, is of greater diameter than that of Fig. 6, and projects at its margin clear of the margin of the head of the screw so that when the screw is driven home into a piece of wood, and the cap is applied, the margin of the cap will overhang the surface of the wood and its edge will be located against such surface or close thereto.

I claim as my invention:—

1. The combination with a fastening of the general class aforesaid, having a socketed end, of a cap having a stud adapted to enter the socket, and also having a dished or curved elastic disk or its equivalent acting by its elastic tension to hold the cap snugly in place.

2. The combination with a fastening of the general class aforesaid, provided with a socket having a contracted mouth of a cap having a necked stud adapted to enter the socket, and also having a dished or curved elastic disk or its equivalent acting by its elastic tension to hold the cap snugly in place.

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

ROBERT S. BOWEN.

Witnesses:

CHAS. F. RANDALL,

EDITH J. ANDERSON.