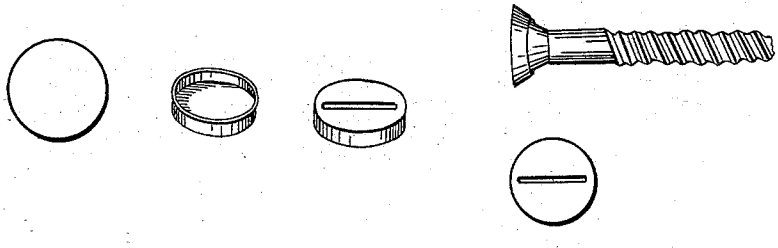
C. T. Grilley,

Capping Screws.

No. 8,888. Patented Apr. 20, 1852.



Witnesses:

Roger S. Baldwin

Milo Peck

Inventor:

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UNITED STATES PATENT OFFICE.

CHAS. T. GRILLEY, OF NEW HAVEN, CONNECTICUT.

CAPPING OF SCREWS.

Specification forming part of Letters Patent No. 8,888, dated April 20, 1852; Reissued June 12, 1866, No. 2,284.

To all whom it may concern:

Be it known that I, CHARLES T. GRILLEY, of the city and county of New Haven, in the State of Connecticut, have invented a new and useful Improvement in the Manufacture of Wood-Screws, of which the following is a full and exact description or specification, taken in connection with the accompanying drawings.

My improvement consists in the combination of a brass, copper, or plated cap with an iron wood-screw, to the head of which it is attached,—as hereinafter described,—in such manner as to unite with the strength and comparative cheapness of an iron screw, an external appearance and beauty, when inserted, similar and in all respects equal to that of screws made wholly of brass, copper, or plated metal.

To enable others skilled in the art to use my invention I will proceed to describe the process of forming and placing the cap on the head of an iron screw.

I cut out of a sheet of brass, copper or other suitable metal the blanks or disks, by a stamp or die in the ordinary method, of a size sufficient to form the cap when closed over the head of the screw. The blank then passes into a drawing die, by the operation of which it is formed into a plain shell, the edge of the disk being turned up all around a base of proper size for the top of the cap. This shell is then placed upon a pin of a size corresponding to that of the head of the screw to which it is to be attached, having a groove cut across the top to correspond with the groove in the head of the screw; and by means of a punch moving in a slide, or of a stamp, so arranged as to strike upon and cut through the face of the cap immediately over the groove in the top of the pin, a nick is formed, which when the cap is attached to the head of the screw, is adapted to be fitted to the groove or slot therein. The shell is then closed over the head of the screw in the ordinary way as in the manufacture of buttons. It may be done either by a press, stamp or on a lathe. The screw with the cap thus attached to its head, is then placed in a die of a size and form corresponding to that of the under part of the head and cap, and of the outer edge of the top of the cap, and rising a little above it. A punch, of a size and form corresponding with that of the face of the head of the screw, having a projection adapted to the form of the nick in the cap and the slot in the head of the screw, is then applied with sufficient power or force to harden the plate, and at the same time to drive the sides of the nick or cut in its surface, down into and to press them closely against the sides of the slot in the screw; whereby the cap becomes firmly attached, and not liable to be thrown up from the face of the screw, or turned or changed in its position by the operation of the screw-driver.

The screw thus completed, when in place presents the appearance of a brass, copper, or silver-plated screw. It greatly exceeds them in strength, and can be afforded at a price at least one third less.

The invention is equally applicable to steel screws which may be capped in a similar way.

I do not claim as my invention the adaptation simply of a cap of sheet metal to the particular configuration of any regular or irregular form by compression or in whatever other manner the same may be produced; but

What I do claim, and desire to obtain Letters Patent for, as my invention, is—

The attachment of a brass, copper, or other suitable metallic cap to, and its combination with, an iron wood-screw substantially in the manner, and by the process, described in the foregoing specification, (which I conceive to be the only practicable method in which the same can be usefully effected,) whereby, and by means of the successive operations of punching or stamping, the nick is first cut through the shell, and then, after being adjusted to the groove or slot in the head of the screw, the sides thereof are driven down into, and made to press closely against the sides of the slot, leaving the bottom of the groove or slot uncovered, so that the cap when closed around the head

of the screw, will preserve its hold without liability to be turned or displaced by the screw-driver, which works upon the iron surface at the bottom of the slot, and against the covered sides thereof, thereby furnishing to the public at a comparatively small cost, a wood-screw having all the beauty and finish of a brass, copper or plated screw, in combination with the greatly superior strength of an iron one.

New Haven, Feby. 9th, 1852.

CHAS. T. GRILLEY.

Witnesses:
ROGER S. BALDWIN,
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