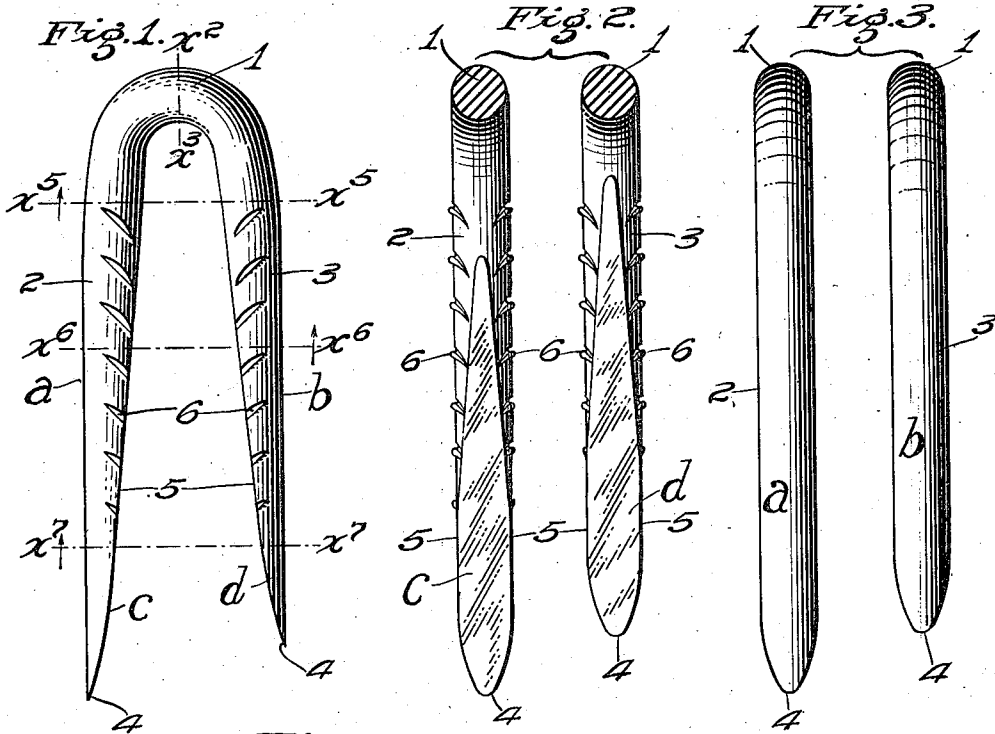
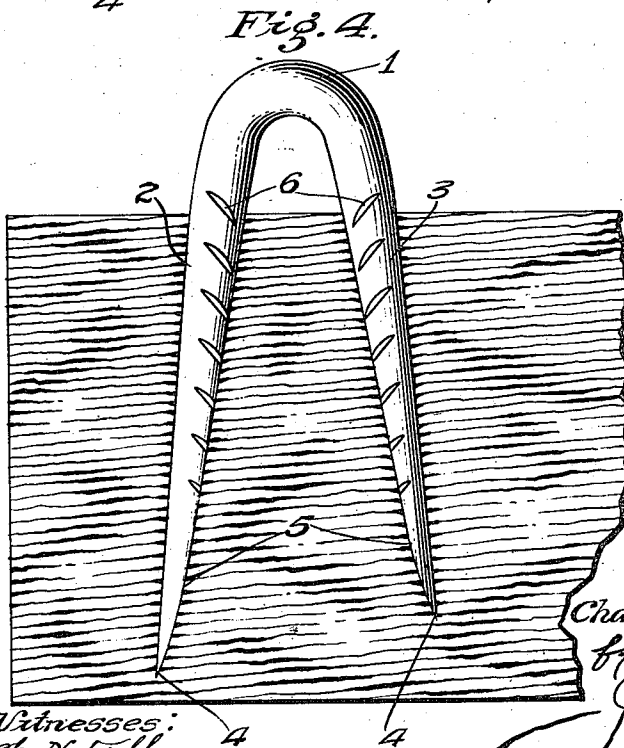
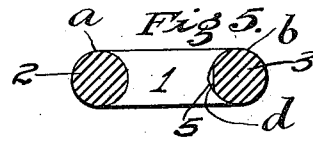
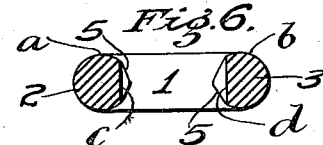
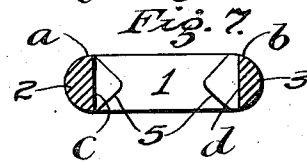


C. L. COLUMBIA.
STAPLE.

APPLICATION FILED OCT. 27, 1909.

1,201,559.

Patented Oct. 17, 1916.



Inventor:
Charles Lafayette Columbia
by James R. Townsend
his Atty

Witnesses:
H. N. Fisk
W. Beulah Townsend.

UNITED STATES PATENT OFFICE.

CHARLES LAFAYETTE COLUMBIA, OF ORANGE, CALIFORNIA.

STAPLE.

1,201,559.

Specification of Letters Patent.

Patented Oct. 17, 1916.

Application filed October 27, 1909. Serial No. 524,964.

To all whom it may concern:

Be it known that I, CHARLES LAFAYETTE COLUMBIA, a citizen of the United States, residing at Orange, in the county of Orange and State of California, have invented a new and useful Improvement in Staples, of which the following is a specification.

The object of this invention is to provide a staple or double-pointed nail or tack of the character used for securing barbed wire and wire netting to fence posts or other wooden supports, screen wire to frames, and carpets and matting to floors, and for other analogous uses, and which staple, nail or tack will be held by a maximum amount of friction and may be driven with minimum injury to the grain of the wood, thus to improve the fastening and to avoid shortening the life of the post or other wooden body into which the staple is driven.

The accompanying drawings illustrate the invention.

Figure 1 is a side view of a staple, double-pointed tack or nail embodying this invention. Fig. 2 is a view of the inner faces of the loop and two legs of said staple sectioned on line indicated by x^2-x^3 , Fig. 1. Fig. 3 is a view of the opposite outer faces of the legs of said staple the loop and legs of which are separated on line x^2-x^3 , Fig. 1. Fig. 4 is a view of the same staple when driven into a piece of wood, said wood being split approximately at the mid-plane of said staple. Figs. 5, 6 and 7 are cross sections of the legs of the staple on lines x^5 , x^6 , and x^7 , respectively.

The staples may be made of various sizes and dimensions for the various uses for which they may be designed.

The staple comprises the loop-like head 1 which is of common form and two legs 2, 3, the opposite outer faces a , b , of which legs normally extend in parallel directions and are preferably of unequal length, the inner faces c , d , of said legs extending in planes that are normal to the plane in which the legs extend; the inner faces of the legs thus being beveled, that is to say, extended oblique to the axis of the staple, from the tips 4 of the legs at a sharp angle with outer faces a , b , and being preferably curved for a distance from their tips toward the loop 1, and being straight longitudinally throughout their greater extent. The transverse traces of the normally oblique faces c , d , of the legs are straight and the longitudinal traces

of said faces are curved or deflected toward the tips of the legs so as to facilitate bending the staple at the loop as the legs are driven home.

The staples may be bent from wire of any desired cross-sectional form; preferably they are bent from cylindrical wire. The legs may be pointed either before or after the staples are bent. The beveled faces of the points may be produced in a manner more or less satisfactory by shearing the wire appropriately before or after bending or they may be partly produced by shearing the wire and afterward shaping by grinding, forging or pressing or in any other suitable manner.

When the staple is driven into a wooden body the sharp points of the tips 4 and the sharp edges 5 between the rounded and the flattened faces of the legs serve to sever the wood sharply and the rounded outer faces a , b , tend to compress the wood on the outside in radial directions while the flattened inner faces of the legs are spread apart by the substance between them so that when the staple is driven as shown in Fig. 4 the legs will invariably be spread apart so that it is necessary to draw them together again in order to pull the staple from any wood that is sufficiently strong to resist the strain. Each of the legs is preferably provided on its rounded surface with barbs or notches 6 after the manner in common use, to cause the legs of the nails or staples to be held more tightly by the substance into which they are driven. By reason of the curved portion, the outward slant of the legs is substantially increased near the tips, so that the tips will have sufficient metal to allow them to be driven into the wood without bending.

From the foregoing it may be seen that a self-clenching staple for wood or similar substances has been produced, the essence of the invention comprising a staple shaped at the tips in accordance with this disclosure, the legs having convex outer faces, and inner faces, having convex portions whose convexity is in the opposite direction to that of the outer faces and adapting the legs to penetrate wood or similar substances in oppositely curved paths corresponding to the convexity of the inner faces.

I claim:—

1. A staple, the legs of which are round with flat inner faces on their adjacent sides, the planes of said faces being normal to the

plane in which the legs extend and slanting outwardly from the loop toward the tips of the staple, the outward slant of the legs being substantially increased near said tips.

5 2. A staple having a loop and two legs, said legs having inner faces the transverse traces of which are straight, and the longitudinal traces of which are curved for a distance from the points of the legs and are
10 straight throughout a greater length and stand aslant from the tip of the outer faces of the legs to the inner face of the loop or head of the staple.

3. A staple the legs of which are each
15 flattened on the inner face and rounded on the other, the flattened faces extending throughout the greater portion of said legs and being oblique to the axis of the staple; the transverse traces of said faces being
20 straight, the longitudinal traces being curved at the tips and straight throughout the greater length between the tips and the loop of the staple.

4. A staple having a loop and two legs, said legs having substantially rounded outer
25 faces relatively parallel throughout their length, and flattened inner faces lying in angularly disposed planes that are normal to the plane in which the legs extend, the angle increasing near the tips of the legs. 30

5. A staple having a loop and two legs, the outer surfaces of the loop and legs being a continuous convex cylindrical face, and the inner faces of the legs lying in transverse planes obliquely disposed with reference to the axis of the staple and converging
35 toward the loop and increasingly diverging adjacent the tips.

In testimony whereof, I have hereunto set my hand at Orange, California, this 21st
40 day of October, 1909.

CHARLES LAFAYETTE COLUMBIA.

In presence of—

A. H. SMALL,
H. S. HUFF.