(No Model.)

S. FROST.

STAPLE.

No. 274,481. Patented Mar. 27, 1883.

Fig. 1.

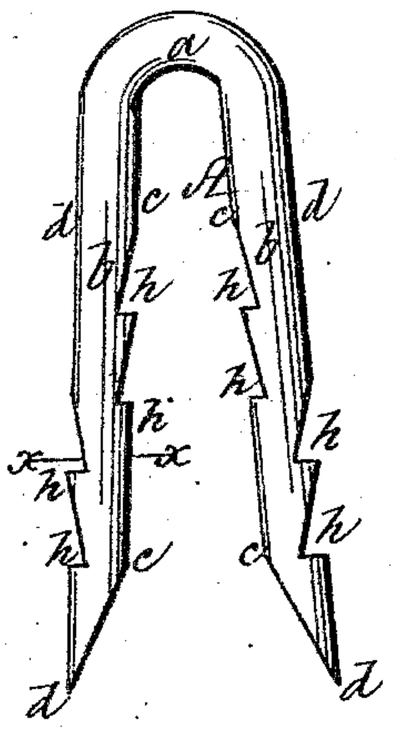


Fig. 2

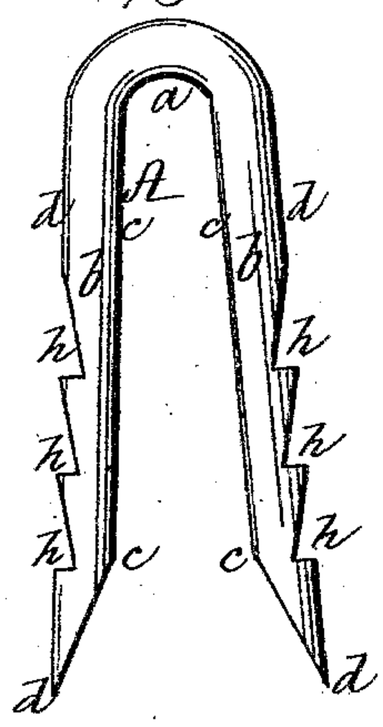


Fig. 3.

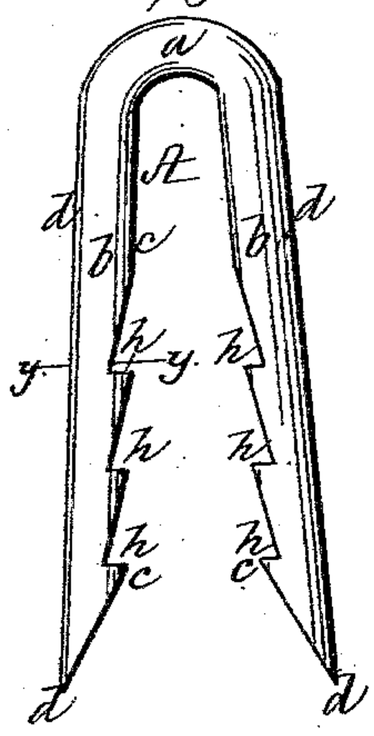


Fig. 4.

Fig. 5.

Fig. 7.

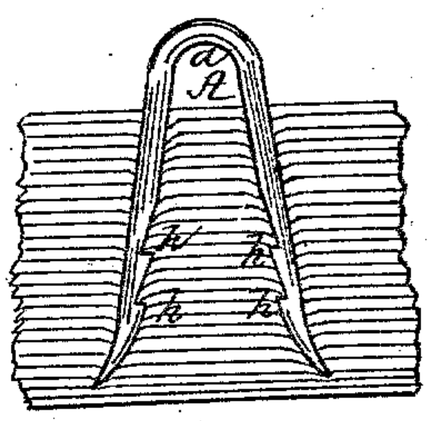
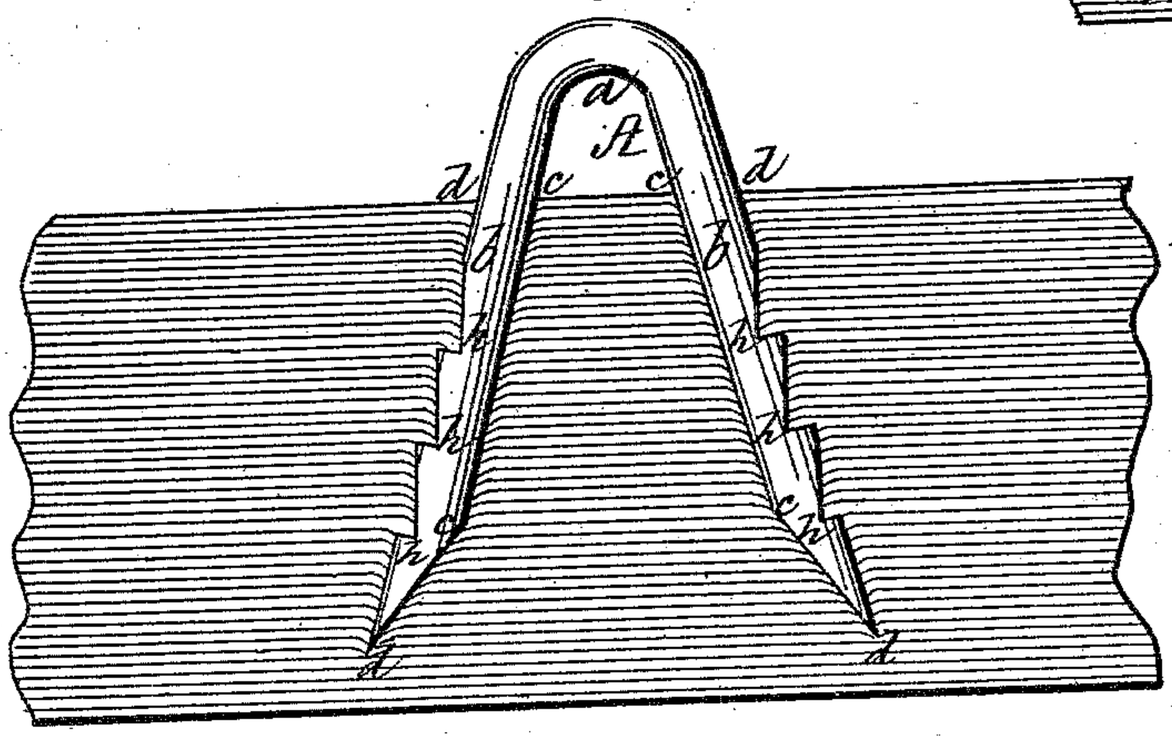


Fig. 6.



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UNITED STATES PATENT OFFICE.

STILES FROST, OF BOSTON, MASSACHUSETTS.

STAPLE.

SPECIFICATION forming part of Letters Patent No. 274,481, dated March 27, 1883.

Application filed November 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, STILES FROST, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Staples, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figures 1, 2, and 3 represent staples constructed in accordance with my invention. Fig. 4 is a section on the line *x x* of Fig. 1. Fig. 5 is a section on the line *y y* of Fig. 3. Figs. 6 and 7 show the position given to two of my improved staples when driven into a piece of wood.

To provide a staple of such form as will endow it with the ability of tenaciously holding its place (without clinching) in the wood-work in which it is driven, by increasing its resistance to withdrawal, is the object of my present invention, which consists in a staple having the bottom of each of its legs beveled to a point from its inside down to its outside, in combination with one or more notches formed on the inside or outside, or both inside and outside, of the portion of each leg which enters the wood, the said beveling outwardly of the bottoms of the legs insuring the spreading apart of the same, and the notches increasing the amount of surface of the legs in contact with the wood, and offering greater resistance to its fibers when the staple is withdrawn, and practically locking it in its desired position.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings is represented a rod of wire bent at its middle to form a staple, A, having either a curved or flat loop or head, *a*, as desired. The lower ends or bottoms of the parallel legs *b b* are beveled on their inner sides, *c c*, in an outward and downward direction from *c* to *d*, leaving the outer line, *d*, of each leg unchanged—*i. e.*, continuously straight or unbroken from its point, *d*, to where it unites with the looped portion or head *a*—the legs of a staple so formed when driven into a piece of wood-work entering it readily and parting its fibers or grain with a wedge-like action, said legs separating from each other in the plane passing through their centers, (see Fig. 6,) which enables the staple to oppose greater resistance to its withdrawal than were the bottoms of the legs of the ordinary construction—*i. e.*, simply terminating at points centrally located or beveled uniformly downward from all points of their peripheries.

To still further increase the ability of the staple to resist withdrawal, I provide the portion of each leg which enters the wood with one or more square notches or shoulders, *h*, either on the inside *c* and outside *d*, as shown in Fig. 1, or on the outside *d* only, Fig. 2, or on the inside *c* only, Fig. 3, by which construction the grain or fibers of the wood are divided and crowded to each side as the legs enter, after which the fibers close in and around the notches *h*, (see Figs. 6 and 7,) thus firmly embedding the legs of the staple and causing it to tenaciously hold its position against unusual force employed to withdraw it, the combined features—*i. e.*, the beveling outwardly of the inner sides of the bottoms of the legs and the notches located between them and the loops or head *a*—creating a bond between the staple and wood so tenacious that the former cannot be withdrawn so long as the cohesion of the surrounding fibers of the wood remains unbroken. Where the diameter of the staple wire or rod is small and the wood hard, the beveled points of the staple, when driven thereinto, curve, as seen in Fig. 7.

I claim—

As a new article of manufacture, a staple, A, having the inside *c* of the bottom of each leg *b* beveled downward and outward from *c* to a point, *d*, and the portion of each leg which is to enter the wood provided with one or more notches or shoulders, *h*, on its outside *d* and inside *c*, or on either its outside or inside only, in order to enable the legs of the staple to separate from each other in the plane passing through their centers, and to afford an increased amount of fiber-resisting surface to oppose the force which is applied to withdraw it, substantially as described.

Witness my hand this 8th day of November, 1882.

STILES FROST.

In presence of—
GEO. R. TABER,
EDWD. F. DOLE.