

B. F. STURTEVANT.
Rod for Sole-Fastenings.

No. 162,972.

Patented May 4, 1875.

a



b



c



a



b



c



d

Witnesses.
L. de Lortines.
W. Pratt.

Inventor.
Benjamin F. Sturtevant
PER *Lowry Gregory* Attys

UNITED STATES PATENT OFFICE.

BENJAMIN F. STURTEVANT, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN RODS FOR SOLE-FASTENINGS.

Specification forming part of Letters Patent No. 162,972, dated May 4, 1875; application filed March 17, 1875.

To all whom it may concern:

Be it known that I, BENJAMIN F. STURTEVANT, of Boston, in the county of Suffolk and State of Massachusetts, have invented Rods for Sole-Fastenings, of which the following is a specification:

This invention relates to rods for the manufacture of sole-fastenings; and consists of strips or rods of ligneous material, with cross-sectional size adapted to form sole-fastenings, and of indefinite length, produced from strips or rods of considerably greater cross-sectional size by means of heat and compression, the heat causing the wood to set or to retain quite or nearly the size given by compression until moisture is absorbed by the wood, said compressed strips or rods being peculiarly adapted to form the weft of webs of sole-fastening material described in applications for Letters Patent heretofore made by me, or to be used in its wire-like form in machines designed to fasten soles with material having such form, or to be used when cut into single pegs, as pegs are commonly manipulated by hand workmen.

The drawing represents side and end views of three classes of rods for sole-fastenings.

Rods *a* are square, rods *b* are round, rods *c* are octagonal, and at *d* is shown the end of an oval rod. These rods are cut from wood in long strips, and considerably larger than the size of the sole-fastening it is desired to make.

I show one method of cutting a piece of wood into thin strips in an application filed concurrently with this, where saws are used to divide the wood into strips.

When cut into strips, the strips pass between heated pressure or compressing rollers, resting in annular grooves in these rollers, the grooves being smaller than the size of the strip; and these grooves are made of a shape to correspond with the shape of the rod or peg or sole-fastening to be made, and a number of these grooves may be placed side by side in these compressing-rollers, to reduce the substance of the strips more and more at each passage between the rollers.

There is always a little moisture in the wood or ligneous fiber, and, on passing between the heated rollers, which are also caused to bear with much force against the wood, the moist-

ure in the wood is, by the heat, converted into steam, the glutinous material in the wood is started, the wood is a little softened at first by the action of the heat, and the pressure to which the wood is subjected compresses the fibers of the wood closely together, reducing the size of the strips; and when so compressed and finally dried by the action of the heated rollers, the fiber or substance of the rods is set or held compacted, and the rods so finished will remain in their compressed condition until by moisture they are swollen. These rods so compressed, and usually in long lengths, are to be cut up into lengths suitable to form the wefts of fabrics described in applications heretofore made by me for United States Patents for sole-fastening webs; and when woven into a web, these rods will be severed into strips in the direction of the length of the woven fabric, and of a width equal to the length of the peg which it is desired to produce. These pegs, when driven into the leather or substance of the sole and moistened, will swell, and resume substantially their size before they were compressed, and in this way it is possible to get very much more wood than ordinary in a peg-hole of given size, and the result will be better work, or work more securely held together. These rods, instead of being woven into fabrics as weft, might be used as wires are used in pegging-machines; and then, to point pegs cut from such rods, I may employ any of the devices heretofore described in other patents granted me.

I do not desire to limit myself to any particular class of wood; but the woods I prefer to use are those of which pegs are now commonly made. These rods are very hard and rigid, the heated rolls hardening them and smoothing their surfaces to a great degree, and pegs cut from these rods, either separately or as a web, are very stiff, and will drive with certainty without crippling. These rods are herein described as being compressed by the action of heated rollers; but it is evident that other forms of compressing devices might be used—as, for instance, jaws.

I do not desire to limit myself to any particular degree of compression to be given to the wood, as that will depend altogether on

the class of wood being used, some woods being capable of more compression than others.

I claim—

As a new article of manufacture, peg-sized, consolidated, hot-pressed rods of ligneous material, of several pegs' length, hardened and adapted to form weft of sole-fastening webs, and separate pegs, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJ. F. STURTEVANT.

Witnesses:

G. W. GREGORY,
S. B. KIDDER.