E. H. HOTCHKISS.

STAPLE STRIP.

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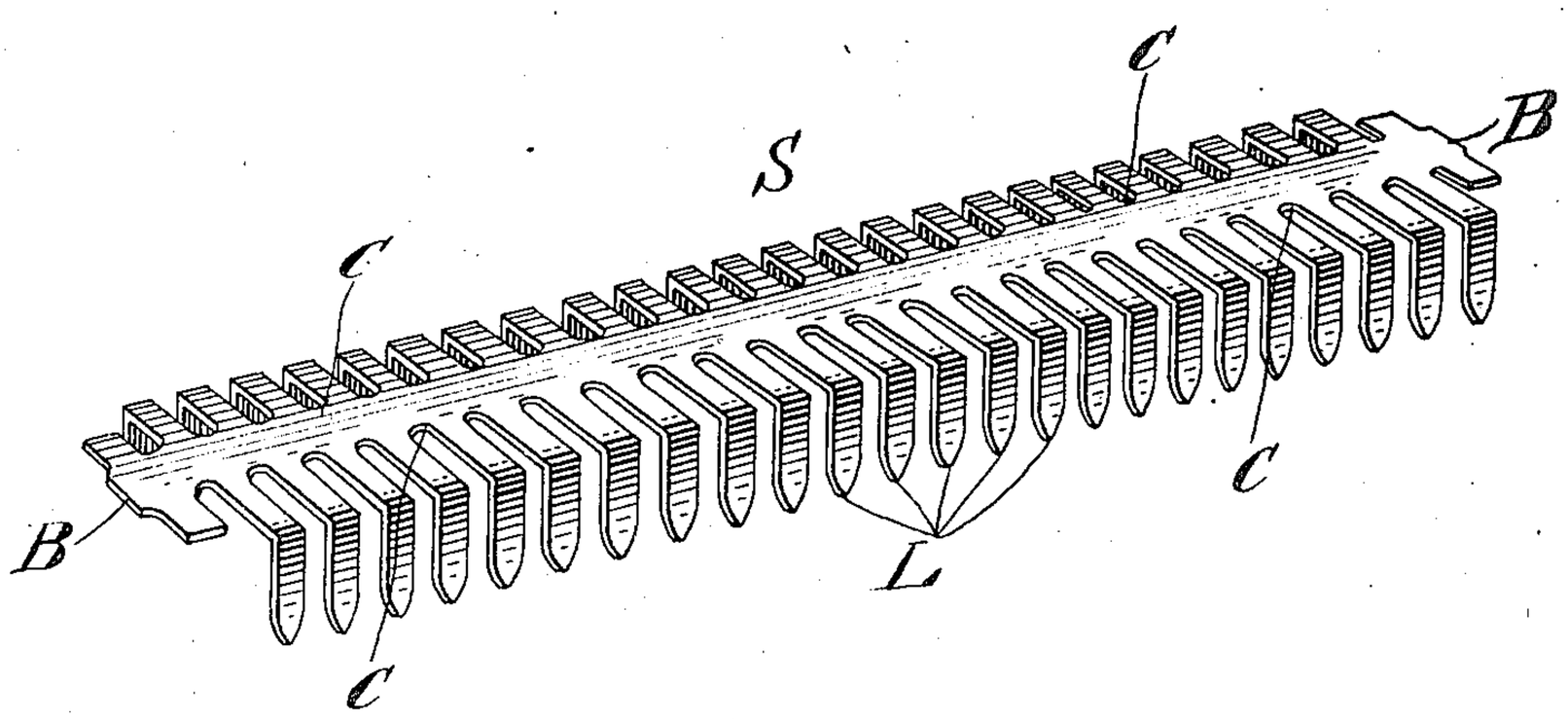
995,677.

Patented June 20, 1911.



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STAPLE-STRIP.

995,677. Specification of Letters Patent. Patented June 20, 1911.

Application filed March 17, 1911. Serial No. 614,996.

To all whom it may concern:

Be it known that I, ELI HUBBELL HOTCHKISS, a citizen of the United States, and resident of New York city, borough of Manhattan, county and State of New York, have made a new and useful Invention in Staple-Strips, of which the following is a specification.

My invention is directed particularly to an improvement in staple strips like those disclosed in U. S. Patent to Washington I. Ludlow, numbered 450,246 and bearing date of April 14th, 1891, and particularly to strips of this general nature such as are used with a stapling machine patented to Edwin T. Greenfield on the 1st day of December, 1896 and numbered 572,293. The staple strips used with the before-mentioned machine and now largely in public use throughout the world differ slightly from those disclosed in the before-mentioned patent to Ludlow, in that the staples are more or less widely separated and held together by a narrow centrally located back-bone, each staple being cut by the severing plunger of the machine as the same is forced downward under a blow by the hand.

It has been found in actual practice in the use of the before-mentioned machine that the last staple often clogs the outlet as it drops downward toward the material to be bound thereby, because the legs or teeth turn rearwardly into the grooves on opposite sides of the supporting guide-way, as said staple drops when it reaches the end of said guide-way. The last staple is, therefore, wasted and when it clogs the outlet necessarily occasions the user great annoyance. An additional patent was granted to the before-mentioned Edwin T. Greenfield, under date of October 12th 1909 and numbered 936,996, which patent embraces, among other features, means for holding the last staple yieldingly in the outlet or channel so that it could not possibly clog the machine, and also that it mig' t be utilized.

My improvement consists in providing a staple strip of the type referred to with an extension, preferably of T-head form, at each end thereof, and will be understood by referring to the accompanying drawing which illustrates in perspective view my improved strip and in which S represents the staple strip as a whole the same being identical in all respects with the staple strip now generally in public use in connection with the before-mentioned Greenfield stapling machine throughout the world. This strip is provided at its opposite ends with my novel extensions which are shown preferably as of T-head form and indicated by the letters B, B, L representing the legs of the individual staples and C the back bone thereof by which such staples are connected together. These extensions B, B are necessarily each of a length greater than the individual width of either one of the staples themselves, of which they—the extensions—constitute in each instance an integral part and lie substantially in the same plane with the staple backs. The staples S, as is obvious on inspection of the drawing, are all absolute duplicates of each other, the backs thereof being of the same length and width and all separated from each other by equal spaces due to the equal interconnecting parts of the back bone C so that the pawl feed mechanism with which they are used may act effectively without jamming or choking.

In using this novel form of strip it is simply slipped into position in the guide-way of the Greenfield stapling machine, as disclosed in Patent No. 572,293 of Dec. 1st, 1896, until the extension B at the incoming end comes into contact with the "checking or holding means for preventing the forward movement of the completed strip of staples." Said strip is then locked in position in the same manner as dislosed in said patent, and it is ready for use. The first operation of the user of the machine cuts off the extension of the ingoing end of the strip and the second operation, severs, drives and clenches the first staple. The staples are then successively cut, driven and clenched in the well known manner and the last extension B, being of a length greater than the width of the staple to which it is attached, acts to feed this staple forward under the influence of the feeding pawls and also holds said staple in position for cutting and driving at the next downward action of the plunger. When this staple is cut and driven and the next staple strip is forced into position the incoming extension on the end of the new strip being inserted forces the last extension outward and it is allowed to drop unimpeded out of the machine. This improvement, therefore, prevents any possibility of choking the machine and also assures the fact that every staple of the staple strip will be used.

The extensions B are preferably of T-head form or construction as shown and of a width approximating the width of the backs of the staples and are the same distance from the adjoining staples that said staples are separated from each other in order that the feeding mechanism may act upon either of them as it acts upon the staples in the before-mentioned Greenfield machines.

I do not limit my invention to the use of extensions at both ends of the strip as obviously such an extension might be used at one end only, provided the staple strip is inserted with the extension located on the rear end only, so that it will act in the manner described and, in this instance, cut and drive the first staple at the first operation. I prefer, however, the duplicate form of extensions for preventing any possibility of wrongfully inserting the staple strip, as might often be carelessly done, if one extension only were used. I do not limit myself to the specific form of extension shown and described, but prefer such form because the same is identical in its outline with the backs of the staples and is, therefore, particularly well adapted to feed the staple strip forward the same distance and under the same conditions as the backs of the staples themselves are utilized for receiving the pawl action of the feeding mechanism.

Having thus described my invention what I claim and desire to secure by Letters Patent of the United States is—

1. As an article of manufacture a staple strip embracing a plurality of staples integrally interconnected, said strip being provided with an extension at one end which is of greater length than the width of the staple to which it is directly attached and located in the plane of the backs of the staples, substantially as described.

2. As an article of manufacture a staple strip embracing a plurality of staples integrally connected together and provided with extensions at its opposite ends each of which is of greater length than the width of the staple to which it is attached, both of said extensions lying in the plane of the backs of the staples, substantially as described.

3. As an article of manufacture a staple strip embracing a plurality of staples integrally connected together and provided at one end with an extension of T-head form, said extension lying in the plane of the backs of the staples, substantially as described.

4. As an article of manufacture a staple strip embracing a plurality of staples integrally connected together and provided at its opposite ends with extensions of T-head form, said extensions lying in the plane of the backs of the staples, substantially as described.

5. As an article of manufacture a staple strip embracing a plurality of staples integrally connected together and separated by equal spaces, one of the end staples being provided with an extension of T-head form, the space between the head of the extension and its interconnected staple being the same as the like spaces between the staples, substantially as described.

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

ELI HUBBELL HOTCHKISS.

Witnesses:

C. J. KINTNER,

M. F. KEATING.