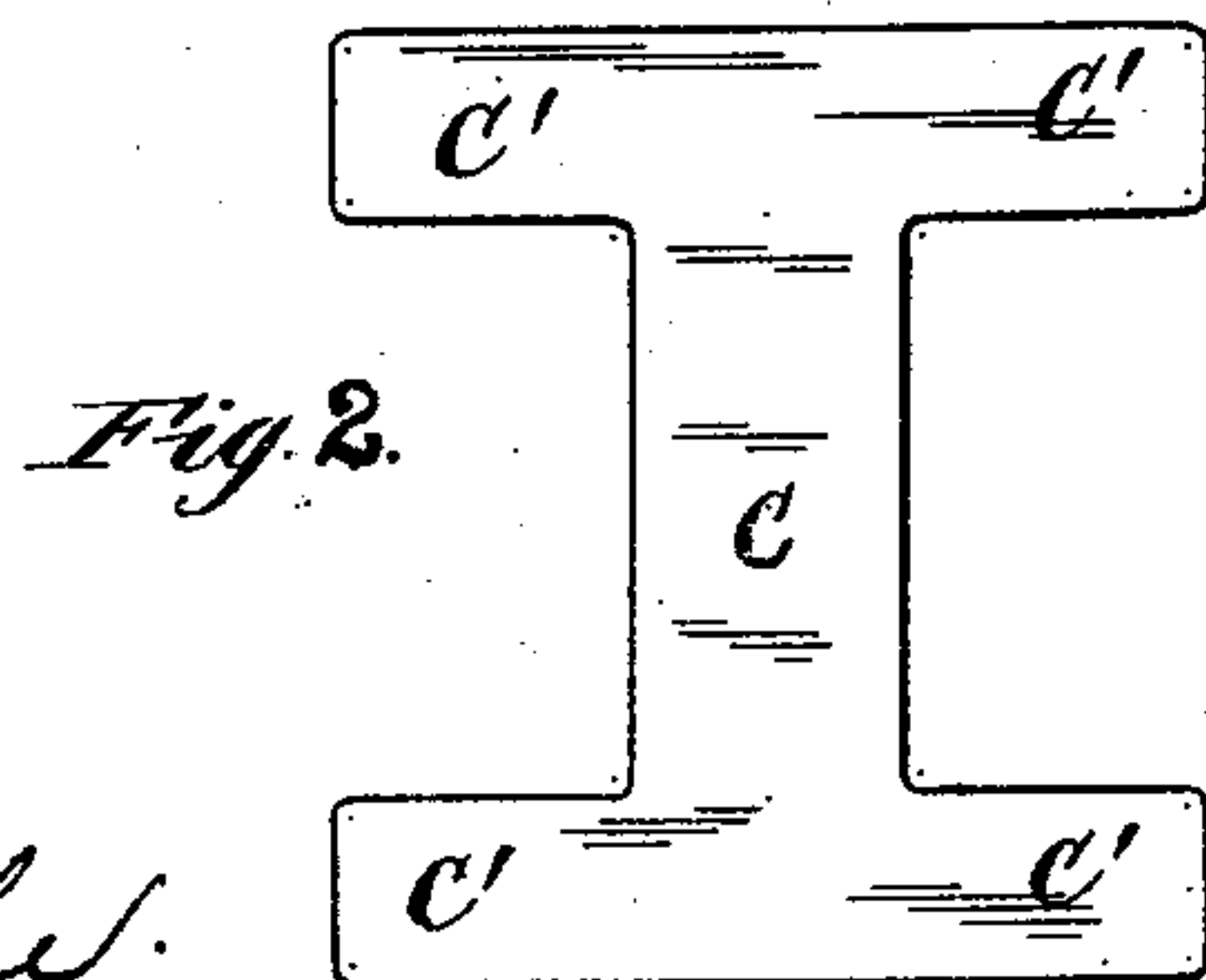
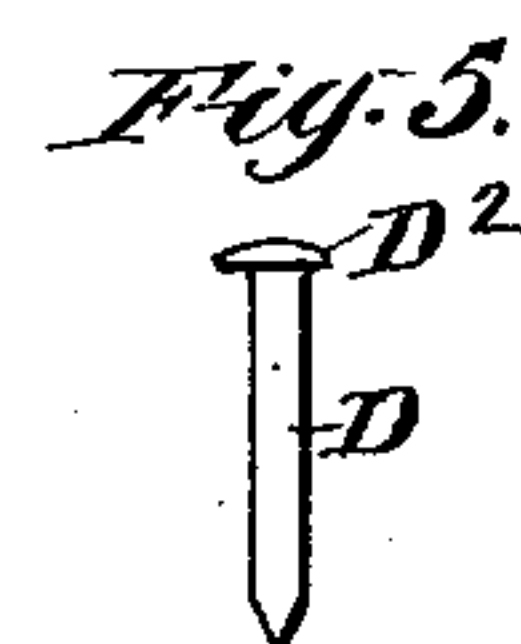
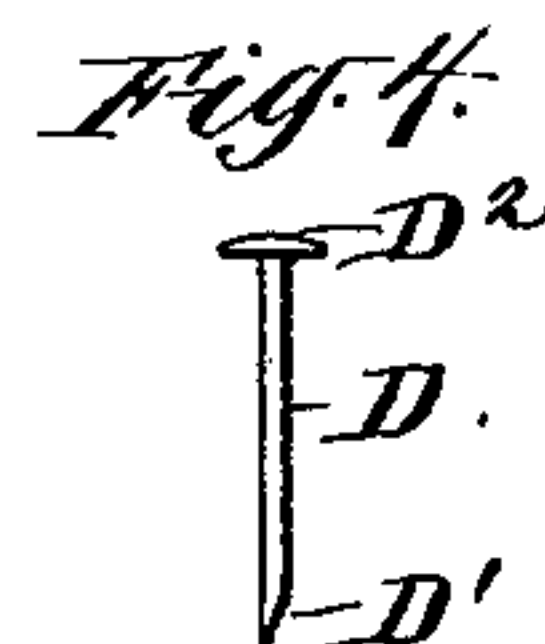
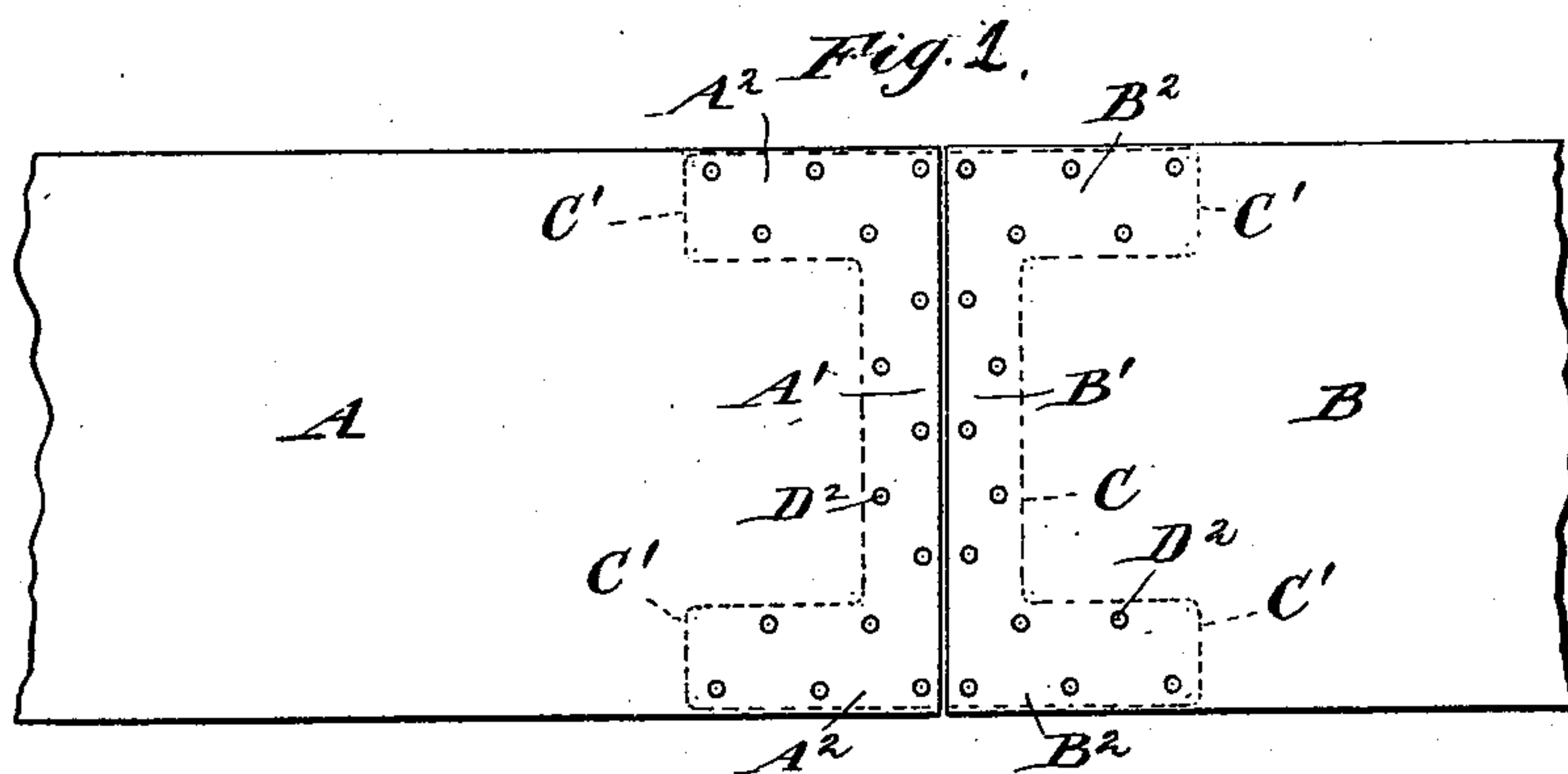
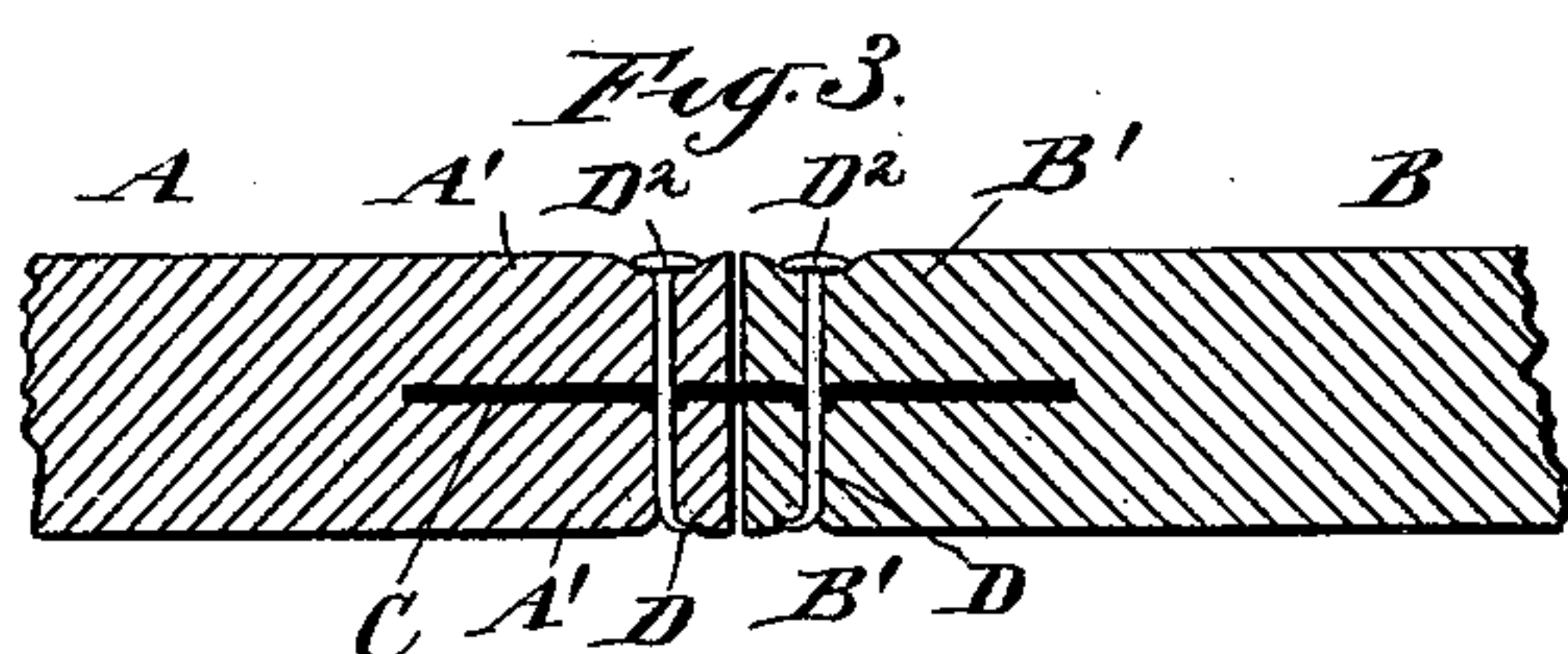


(No Model.)

C. E. NELLIS.
BELT FASTENER.

No. 562,149.

Patented June 16, 1896.



Witnesses:
Chas. E. Searle.
Wm. D. Chapin

Inventor:
Charles E. Nellis,
by his attorney,
Charles R. Searle.

UNITED STATES PATENT OFFICE.

CHARLES E. NELLIS, OF WAKEFIELD, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO HIMSELF AND WILLIAM D. CHAPIN, OF SAME PLACE, AND HIRAM EUGENE OGG, OF BROOKLYN, NEW YORK.

BELT-FASTENER.

SPECIFICATION forming part of Letters Patent No. 562,149, dated June 16, 1896.

Application filed July 25, 1895. Serial No. 557,086. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. NELLIS, a citizen of the United States, residing at Wakefield, in the county of Westchester and State of New York, have invented a certain new and useful Improvement in Belt-Fasteners, of which the following is a specification.

My invention relates to certain new and useful improvements in belt-fasteners of that class in which the belt ends are joined by means of a plate or plates held in slits in the abutting ends and secured to the latter. Heretofore it has been proposed to so join the belt ends by plates of steel or other hard metal in which are formed holes for the reception of the rivets employed for holding the plate or plates to the belt ends. In applying these plates the rivets must pass through these holes, and it is a difficult matter to determine just where these openings shall be found after the plate is in the slits in the ends of the belt-sections, so that the rivets may be passed therethrough. Furthermore, the rivets are usually made a little smaller than the holes, so that they not only do not have a bearing within the walls of the openings but there is left a slight play or movement of the plate, which is objectionable, as it soon wears and allows of undue movement of the belt ends with relation to the plate. I obviate these objectionable features by constructing the plate of some easily-punctured metal or material—such, for instance, as copper—which does not require any previously-formed holes for the passage of the securing means, and, further, when the tacks or other securing means are inserted they form burs on the plate, which will be embedded in the leather and serve to prevent movement of the plate, which holding of the plate against movement with relation to the belt ends is aided by the firm contact of the tacks at all points with the walls of the openings which they form in their passage through the plate. In the case of the **H**-shaped plate which is employed it will serve to permit of twisting or distortion of the belt as in placing the same upon the pulley without injury thereto and still form a wide and extended

connection and reinforcement at the edges of the belt.

The accompanying drawings form a part of this specification and represent the invention.

Figure 1 is a face view of the two ends of a belt joined according to my invention. Fig. 2 is a face view of the strip alone. Fig. 3 is a longitudinal section across the joint on a larger scale. Fig. 4 is an edge view of one of the tacks, and Fig. 5 is a corresponding view at right angles to Fig. 4.

Similar letters of reference indicate corresponding parts in all the figures.

A and B represent the ends of a belt, the transverse adjacent edges of which are cut squarely across and split inward a little distance by slitting along a line at the mid-thickness with a suitable knife to form flaps A' B'.

C is the strip or plate cut in the form of a letter **H** and is particularly well adapted for service on belts which have been long in use and are worn at their outer edges. It is of some easily-punctured material, such as copper. The corners are taken off to avoid harshness in handling and the cutting action liable in traversing the pulleys. This strip is inserted between the flaps A' B' at the ends of the belt and is secured in place by tacks D having beveled points D' driven from the outside through the material of the belt and the intermediate strip C across both belt ends, the said tacks being placed so as to be driven against any suitable clenching plate or anvil beneath, the beveled points of the tacks insuring that they shall, on striking the anvil, curl in the direction of the bevel. The tacks should be driven home until the upper surfaces of the broad flat heads D² are slightly embedded or lie flush with the upper surface or face of the belt and the points hidden in the under face, as seen in Fig. 3.

The wings C' C' are fitted into corresponding slits cut in the outer edges of the belt and joining the cross-cut, forming side flaps A² B², the tacks being driven through these flaps and the wings C' in the same manner as before described in connection with the cross portion

of the strip and aid in strengthening the outer portions of the belt adjacent to the joint and increase the surface over which the strain is distributed.

5 As the tacks are driven through the plate or strip C, they form burs, as seen in Fig. 3, which embed themselves in the material of the belt and prevent movement of the plate or strip C with relation to the belt ends.

10 It is unnecessary to previously prepare holes in either the belt ends or strip, as both are easily punctured by the point of the tack, and the bur formed by its passage through the copper on the under surface is forced into the lower flap and adds to the strength of the fastening.

In cutting the flaps care should be taken to split the belt as nearly as practicable in the exact mid-thickness and of uniform depth to correspond to the width of the strip and wings, so that the cut may be completely filled by the latter.

20 A number of tacks, depending on the width and thickness of the belt, should be driven close to the line formed by the abutting edges to hold the latter down and insure a smooth surface. This is particularly important at the corners. Other tacks may be driven at other points in the surface as the strength required may indicate.

30 I attach importance to the fact that the tacks may be driven at any point in the material of the belt and inclosed strip without requiring careful fitting or marking to determine those points, as is the case when the material of the strip is hard and previously-prepared holes are provided, through which the tacks or rivets must pass. In the latter method

the strain is liable to be entirely sustained by those tacks only which match to the holes in exactly the right position. 40

By my invention the strain is distributed among all the tacks, insuring an equal pull at all portions of the width of the belt.

Modifications may be made in the forms and proportions of the parts. Other metals may be employed instead of copper, or thin strips of other materials may be used in some situations, if preferred, it being only necessary that it be of sufficient strength and flexibility and easily punctured by the tacks when the latter are forcibly driven. 50

I claim as my invention—

The combination with the belt ends, of a strip of easily-punctured flexible metal in the form of the letter H held in slits in the abutting edges of said belt ends with the transverse bar lapping the joint and the wings extended parallel with the sides of the belt whereby the belt may be twisted transversely at the joint and, by its resiliency, to assume its normal position, and tacks driven through the belt ends and through the strip, the said tacks having close contact with the walls of the openings which they form in the strip, and the latter formed with burs embedded in the material of the belt to prevent movement of the plate with relation to the belt ends, substantially as shown and described. 60

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses. 70

CHARLES E. NELLIS.

Witnesses:

WM. D. CHAPIN,
LILLIAN CHAPIN.