

(No Model.)

G. P. KENEHAN.
BELT FASTENER.

No. 462,259.

Patented Nov. 3, 1891.

FIG. 1

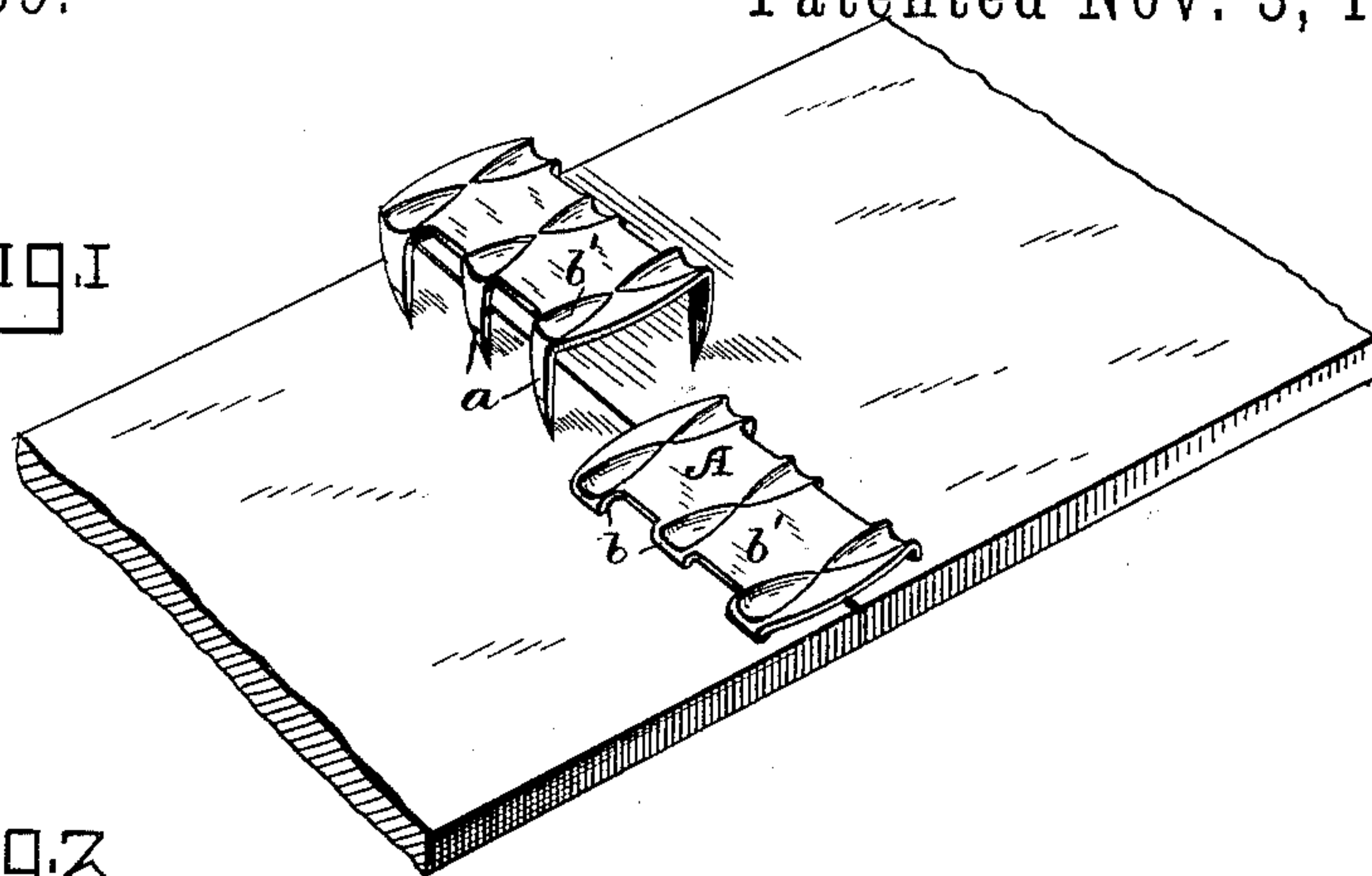


FIG. 2

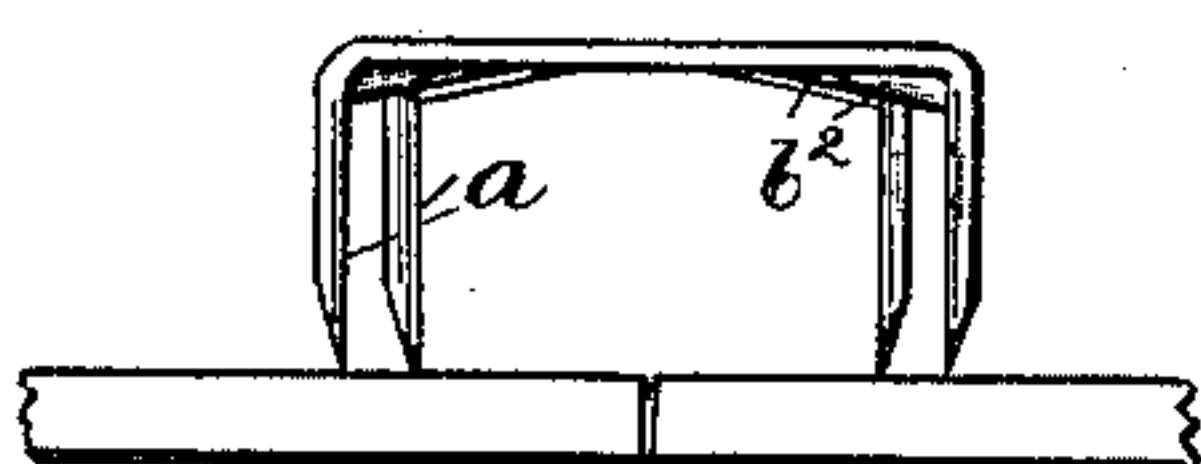


FIG. 4

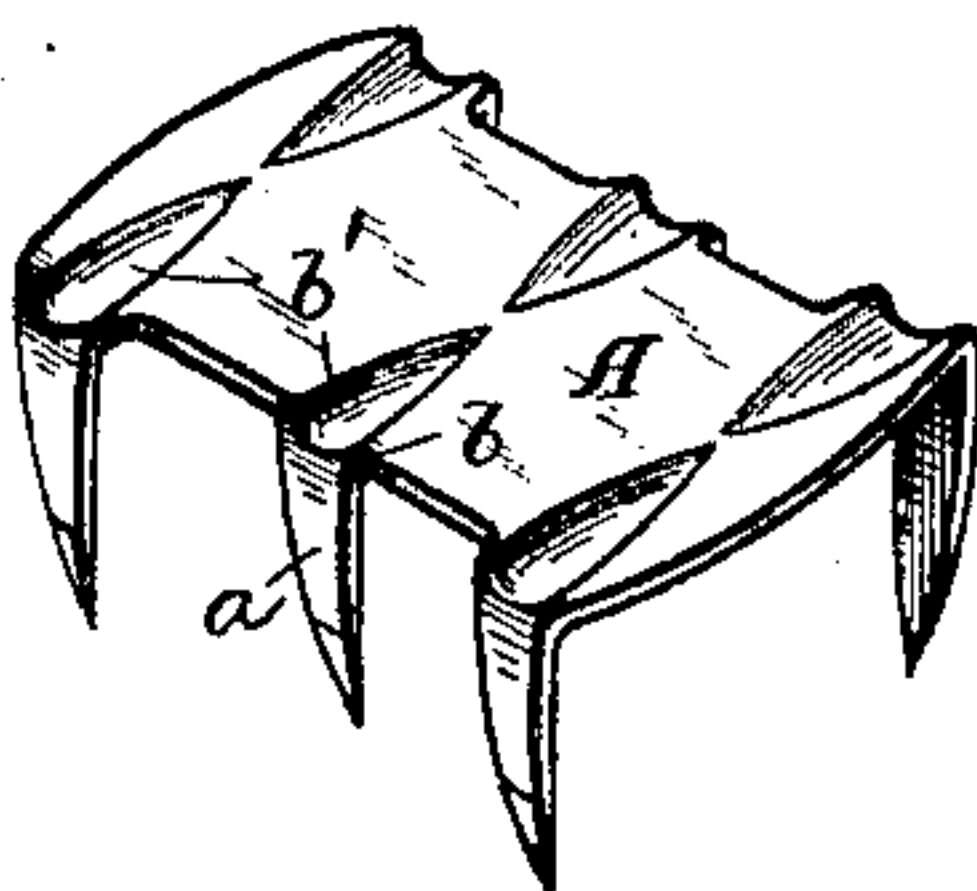


FIG. 3



FIG. 7

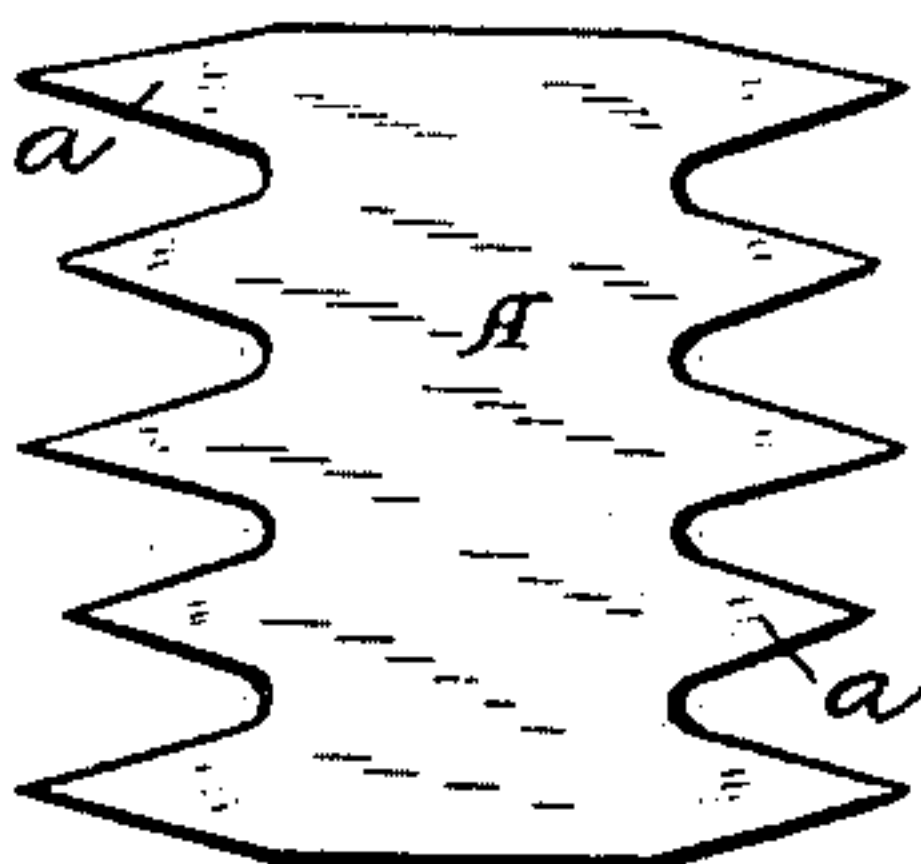


FIG. 5.

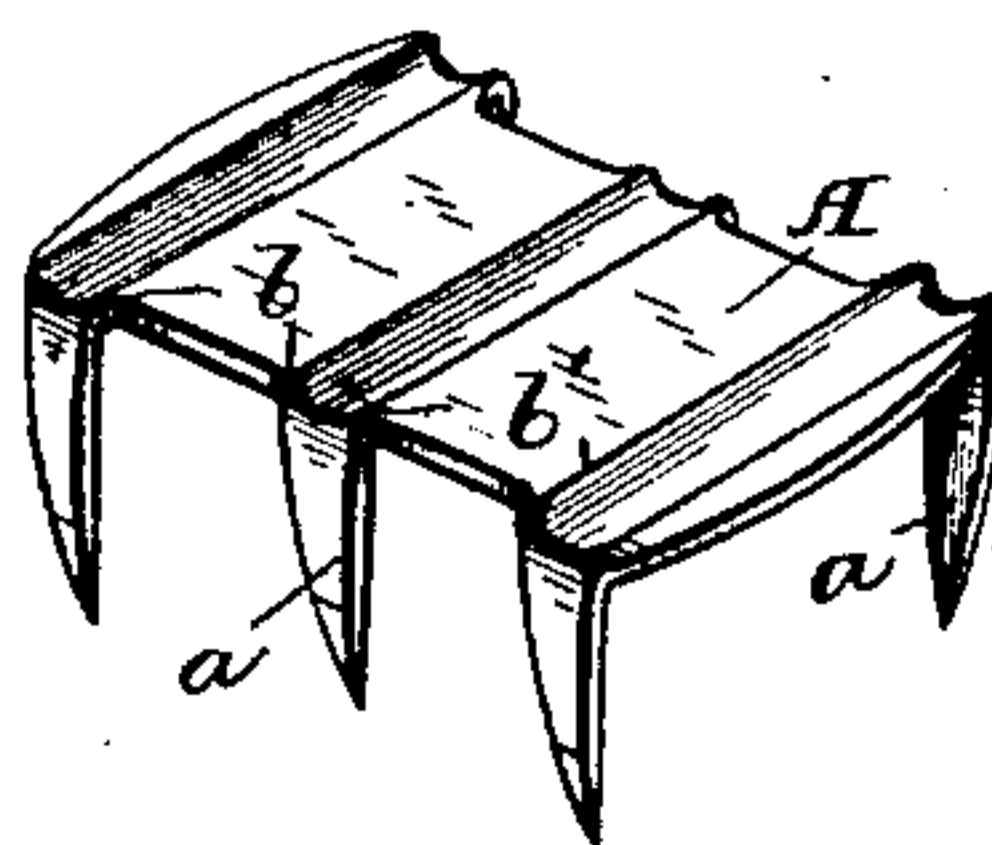
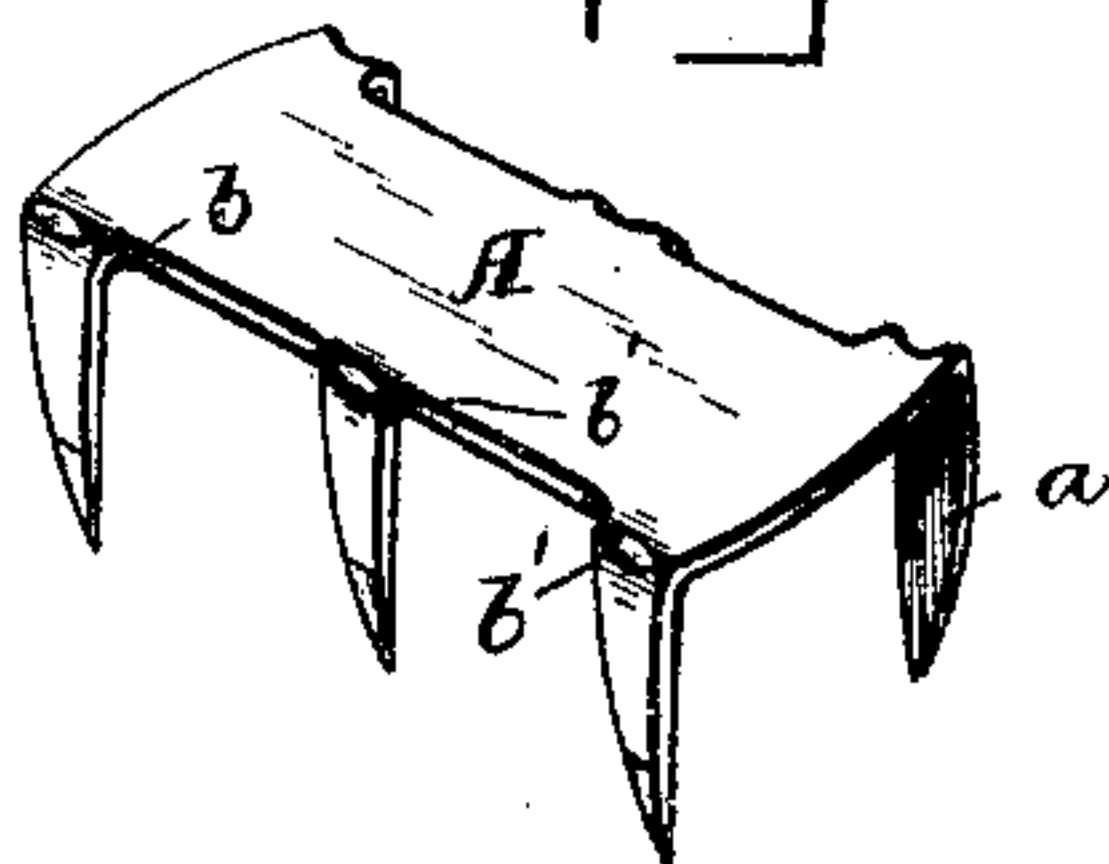


FIG. 6.



WITNESSES:

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INVENTOR

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UNITED STATES PATENT OFFICE.

GILBERT P. KENEHAN, OF CLEVELAND, OHIO, ASSIGNOR TO THE STEEL
BELT FASTENER COMPANY, OF SAME PLACE.

BELT-FASTENER.

SPECIFICATION forming part of Letters Patent No. 462,259, dated November 3, 1891.

Application filed March 16, 1891. Serial No. 385,169. (No model.)

To all whom it may concern:

Be it known that I, GILBERT P. KENEHAN, a citizen of the United States, residing at Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Belt-Fasteners, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle so as to distinguish it from other inventions.

My invention relates to an improved belt-fastener; and it consists in the improvements hereinafter described and claimed.

The annexed drawings and the following description set forth in detail one mechanical form embodying the invention, such detail construction being but one of various mechanical forms in which the principle of the invention may be used.

In such annexed drawings, Figure I is a perspective view of the adjoining ends of the belt to be fastened, showing one fastener inserted in the belt and a second one in position to be inserted. Fig. II is a side view of the two ends of the belt to be joined, showing the belt-fastener in position to be inserted. Fig. III is a longitudinal sectional view of the belt secured by a fastener. Fig. IV is a top perspective view of a belt-fastener. Fig. V, a top perspective view; Fig. VI, a top perspective view of another form of fastener; Fig. VII, a plan view of the blank of still another form of fastener.

My fastener is preferably made of rolled steel, and is composed of a flat body portion A and the struck-up points or teeth a , formed in two rows, struck up from the opposite free edges of the fastener. The teeth are struck up directly from the edge of the body portion of the fastener without having a longitudinal arm or extension intermediate of the point of bending or shoulder b and the body portion, and are thus less liable to be bent or develop weakness than as though formed with said arm portion. By forming said body portion of varying transverse width, as shown, I am enabled to form the teeth directly on the opposite free edges, and yet form them in two rows. To further strengthen the tooth at its point of inception

or shoulder b , I provide a concavo-convex or corrugated formation b' of hollow or depressed shape on its outer side and having a counterpart fillet or convex portion b^2 on its under side. This greatly strengthens and stiffens the tooth by turning the edge of the metal instead of the flat surface to the strain, whereby the better to resist the strain placed upon them by the belt. This corrugation or concavo-convex formation is made in line with the longitudinal extension of the tooth, but does not run down into the tooth—that is, the line of deepest depression is in the same direction as the length of the tooth. The corrugated shoulder may be said in all the forms to touch upon or extend into the body of the fastener past the angle of bending of the tooth, so that the junction of tooth and body is stiffened and strengthened. It may, indeed, extend upward and backward into the body portion of the fastener, as shown in Fig. IV, and may extend entirely across the back of the fastener, as shown in Fig. V, and thereby greatly increase the rigidity, strength, and power of resistance of said fastener both of body portion and also the base of the teeth under strain. A counterpart fillet or convex portion is formed on the under side of the depressed or concavo portion noted above, which fillet becomes embedded in the belt to further increase the holding power or grip of the fastener on the belt. The front face of each tooth is substantially of flat formation, while the rear face is of an elliptical or curved surface. By this means additional strength is imparted to the teeth without making them of too great cross-sectional area to easily be driven into the belt, while the flat outer face being flat makes a smooth face to run over the pulley. Each tooth is at its lower extremity chamfered from the outer flat surface toward its inner lower extremity. The angle of chamfer is of about the degree shown in Fig. II and so regulated as to cause the ends of the belt to be drawn together as the fastener is driven into position in the belt.

Fasteners constructed with teeth, as above described, are self-clinchers—that is, when the under side of the belt is placed against any hard substance which the chamfered extremity of the fasteners contact with they are

thereby turned and re-enter the belt, as shown in Fig. III, and effectually clinch, grip, and embed their lower extremities in the belt without further care on the part of the one
5 who is inserting the fastener.

By the formation of fastener as above described I am enabled to produce fasteners at a very low cost and of a rigidity so great and a grip so tenacious as to fully comply with
10 the most severe practical tests that can be brought to bear on them. The concavo-convex corrugated or arched formation insures such rigidity in the shoulder portion or in-
ceptive portion of the tooth, where the great-
15 est strain is liable to occur, that a much lighter and thinner plate may be used in the formation of the fastener than can be utilized in any other formation, thereby insuring
lightness, cheapness, and durability, and the
20 fastener itself, it will readily be seen, so embeds itself in the belt and lies in such close juxtaposition that the belt and fastener show but little increased thickness over the belt

itself, and no impediment is presented to the belt passing over its pulley or wheel. 25

I therefore particularly point out and distinctly claim as my invention—

A belt-fastener having a body portion of varying transverse width, whereby the teeth on each edge are formed in two or more rows, 30 and having plain teeth struck up directly from each of the opposite free edges of said body portion, and also provided with corrugated shoulders at the points of intersection of teeth and body portion, said body portion provided 35 with corrugations immediately adjacent to and corresponding with the corrugated shoulders, substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand 40 this 13th day of March, A. D. 1891.

GILBERT P. KENEHAN.

Witnesses:

HORACE F. PARKS,
J. B. FAY.