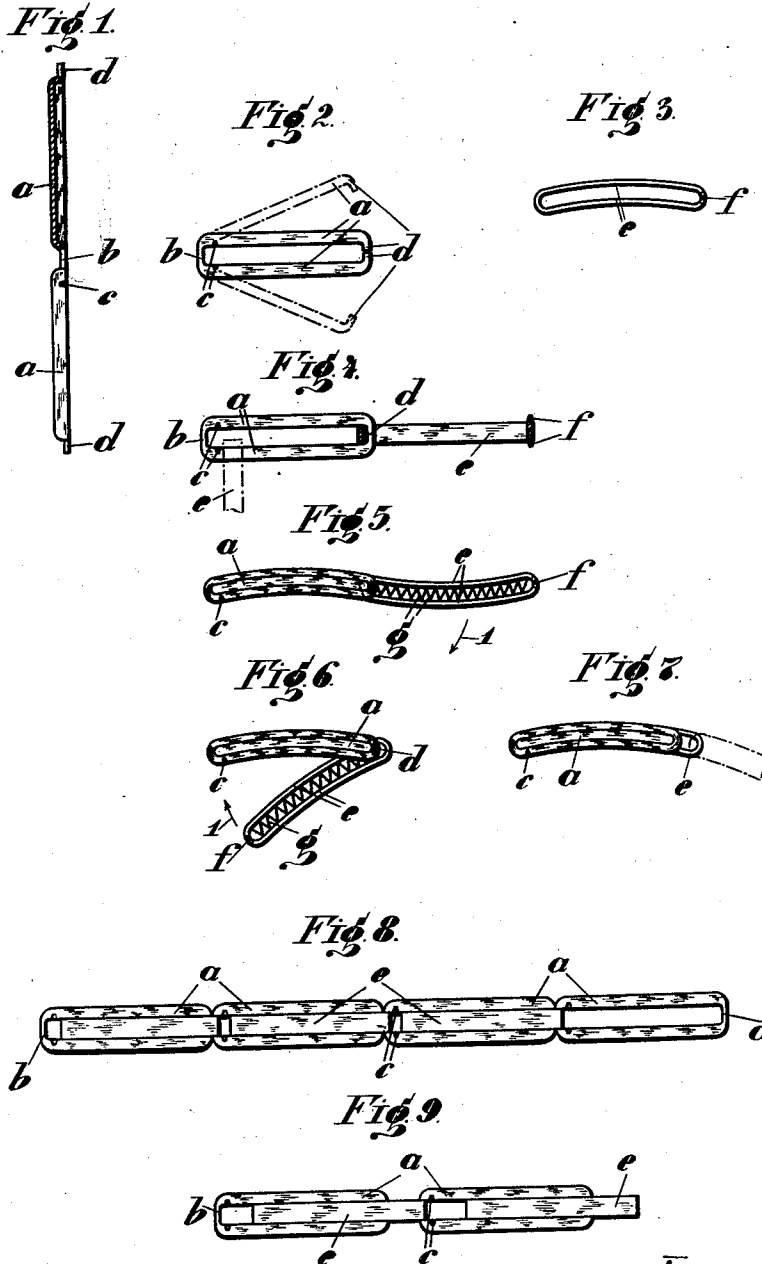


E. BURKHARDT.
MANUFACTURE OF EXTENSIBLE CHAINS.
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1,047,377.

Patented Dec. 17, 1912.



Witnesses:-

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UNITED STATES PATENT OFFICE.

EMIL BURKHARDT, OF PFORZHEIM, GERMANY.

MANUFACTURE OF EXTENSIBLE CHAINS.

1,047,377.

Specification of Letters Patent.

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Application filed July 24, 1912. Serial No. 711,254.

To all whom it may concern:

Be it known that I, EMIL BURKHARDT, a subject of the German Emperor, and residing at Pforzheim, Germany, have invented certain new and useful Improvements in the Manufacture of Extensible Chains, of which the following is a specification.

The present invention has reference to an improved method of making extensible chains, such as are used, for instance, in the manufacture of bracelets composed of a series of concatenated, stretchable links, and the particular object of the invention is to provide means whereby the individual main links can be brazed at their joints prior to the introduction of the springs, so that the elasticity of the latter is not affected by the soldering heat.

In order to make this invention more readily understood, I will now describe it with reference to the accompanying drawing, in which—

Figures 1-7 show various, successive stages of manufacture; Fig. 8 shows a series of interconnected links in ordinary, contracted state; and Fig. 9 shows two such links in partly extended state.

Each link is composed of two members, which I will term hereinafter outer and inner members respectively. The outer member is bent from a suitably stamped and pressed blank *a* (Fig. 1) of two identical halves connected by a reduced bridge *b* and provided at each free end with a short lug *d*. The link halves have a profiled cross-section and are provided near the bridge end with oppositely disposed cut-outs *c*. These blanks are bent to form a link as shown in Fig. 2, the lugs *d* facing or overlapping each other. The inner links are closed in themselves, as shown in Fig. 3, and are provided at one end at both sides with small prongs or teeth *f*. They are hooked into the outer links through the still open lugs *d*, and the latter are then hard soldered together. Next, the inner member is drawn into the fully extended position, shown in Fig. 4 in side elevation and in Fig. 5 in top view, and a helical spring *g* is inserted, and then the member is swung about in the direction of the arrow 1, the soldered bridge serving as a pivot, until the side prongs *f* pass through the cut-outs *c* into the grooved interior of the outer member, when the two

members form a casing for the entirely hidden spring. As the shape of the prongs corresponds to the inner profile of the outer member, and as the inner links are guided also on the brazed bridge, the two members can now move only in the direction of their longitudinal axis relative to one another. Into the projecting end of the inner member is then hooked the succeeding outer member, as shown in broken lines in Fig. 7, and the above described operations are repeated. As soon as such an inner member is linked into the neighboring outer member, it is effectively barred from jumping out of its own main member, as it now cannot recede into the latter far enough for its prongs to pass through the cut-outs again.

The springs tend to ordinarily hold the links in the position shown in Fig. 8, but they readily yield to longitudinal pull on the links, and allow of the inner members sliding within the outer members to the desired extent.

What I claim is:—

The method of making extensible chains which consists in stamping or pressing a blank into the form of two identical halves connected by a bridge and provided at each free end with a short lug, each half being grooved and having oppositely disposed cut-outs upon one side of each grooved portion, making other links having closed ends and provided near one end with prongs or teeth projecting laterally therefrom, bending the first named blank at the bridge portion into U-shape and the lugs thereof inwardly until they nearly abut or overlap, inserting the closed link through the lugs into the space between the grooved portions of the other link, hard soldering the lugs together, drawing the second link into a fully extended position, inserting a helical spring into the second link, swinging the latter about the soldered lugs until the prongs pass through the cut-outs and into the grooved interior of the first link, and similarly making and assembling or connecting other like links, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EMIL BURKHARDT.

Witnesses:

CARL ALT,
PAUL STEINER.