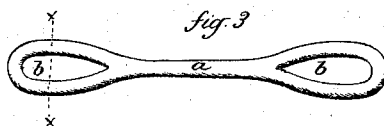
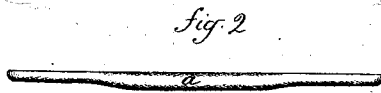
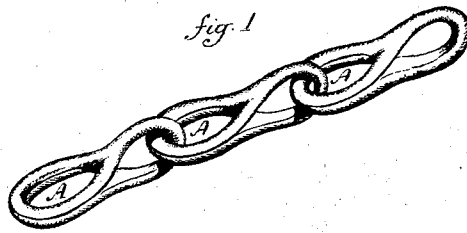


P. BRADFORD.  
Manufacture of Chains.

No. 152,547.

Patented June 30, 1874.



Witnesses.  
*J. H. Humway*  
*A. J. Tibbitts*

*Pennant Bradford*  
Inventor  
By Atty.  
*John F. Earle*

# UNITED STATES PATENT OFFICE.

PURMORT BRADFORD, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO  
SARGENT & CO., OF SAME PLACE.

## IMPROVEMENT IN THE MANUFACTURE OF CHAINS.

Specification forming part of Letters Patent No. **152,547**, dated June 30, 1874; application filed  
May 2, 1874.

*To all whom it may concern:*

Be it known that I, PURMORT BRADFORD, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Chain; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a perspective view, Fig. 2 a side view, and Fig. 3 a top view, of the link before doubling; Fig. 4, a side view doubled; and in Fig. 5, a transverse section of the doubled end.

This invention relates to an improvement in the manufacture of chains, the links of which are round in transverse section; and it consists in a chain-link formed from a blank, the central portion of which is straight and round in transverse section, terminating in an eye at each end, each of said eyes flat upon one side and semicircular upon the reverse side, the link completed by bending at the center, so as to turn the flat side of the two eyes together, they forming one end of the link, and the bend at the center the other end of the link, the completed link being substantially round in transverse section at all points.

The link-blank is shown in Figs. 2 and 3. The central portion, *a*, which is about one-half the length, is round or cylindrical in transverse section. At each end an eye, *b*, is formed, and has the appearance of being made by turning the body back upon itself. These eyes are alike. The same surface of both is made flat, and the reverse half-round or semicylindrical, running gradually into the full cylindrical form of the center portion, as seen in Fig. 2.

This blank may be made by casting, forging, or otherwise; preferably, however, by casting from a ductile or malleable metal. The link is completed by bending the flat side

of one eye over onto the flat side of the other eye, doubling at the center, as seen in Fig. 4, the two eyes coming together as seen in Figs. 4 and 5, to form the complete end A of the link, the bend in the central portion forming the other end, B. This completes the link, which presents a rounded surface throughout, as if made from round wire. A succession of these links is united by passing one end of a second blank through the eye A of the first link, then bending the said second link, as before described, and so continue with each successive blank until the desired length is attained.

Thus I produce a smooth and desirable chain, equal in every respect to a fine welded link, and more perfectly uniform than a welded-link chain can be made.

I do not broadly claim forming a chain-link from sheet metal by punching an eye in each end of a blank, then doubling the blank so that the two eyes form one end, and the center the other end of the link, as such, I am aware, is old.

I claim as my invention—

1. As an article of manufacture, a chain, the links of which are made from blanks the central portion of which is cylindrical in transverse section, terminating at each end in an eye, *b*, which is semi-cylindrical in transverse section, and the link completed by bending the center to form the one end, B, and the two eyes *b b* brought together to form the other end, A, substantially as described, the completed link presenting a rounded surface throughout.

2. The herein-described blank for the manufacture of chain, consisting of the central cylindrical portion terminating in the eyes *b*, each of which is semi-cylindrical in transverse section, and substantially as specified.

PURMORT BRADFORD.

Witnesses:

J. H. SHUMWAY,  
A. J. TIBBITS.