No. 856,947. PATENTED JUNE 11, 1907.

S. K. v. ECSEGHY.

WELDLESS CHAIN.

APPLICATION FILED OCT. 19, 1906.

Fig. 1.

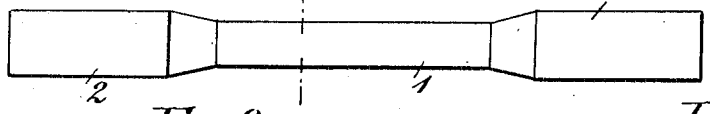


Fig. 2.

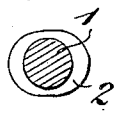


Fig. 3.

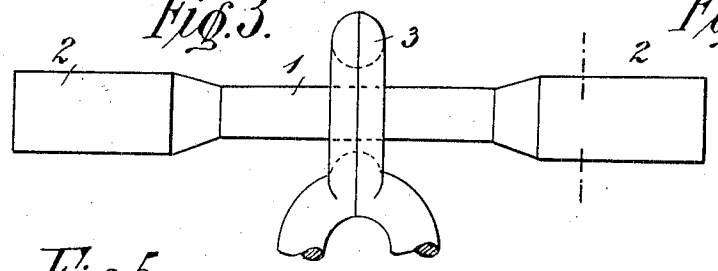


Fig. 4.

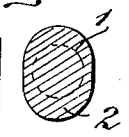


Fig. 5.

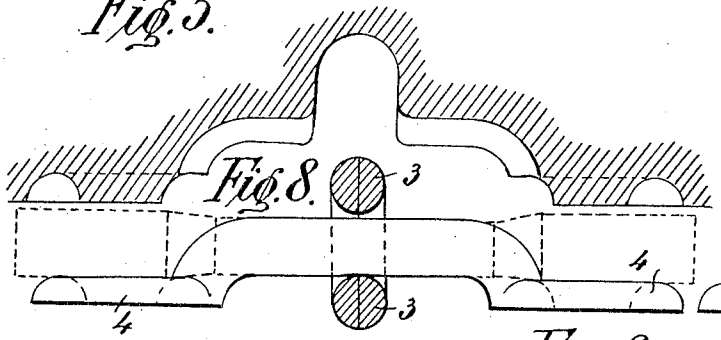


Fig. 9.

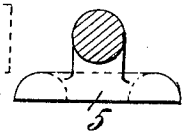


Fig. 8.

Fig. 6.

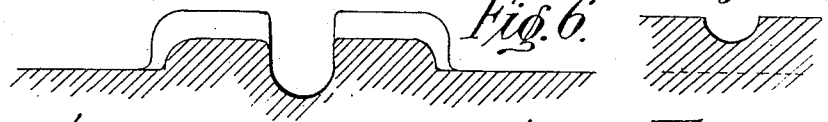


Fig. 10.

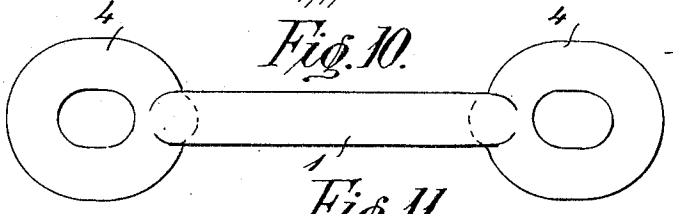
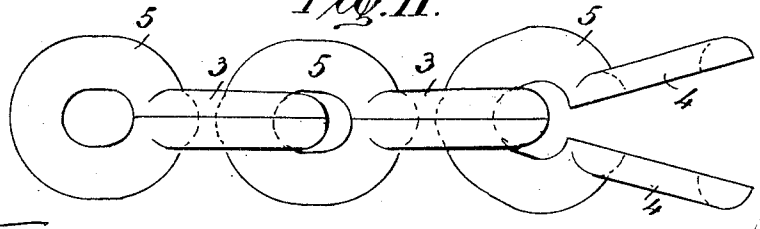


Fig. 7.

Fig. 11.



Witnesses:
Stephen Finsta.
Adelaide B. Stelle.

Inventor
Stefan Kiss v. Ecseghy
by Williamson & Finsta
his Attorneys

UNITED STATES PATENT OFFICE.

STEFAN KISS VON ECSEGHY, OF VIENNA, AUSTRIA-HUNGARY, ASSIGNOR TO THE FIRM OF HANDELSGESELLSCHAFT KLEINBERG & CO., OF VIENNA, AUSTRIA-HUNGARY.

WELDLESS CHAIN.

No. 856,947. Specification of Letters Patent. Patented June 11, 1907.

Application filed October 19, 1906. Serial No. 339,702.

To all whom it may concern:

Be it known that I, STEFAN KISS VON ECSEGHY, a subject of the King of Hungary, residing at Vienna, Empire of Austria-Hungary, have invented certain new and useful Improvements in Weldless Chains; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to weldless chains composed of links each of which consists of two eyes arranged at right angles to each other.

The object of this invention is to construct such chains of links, the eyes of which are of practically the same size and circular or elliptical in shape.

According to this invention the longest inner diameter of any eye is shorter than the shortest diameter of any eye. Such chains offer the advantage that the links are considerably shorter than is the case in known chains of this class.

In the accompanying drawing Figure 11 shows by way of example a chain in accordance with the present invention. Each link of the chain consists of two eyes 3 and 5, such eyes being at right angles to each other, closed in themselves and rigidly connected with each other. The said eyes are approximately of the same size and shape. The longest inner diameter of any eye is shorter than the shortest outer diameter of any eye. As the possibility of the existence of such chains is not obvious, the way in which they can be made will now be described it being understood that this process does not form part of the present invention but constitutes the subject matter of applicant's prior application of June 2nd, 1906, Ser. No. 319,954 now Patent 844,006 dated February 12, 1907.

In the accompanying drawing Fig. 1 is a side elevation and Fig. 2 a central transverse section of a blank for making a chain link according to this invention. Fig. 3 is a plan view and Fig. 4 is a transverse section of an end of the blank. Fig. 5 is a vertical section of the upper die and Fig. 6 is a vertical section of the lower die for operating upon the blank, Fig. 7 is a transverse section of the lower die, Fig. 8 shows in side elevation, Fig. 9 in central transverse section and Fig. 10 in plan view the blank after having been operated upon by the dies shown in Figs. 5, 6 and 7, Fig. 11 shows a part of a chain made by the present process.

The blanks from which chain links are made by the present process consist of straight rods, the central portion 1 of which has the transverse section of the links to be made while the ends are thickened. The blank is threaded into an eye 3 of a link already made as shown in Fig. 3 and is then put together with the said eye into a press, the upper die of which is shown in Fig. 5, while the lower die is shown in Figs. 6 and 7, the blank on being placed into the press occupies, the position shown in dotted lines in Fig. 8. By the action of these dies the central portion 1 of the blank is bent at its ends and the end portions 2 are shaped to two equal rings 4 situated in one plane and flat on one side as shown in Fig. 8 in full lines and in Figs. 9 and 10. Then the central portion 1 of the blank is so bent in any suitable manner so that it forms an eye 5 and the rings 4 at its ends are laid upon each other with their flat sides fitting each other exactly, the two rings 4 thus form an eye 3 crossing the eye 5 at right angles as shown in Fig. 11. The fresh link is then completed and a blank can be threaded through its eye 3 formed by the rings 4 from which blank the next link may be formed as above described.

The length and thickness of the end portions 2 of the blank must be so proportioned that they offer the quantity of material required for forming the rings 4 and these rings must be of sufficient size for permitting the thickened end portions of the blank to be threaded through them. The object of thickening the end portions 2 of the blank (as compared with the central portion 1) is to favorably arrange the material for forming the rings 4. As in this improved process only the thickened ends 2 of the blank have to be threaded through the eyes 3 the opening of the latter may be much smaller than is the case with the methods heretofore used for making chains of this class, in which old methods through the eye 3 of a completed link, a ring 4 constituting one half of the eye 3 of the next link had to be passed.

Claims.

A weldless non-separable chain composed of a plurality of links, each link having a pair

of eyes integral with and in planes at right angles to each other, one of said eyes composed of two perforated parts adapted to be pressed into contact, and the opening in each of said parts having a major diameter less than its least external diameter, substantially as described.

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

STEFAN KISS V. ECSEGHY.

Witnesses:
JOHN GEORGE HARDY,
ALVESTO S. HOGUE.