J. R. LITTLE.

AXLE AND SKEIN.

APPLICATION FILED JAN. 7, 1910.

1,005,440.

Patented Oct. 10, 1911.

Fig. I.

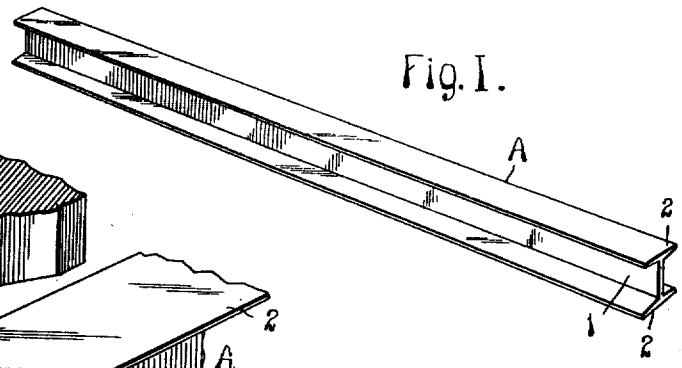


Fig. II.

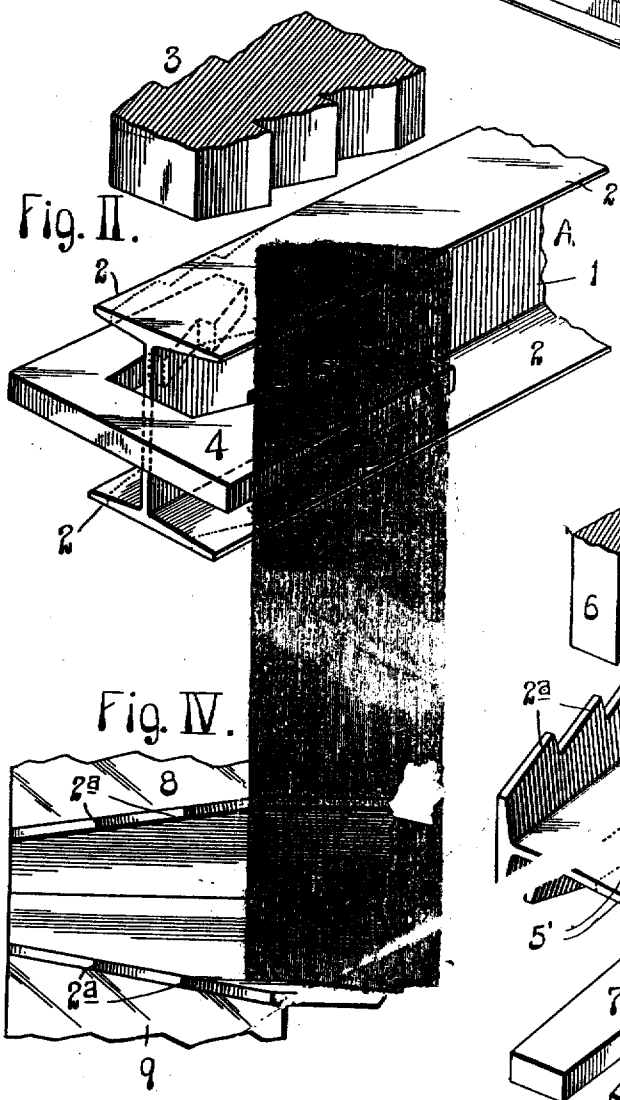


Fig. III.

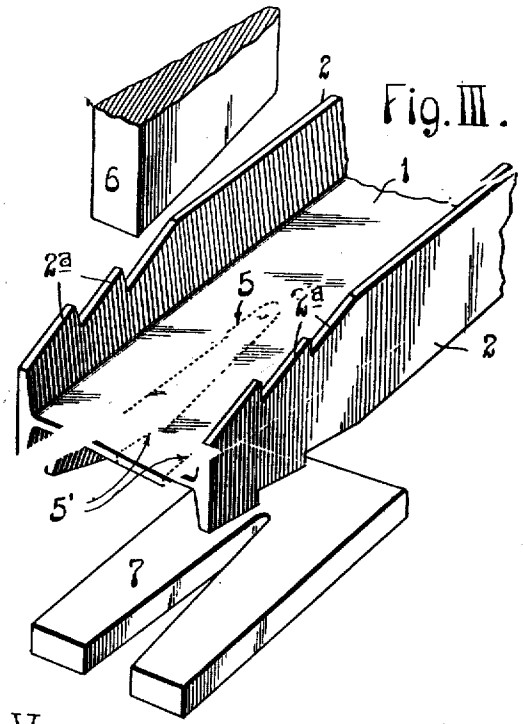
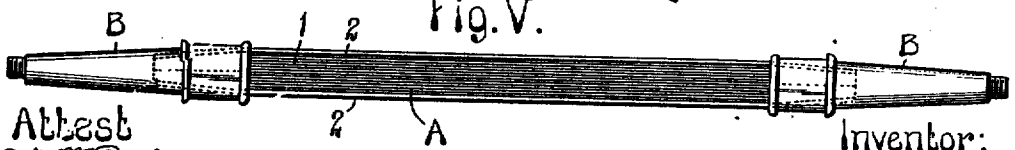


Fig. IV.

Fig. V.



Attest

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UNITED STATES PATENT OFFICE.

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AXLE AND SKEIN.

1,005,440. Specification of Letters Patent. Patented Oct. 10, 1911.

Application filed January 7, 1910. Serial No. 536,876.

To all whom it may concern:

Be it known that I, JAMES R. LITTLE, a citizen of the United States of America, residing at Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Axles and Skeins, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an axle and skein, the object of the invention being to produce a very simple axle and skein structure having maximum strength and minimum weight made in an inexpensive manner.

Figure I is a perspective view of a blank from which my axle is produced. Fig. II is an enlarged perspective view of a portion of the axle blank showing the top flanges thereof arranged between flange cutting members. Fig. III is a perspective view showing the web of the blank arranged between web cutting members. Fig. IV is a side elevation showing the end of the blank interposed between bending members. Fig. V is a side elevation of the finished axle and its skeins.

In the accompanying drawings:—A indicates an I-bar blank having a web 1 and flanges 2. One of the first steps in constructing the axle is to form teeth, or serrations, 2^a on the end portions of the flanges of the blank A. This step may be performed by placing the flanges 2 between dies 3 and 4 and then moving one of said dies to the other die for flange cutting action.

The means for supporting and operating the dies shown in the drawing form no part of this invention and I, therefore, do not deem it necessary to show or describe said parts.

A substantially V-shaped slot 5 having, when first produced, inclined walls 5′ is formed in the web of the blank at each end of the blank, and in Fig. III I have shown the web 1 arranged between coöperable dies 6 and 7, which are adapted to produce this slot by removing a substantially V-shaped section from said web. After the web of the blank has been slotted, the blank is bent so as to taper its ends and cause the walls of the slot to be brought together, this bending operation being effected without in any way distorting the ends of the web 1. In Fig. IV I have shown an end of the blank interposed members 8 and 9 adapted to bend the separated end members of the blank, as shown, by moving toward each other. It is obvious that the members 8 and 9 may be, for instance, die members or that a power hammer, as another instance, containing the members may be utilized.

The last step in constructing my complete combined axle and skein, shown in Fig. V, is to provide the ends of the blank A, or what is then the finished axle, with cast metal skeins B. In casting these skeins, the molten metal is poured into molds containing the ends of the axle and thereby caused to completely surround and interlock with the ends of said axle. Upon the cooling of the casting, a very strong connection between the axle and skein is produced by the inclined flanges and the teeth 2^a which are then very firmly locked in this skein.

I claim:—

1. The combination of an axle having convergent flanged end portions, and skeins on said end portions having portions thereof embedded between the inclined faces of the convergent end portion flanges.

2. The combination of an axle having convergent flanged end portions provided with teeth, and skeins on said convergent end portions having portions thereof embedded between the inclined faces of the end portion flanges, and the teeth of said flanges being embedded into said skeins.

JAMES R. LITTLE.

In the presence of—
JAMES R. WILLIAMS,
W. EMERY LANCASTER.