

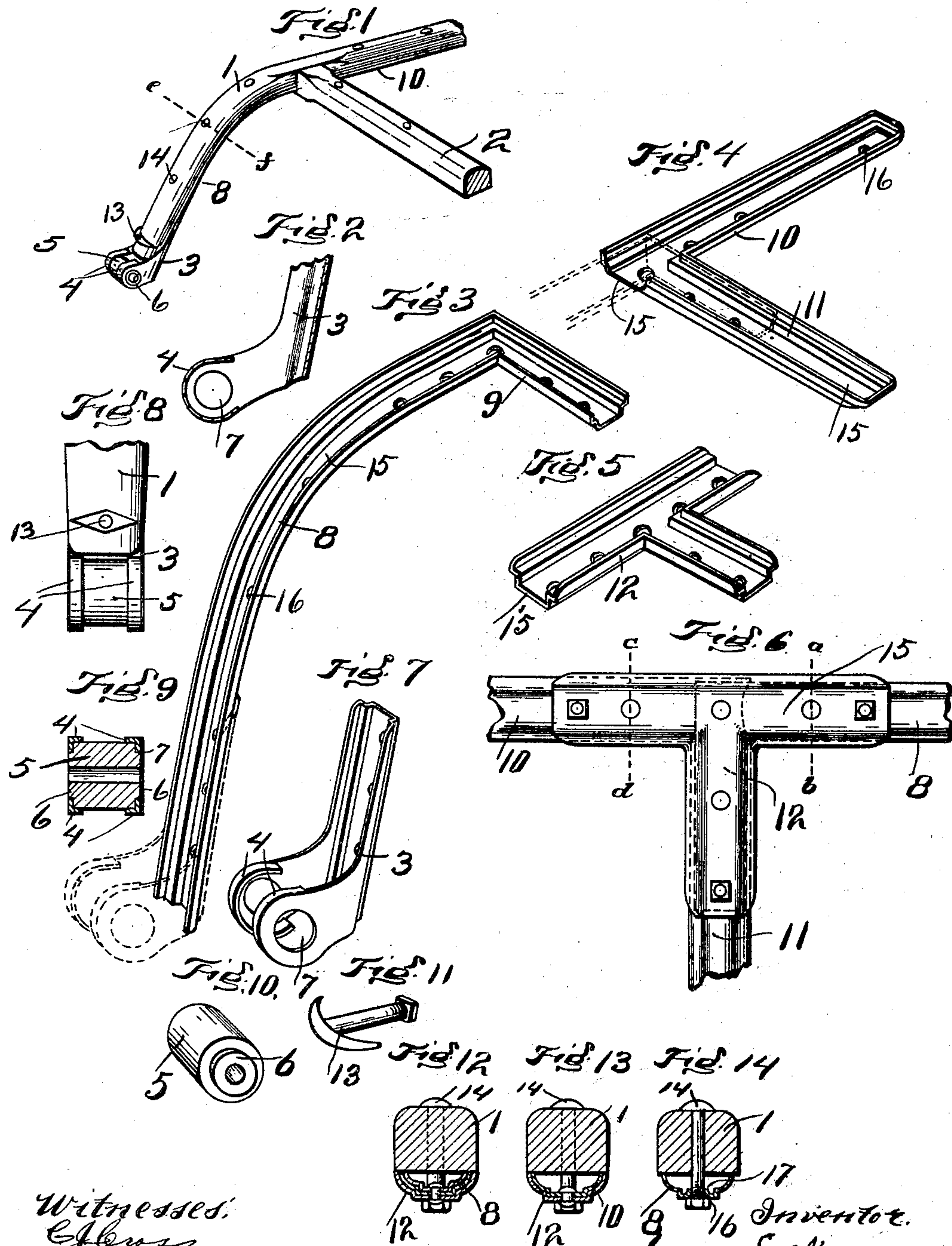
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Patented Mar. 5, 1901.

G. E. NAUMAN.
VEHICLE SHAFT.

(Application filed Oct. 1, 1900.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

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VEHICLE-SHAFT.

SPECIFICATION forming part of Letters Patent No. 669,096, dated March 5, 1901.

Application filed October 1, 1900. Serial No. 31,627. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. NAUMAN, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Vehicle-Shafts; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a view showing one thill and the eye and sheet-metal parts connected thereto. Fig. 2 is a view showing a portion of one of the rear thill-irons. Fig. 3 is a detached view of the rear curved thill-iron, also showing the eye-arm connected thereto and illustrating the eye-head in dotted lines. Fig. 4 is a detached view of the forward brace-arm. Fig. 5 is a detached view of the T-brace. Fig. 6 is a view showing the T-brace properly connected to the forward brace and to the rear curved brace or thill-arm. Fig. 7 is a detached view of the rear thill-eye member and its eye. Fig. 8 is a view showing the rear end of the other thill and its eye. Fig. 9 is a transverse section of the thill-eye and eye-thimble. Fig. 10 is a detached view of the thill-eye thimble or block. Fig. 11 is a detached view of the rear thill-iron connecting-block. Figs. 12, 13, and 14 are transverse sections through lines *a b c d*, Fig. 6, and *e f*, Fig. 1.

The present invention has relation to vehicle shafts or thills; and it consists in the manner of attaching the irons thereto and the manner of connecting the various parts of the irons together.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the rear portion of a thill, which within itself is constructed in the ordinary manner and is provided with the ordinary cross brace or bar 2.

To the rear end of the thill 1 is attached the eye section or member 3, which eye section or member is provided with the flanges 4, said flanges being for the purpose of receiving and holding in proper position the

thill-eye thimble 5, said thimble being located and arranged substantially as shown in Figs. 8 and 9.

The thill-eye thimble 5 is provided with the end flanges 6, which flanges extend through the apertures 7, and their outer ends may be swaged for the purpose of assisting in holding the thimble in proper position.

To the rear end of the bent or curved arm or brace 8 is connected by suitable rivets the eye-section 3. The forward end of the section 8 is provided with the right-angled portion 9, which right-angled portion is formed integral with the bent or curved portion 8 and is so located and arranged that it can be properly connected to the cross-brace 2.

The forward arm or brace 10 is substantially of the form shown, and as shown it is provided with the right-angled portion or part 11, which right-angled portion or part is also connected to the brace or cross bar 2.

The T-cap 12 is substantially of the form shown in Figs. 5 and 6, and when the different members of the thill-arms are properly assembled said T-cap is located as illustrated in Fig. 6.

In use the various members of the thill-iron proper are riveted together, so as to produce a single structure, which structure is bolted to the thill 1 and the brace 2 by means of ordinary bolts, such as 13 and 14; but the various members 3, 4, 10, and 12 are riveted together before being connected to the wood part of the thill and brace.

It will be understood that the various members should be so formed that they can be nested together or set one within the other and the T-cap 12 set over the members 8 and 10 and the right-angled portions 9 and 11.

For the purpose of forming a thill-iron that is light and at the same time strong all the various members and the cap are formed of sheet-steel by means of stamps or dies formed of such shape as to produce finished sections or parts.

It will be understood that by the peculiar manner of assembling the different parts three thicknesses of metal are brought together at the point covered by the T-cap 12, said point being one upon which the greatest strain is had. Another object and purpose of

forming the sections as shown is to arch said section in cross-section, thereby adding strength and rigidity to the iron proper.

For the purpose of producing a neat appearance and at the same time providing suitable surfaces for the various nuts of the bolts to rest upon the bottom or under side of the various sections may be provided with the plain centers 15; but this formation is simply mechanical, or, in other words, pertains only to the manner of finishing the thill-iron. For the purpose of adding strength the bolt-holes 16 are not cut full size from the metal; but the metal is flanged around the bolt-hole, as illustrated by the flange 17, Fig. 14; but at the point where two or more thicknesses of metal are located the flanges 17 may be dispensed with.

It will be understood that by my peculiar manner of forming the thill-iron the wood portion of the thill will be bent to correspond with the curvature of the iron instead of the iron brought to the curvature of the wood, thereby bringing the two eyes of the thill-iron in true alinement.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As an improved article of manufacture, a thill-iron formed of sections and of sheet-steel the sections united together, angled portions set one within the other, and a T-cap

located over portions of two sections and the angled members and all of said members arched and an arched eye-section provided with an eye-thimble, substantially as and for the purpose specified.

2. As an improved article of manufacture a thill-iron consisting of an eye-section provided with an eye-thimble, a curved section provided with a right-angled portion, a forward section provided with a right-angled portion, and a T-cap fixed to the curved and forward sections and their right-angled portions, all of said parts arched in cross-section and formed of sheet-steel, substantially as and for the purpose specified.

3. As an improved article of manufacture, a thill-iron formed in sections, one of said sections provided with an eye end, a curved section connected to the eye-section and provided with a right-angled portion, a forward arm or brace secured to the section provided with a right-angled portion, and a T-cap connected to two sections of the thill-iron, and all of the parts arched in cross-section, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE E. NAUMAN.

Witnesses:

J. A. JEFFERS,
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