

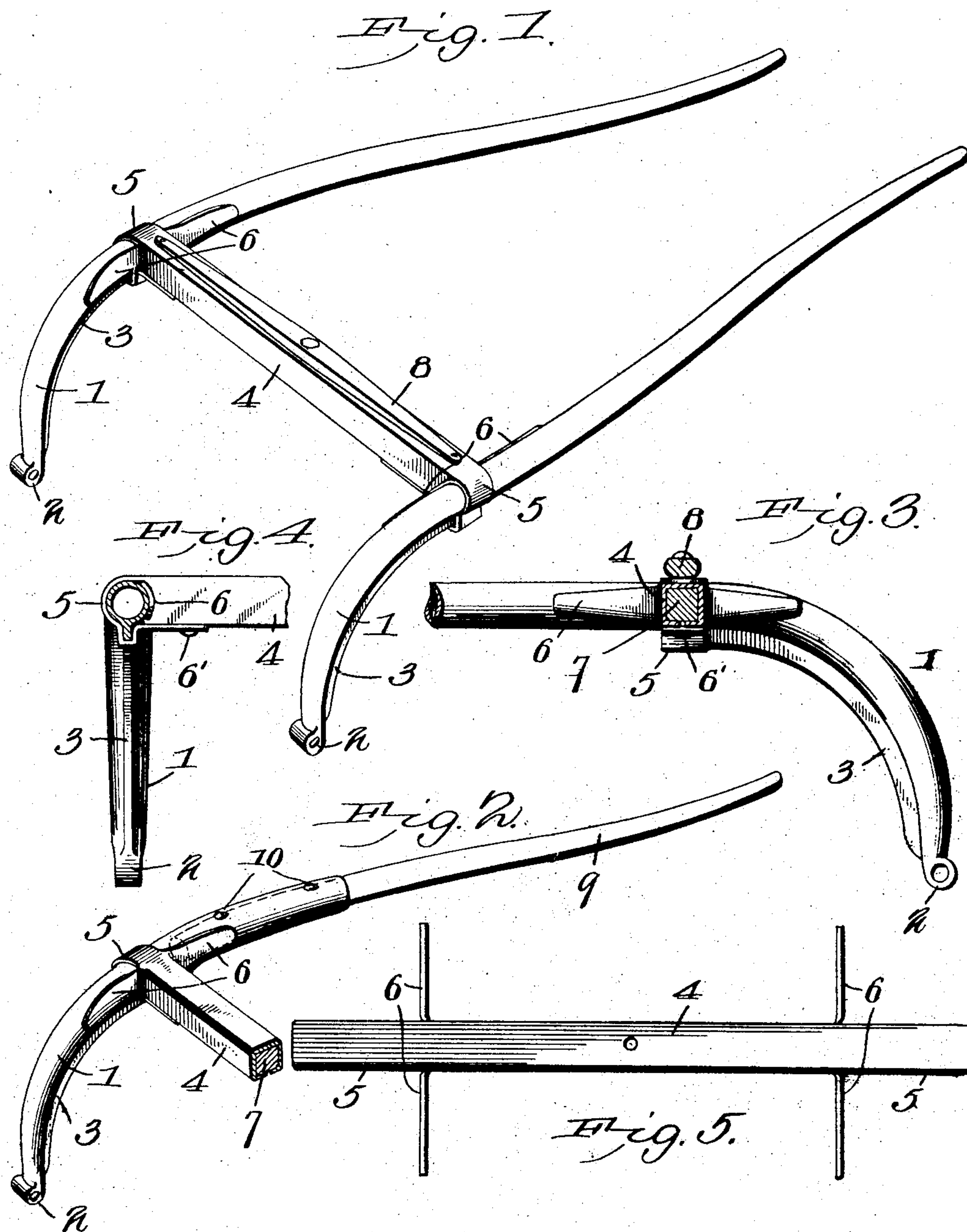
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PATENTED JULY 19, 1904.

L. C. SWEET.  
VEHICLE THILL.

APPLICATION FILED APR. 11, 1904.

NO MODEL.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## VEHICLE-THILL.

SPECIFICATION forming part of Letters Patent No. 765,210, dated July 19, 1904.

Application filed April 11, 1904. Serial No. 202,612. (No model.)

*To all whom it may concern:*

Be it known that I, LARNTINE C. SWEET, a citizen of the United States, residing at Loami, in the county of Sangamon and State of Illinois, have invented a new and useful Vehicle-Thill, of which the following is a specification.

This invention relates to vehicle-thills.

The object of the invention is largely to increase the strength of the thills without adding to their weight, to reduce the cost of manufacture, to obviate in a positive and certain manner any tendency on the part of the cross-bar to break or become detached from the thills, to reinforce the curved or rear ends of the thills in such manner as to brace them against any tendency to flexure or distortion from their original shape, and generally to improve vehicle-thills in certain particulars, as will be hereinafter fully described.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a pair of vehicle-thills, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof.

In the drawings, Figure 1 is a view in perspective of one form of vehicle-thill made in accordance with the present invention. Fig. 2 is a similar view of another form of thills. Fig. 3 is a longitudinal sectional view through the cross-bar. Fig. 4 is a transverse sectional view through one of the thills. Fig. 5 is a perspective detail view of the cross-bar before it is assembled with the thills.

As will hereinafter appear, the thills of the present invention are constructed wholly of tubular metal or in part of metal and of wood, and where presented as a composite structure the rear portions of the thills will be of metal

and the front portion of wood. Furthermore, the construction of the cross-bar is such that while it serves positively to hold the thill members spaced and connected it will at the same time positively brace them and preclude any accidental separation of the parts in use. The manner in which the thills are constructed is immaterial; but, generally stated, it may be said that where made wholly of tubular metal the seam will be disposed on the under side of the thill member, and the assembling of the walls or edges of the seam may be effected in any manner, as by brazing.

Referring to the drawings and to Fig. 1 thereof, there is illustrated a pair of thills in which the thill members are made wholly of metal and appropriately tapered and shaped to have the appearance of ordinary wooden thills. The curved or rear portion 1 of each of the thill members is provided at its terminal with a thill-coupling 2, which is combined with the thill member in any preferred manner, as by welding or brazing. This curved portion of the thill member is longitudinally reinforced by a rib or fin 3, the walls of which are assembled by being brazed or riveted together, the said rib operating positively to brace the curved portion against flexure or yielding to strain, thus to cause the structure in use to maintain its initial form. The cross-bar 4 for holding the thill members assembled is a tubular structure, preferably rectangular in cross-section, although it may be otherwise contoured, the ends of which are slitted to present lateral arms 6 and terminal arms 5, the lateral arms being brazed or otherwise secured to the inner sides of the thill members and the terminal arms being looped around the ribs or fins 3 and secured to the under side of the cross-bar by being brazed thereto or by the employment of rivets 6'. As shown in Fig. 3, the fin terminates with the outer wall of the cross-bar, and this will generally be the preferred arrangement; but if found advantageous the fin may be extended beyond the cross-bar without departing from the spirit of the invention. The cross-bar may be constructed wholly of metal; but in order to strengthen the structure it is preferred to



employ a wooden filler-bar 7, which fits closely within the cross-bar and abuts at its ends against the inner sides of the thill members, to which it may be secured by supplemental fastening means passing through the thill members and into the filler-bar. By the provision of the lateral arms 6, which latter are transversely curved to conform to the outer surface of the thill members, the bar is not only firmly associated with the thill members, but the latter are braced against any tendency to lateral movement, as from horse motion, and by the employment of the terminal arms 5 disconnection of the thill members will be positively precluded. Combined with the cross-bar is a whiffletree 8, which may be of the usual or any preferred construction.

In the form of embodiment of the invention shown in Fig. 2 about one half of the length of the thill members is of metal, and the remaining or forward half of each member is formed of a bar of wood 9 of the usual construction. These wooden bars are held within the tubular portions of the thill members in any suitable manner, as by rivets or bolts 10. The advantage of the latter construction is that it is exceedingly light and strong, and in the event of the wooden portions becoming damaged they may readily be replaced at but a slight expense.

The thills herein described are exceedingly simple of construction, may be readily manufactured, and combine in a practical manner lightness and durability and strength.

Having thus fully described my invention, what I claim is—

1. A pair of vehicle-thills, the thill members of which are constructed wholly, or in part of tubular metal, the curved or rear portions of the members being provided externally with rigidly-connected longitudinal fins or ribs disposed on the under side of the curves and operating positively to brace said portions against yielding, a cross-bar having arms to encircle the thill members, embrace the rib or fin, and to be secured to the cross-bar.

2. A pair of vehicle-thills and a cross-bar connecting the thills, said cross-bar being constructed of a piece of tubular metal the ends of which are slit or cut to form arms, two of which are secured at each end to the thill members longitudinally of their length, and

the remaining arm at each end being passed around the thill member and secured to the cross-bar.

3. A pair of vehicle-thills, the rear portion of each of which is formed of tubular metal provided with a longitudinal rib or fin, and a cross-bar having its terminals provided with arms to be secured to the thill members and with arms to be looped or passed around the thill members, embrace the rib or fin, and to be secured to the cross-bar.

4. A pair of vehicle-thills combined with a cross-bar constructed of a tubular piece of metal having its ends formed into arms to be secured to the inner side of the thill members and its terminals into arms to embrace the thill members, and a filler-bar housed by the cross-bar and to which the said terminals are secured.

5. A pair of vehicle-thills, the thill members of which throughout a portion of their length are constructed of tubular metal and the curved rear portions of the thill members being provided with thill-couplings rigid with the thill-terminals and with longitudinal ribs or fins on the under side of the curved portions, and a tubular cross-bar having lateral arms secured to the inner sides of the thill members at the termination of the ribs or fins, the terminal arms being secured to the cross-bar on the under side thereof.

6. A pair of vehicle-thills, the thill members of which are constructed of tubular metal having the seams thereof disposed on the under side of the thill members and having the rear curved portions of the members provided with longitudinally-disposed rigidly-connected ribs or fins on their under sides, thill-couplings carried by the ends of the thill members, and a tubular cross-bar having lateral arms secured to the inner sides of the thill members and having terminal arms which embrace the thill members and the ribs or fins, and are secured to the cross-bar on its under side.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LARNTINE C. SWEET.

Witnesses:

D. W. HALL,  
FRED VINCENT.