No. 824,301.

PATENTED JUNE 26, 1906.

F. H. JACOBS.

SHAFT FOR VEHICLES.

APPLICATION FILED AUG. 8, 1905.

Fig. 1.

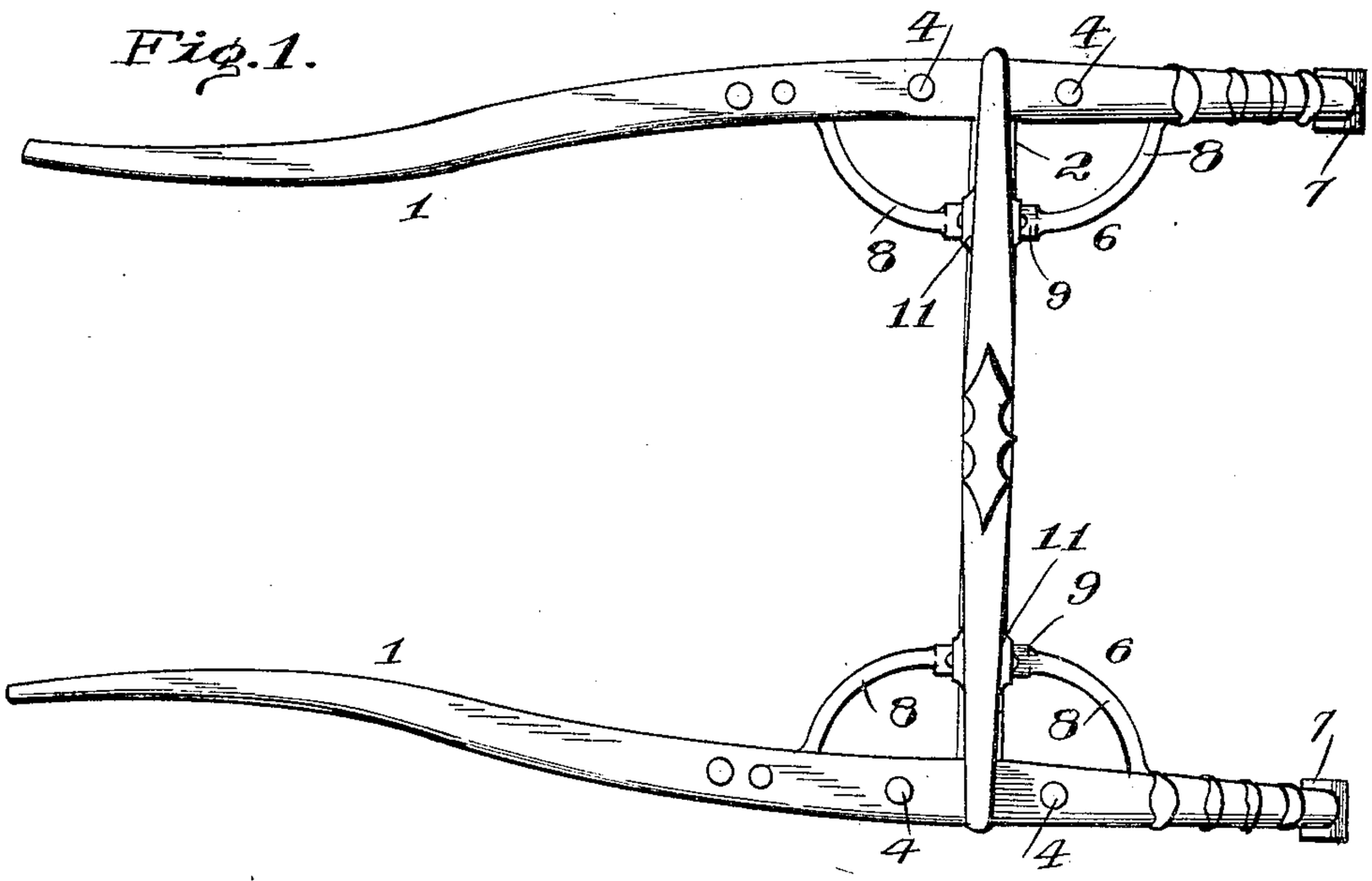


Fig. 2.

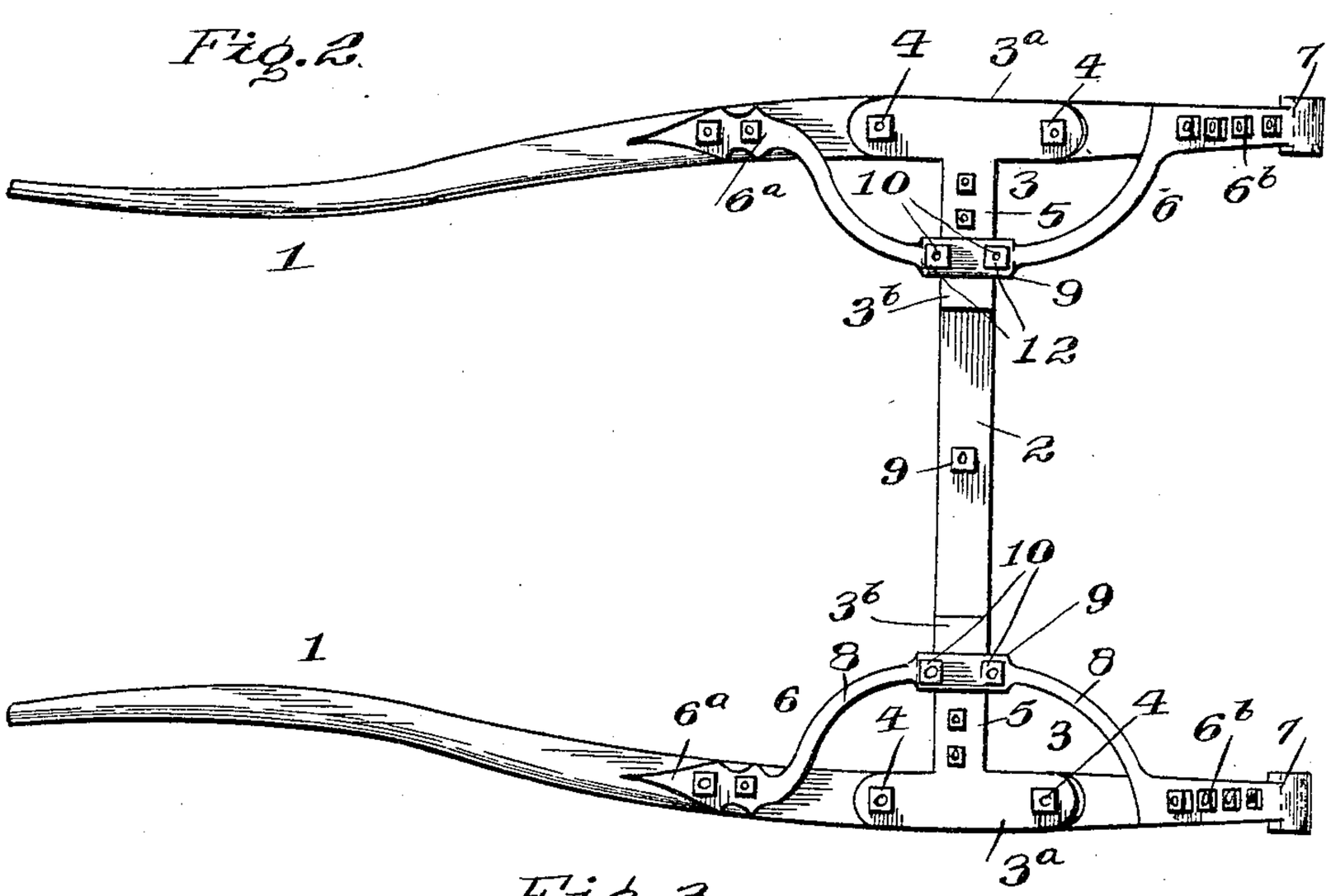
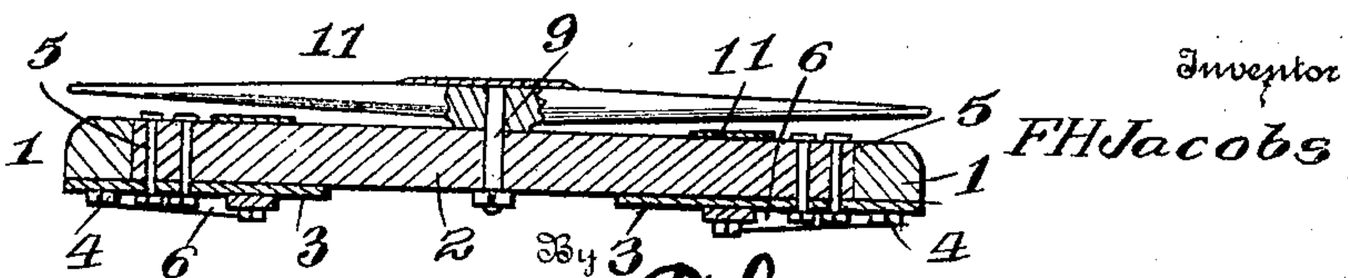


Fig. 3.



Witnesses

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Inventor

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UNITED STATES PATENT OFFICE.

FRANK H. JACOBS, OF SIGOURNEY, IOWA.

SHAFT FOR VEHICLES.

No. 824,301. Specification of Letters Patent. Patented June 26, 1906.

Application filed August 8, 1905. Serial No. 273,257.

To all whom it may concern:

Be it known that I, FRANK H. JACOBS, a citizen of the United States, residing at Sigourney, in the county of Keokuk and State of Iowa, have invented certain new and useful Improvements in Shafts for Vehicles, of which the following is a specification.

This invention embodies improvements in the construction of shafts or thills for vehicles.

The invention resides particularly in the means employed to connect the transverse or cross bar by which a pair of shafts or thills are secured together with the shafts, whereby the parts are substantially attached and the structure made more rigid than those most commonly in use.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a top plan view of a pair of shafts, showing the invention applied thereto. Fig. 2 is a bottom plan view. Fig. 3 is a transverse sectional view taken longitudinally of the cross-bar.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the shafts or thills, and the same are of the form most generally in use at the present time. The shafts 1 are connected together by means of a cross-bar 2, which is usually joined therewith by means of mortise-and-tenon joints, the last-mentioned connection being done away with by the invention, as it is disadvantageous, for the reason that the tenons of the joint rot quickly and weaken the same in a manner which will be obvious.

In carrying out the invention the cross-bar 2 is secured to the shaft 1 by means of T-irons 3, said irons being composed of a head 3^a and an extension 3^b, projecting from the center portion of said head. The head 3^a of each T-iron is arranged longitudinally of the adjacent shaft and secured by bolts or fastenings 4 at opposite ends thereof to such shaft. The extension 3^b projects laterally from the shaft to which the head 3^a is secured beneath an end of the cross-bar 2, and a bolt or fastening 5 passes through said extension to connect the same with the cross-bar. In addition to the connection between the cross-bar 2 and the shafts established by the irons 3 it is designed to utilize brace-bars 6, opposite end portions of which (indicated at 6^a and 6^b) are attached to the adjacent shaft 1. The front end portion of each brace-bar 6 has a single bolt or fastening passing through the same to secure it to the shaft adjacent, while the rear end portion has a plurality of the fastenings or bolts, said rear end portion 6^b extending some distance longitudinally of the shaft and terminating at the rear extremity of the latter in a shaft-eye 7. The brace-bars 6 have the intermediate portions thereof curved laterally, as shown at 8, and these curved portions extend beneath the cross-bar 2 at oppposite end portions of the latter. The central portions of the curved parts 8 of the bars 6 are transversely enlarged and flattened, as shown at 9, being provided with spaced openings through which pass the threaded end portions 10 of the yoke 11, which embraces an end of the cross-bar. The curved portion 8 of each bar 6 is therefore connected with the cross-bar 2 by means of the yoke 11, nuts 12 being screwed upon the threaded extremities of each yoke after the said extremities have been passed through the openings in the enlarged portions 9 of the bars 6, as before described. The members 6 thus brace the cross-bar 2 forwardly and rearwardly of its connections with the shafts 1, and the yokes 11 not only form means for connecting the curved portions 8 of the bars 6 with the cross-bar 2, but the enlargements 9 of said bars 6 are arranged just beneath the outer end portions of the extensions of the T-irons 3, and the yokes 11 thus clamp the extensions 3^b of said T-irons to the under side of the bar 2, said extensions being received between the sides of the yoke.

Having thus described the invention, what is claimed as new is—

1. In combination, a pair of shafts, a cross-bar between said shafts, T-irons comprising a head and an extension projecting from the central portion of the head, the heads of the T-irons being secured to the shafts and the extensions secured to the cross-bar, and brace-bars secured at opposite ends to the shafts and having intermediate laterally-curved portions attached to the cross-bar.

2. In combination, a pair of shafts, a cross-bar between said shafts, T-irons comprising a

head and an extension projecting from the central portion of the head, the heads of the T-irons being secured to the shafts and the extensions secured to the cross-bar, and brace-bars connected at opposite ends with the shafts and connected at intermediate portions with the cross-bar, the rear end portions of the brace-bars being extended to the rear extremities of the shafts and provided with shaft-eyes.

3. In combination, a pair of shafts, a cross-bar between said shafts, T-irons comprising a head and an extension projecting from the central portion of the head, the heads of the T-irons being secured to the shafts and the extensions secured to the cross-bar, brace-bars secured at opposite ends to the shafts, and yokes connecting the central portions of the brace-bars with the cross-bar.

4. In combination, a pair of shafts, a cross-bar between said shafts, T-irons comprising a head and an extension projecting from the central portion of the head, the heads of the T-irons being secured to the shafts and the extensions secured to the cross-bar, brace-bars secured at opposite ends to the shafts, and yokes connecting the central portions of the brace-bars with the cross-bar and clamping the extensions of the T-irons to the said cross-bar..

5. In combination, a pair of shafts, a cross-bar between the shafts, T-irons comprising a head and an extension projecting from the central portion of the head, the heads of the T-irons being secured to the under sides of the shafts, the extensions thereof being secured to the under side of the cross-bar, brace-bars having opposite ends thereof attached to the shafts and having the intermediate portions thereof extended laterally beneath the cross-bar, and yokes receiving opposite end portions of the cross-bar and passing through the laterally-curved portions of the brace-bars to connect said curved portions with the cross-bar, said yokes clamping the extensions of the T-irons to the cross-bar, the rear extremities of the brace-bars being extended to the rear extremities of the shafts and formed with shaft-eyes.

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

FRANK H. JACOBS. [L. S.]

Witnesses:
J. W. JACOBS,
L. H. HINKLEY.