H. J. MILLER.

SULKY.

APPLICATION FILED DEC. 14, 1908.

948,767.

Patented Feb. 8, 1910.

2 SHEETS—SHEET 1.

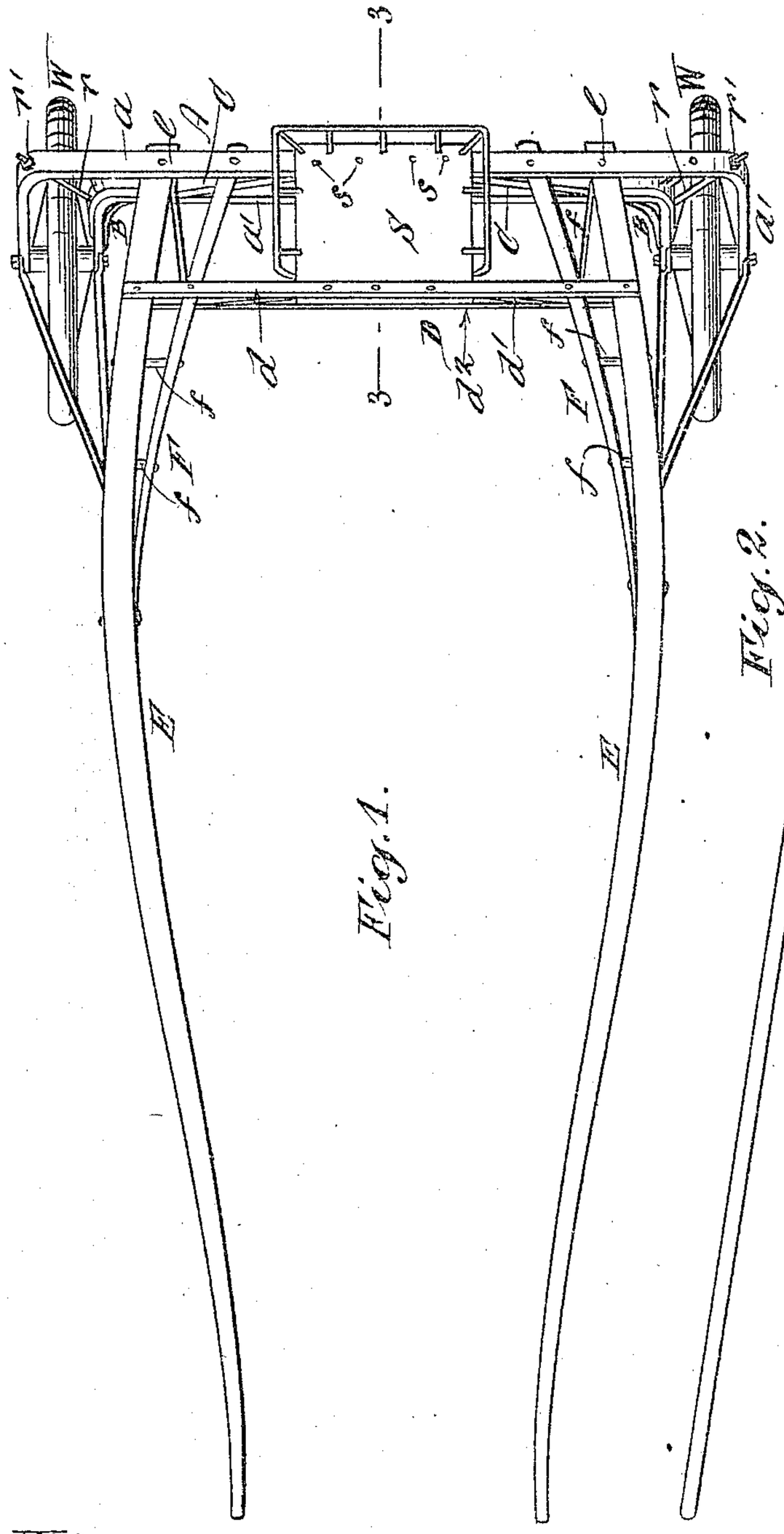

Fig. 1.

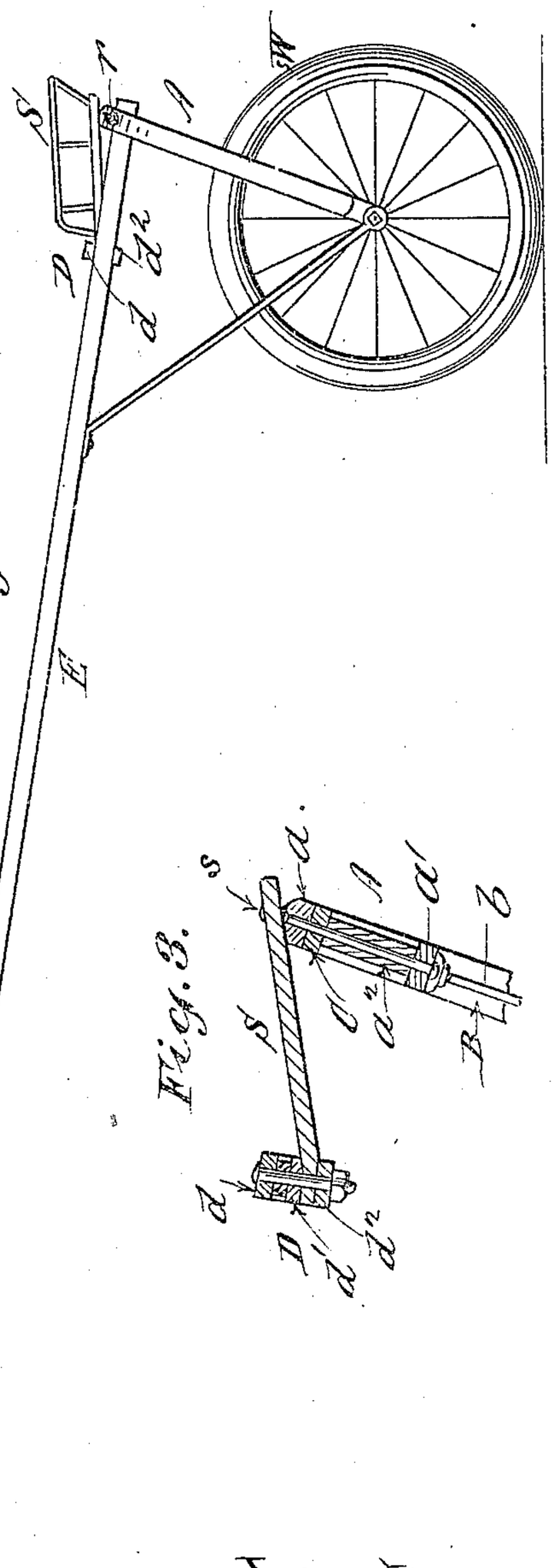

Fig. 2.

Fig. 3.

Witnesses:
D. W. Gardner.
H. Hyman.

Inventor:
Henry J. Miller
By his Attorney
Geo. F. Mott

H. J. MILLER.

SULKY.

APPLICATION FILED DEC. 14, 1908.

948,767.

Patented Feb. 8, 1910.

2 SHEETS—SHEET 2.

Fig. 4.

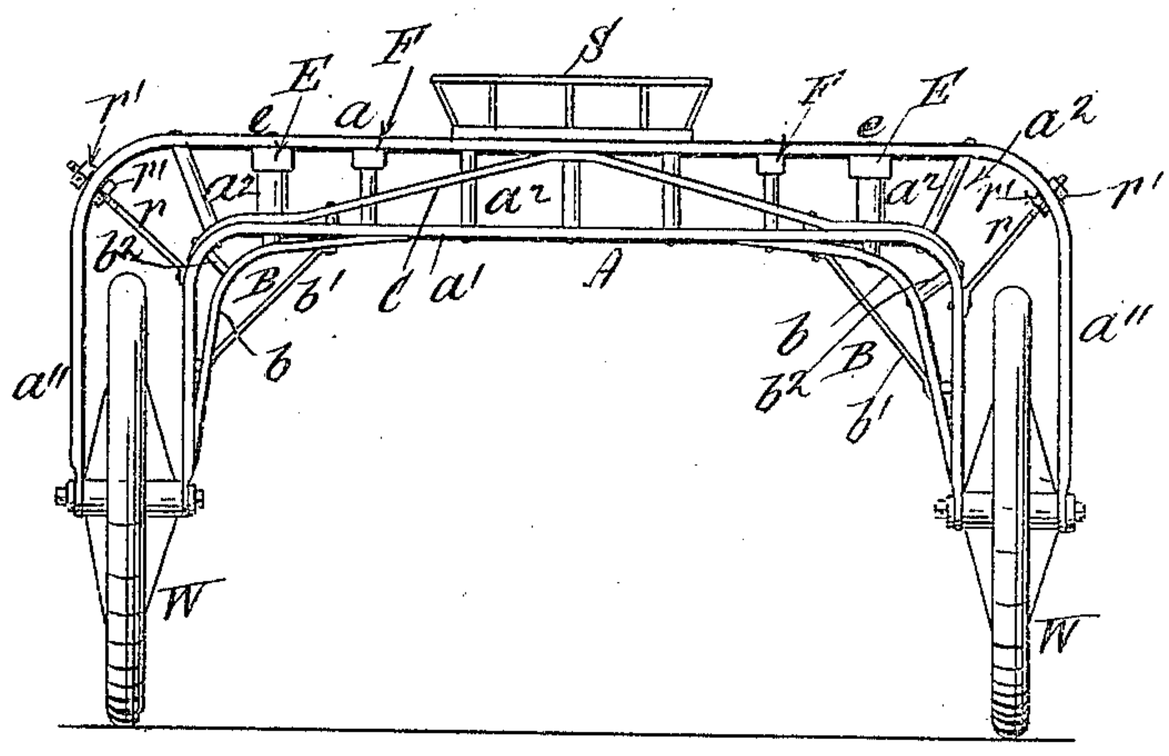

Fig. 5.

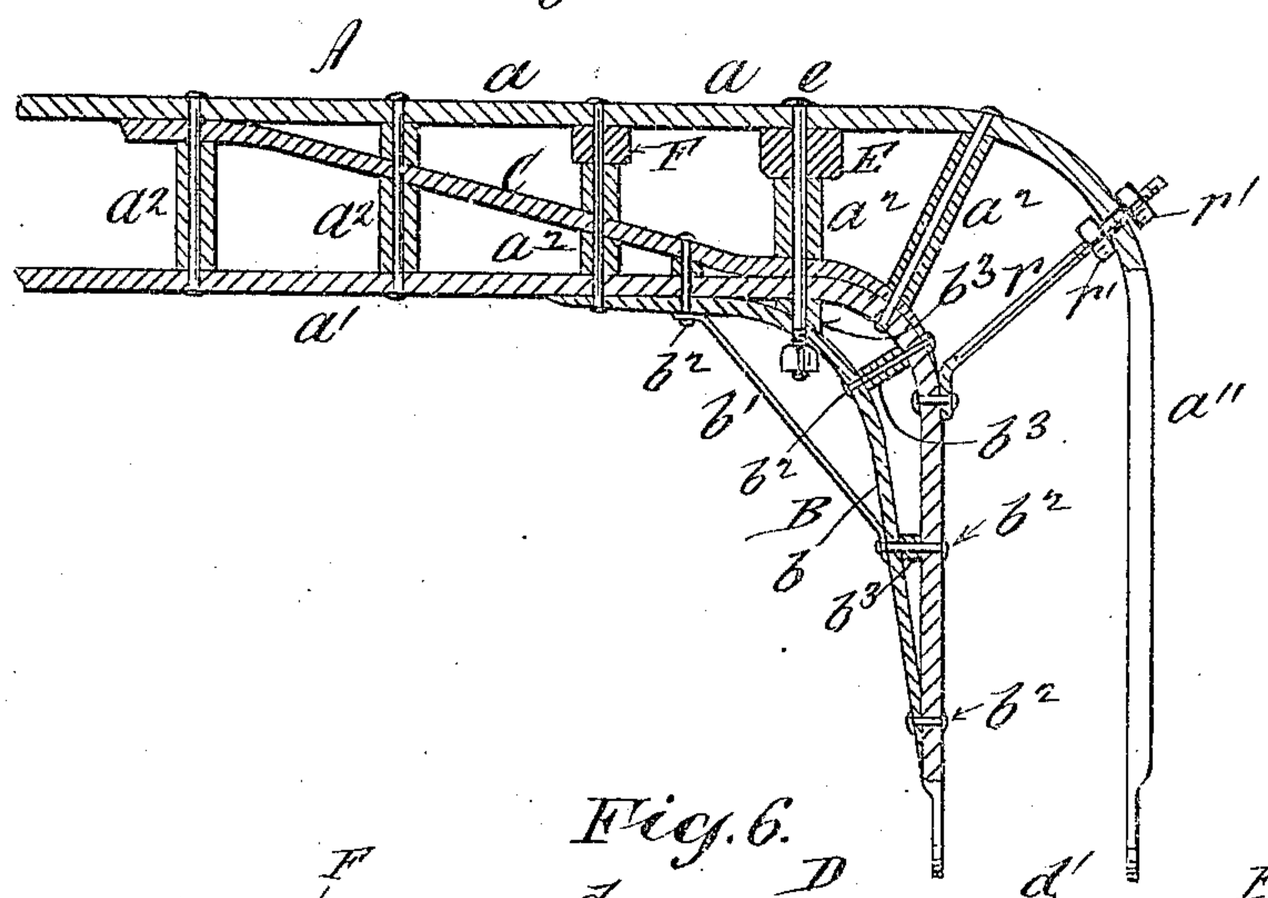

Fig. 6.

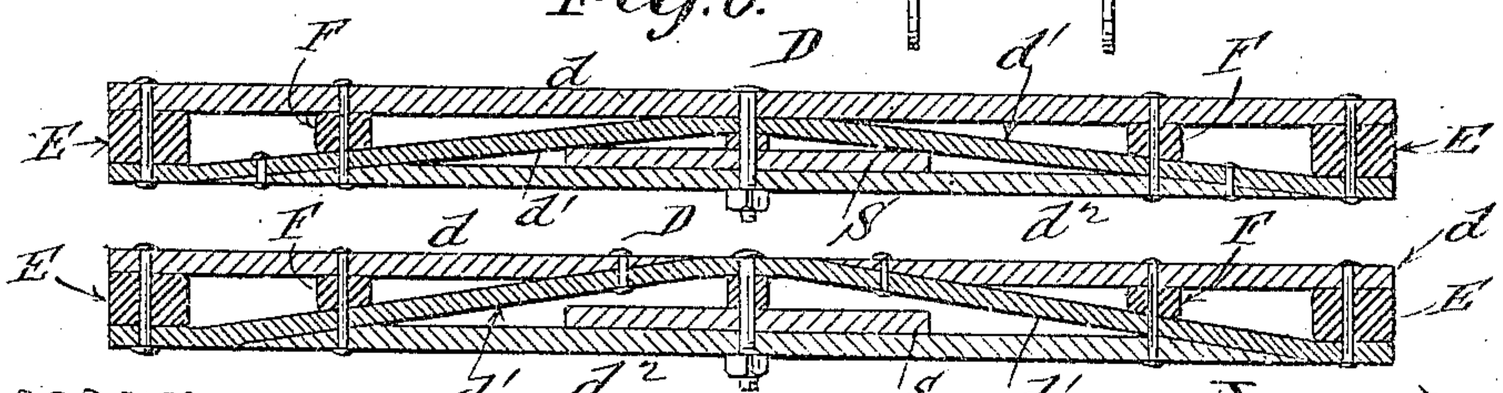

Fig. 7.

Witnesses:
H. W. Gardner
H. Hopkins

Inventor:
Henry J. Miller
By his Attorney
Leo. F. Miller

UNITED STATES PATENT OFFICE.

HENRY J. MILLER, OF NORTH PATERSON, NEW JERSEY.

SULKY.

948,767. Specification of Letters Patent. Patented Feb. 8, 1910.

Application filed December 14, 1908. Serial No. 467,518.

To all whom it may concern:

Be it known that I, HENRY J. MILLER, a citizen of the United States, residing at North Paterson, Passaic county, and State of New Jersey, have invented certain new and useful Improvements in Sulkies, of which the following is a specification.

The object of my invention is to attain a light substantial and practically rigid sulky, in so far as the rear portion of the sulky is concerned; and the invention consists in the construction and arrangement of parts hereinafter described and claimed specifically, distinguishing features being the use of compound braces at the bends of the lower bridge frame, in the use of an arch brace, the ends of which are supported upon the lower bridge bar above the said compound braces and reinforce the upper bridge bar centrally underneath the seat secured thereto, in the use of a trussed cross bar between the thills and in advance of the axle truss, in the use of lateral braces for the thills attached to the inner sides thereof and to said trussed cross bar and the axle truss, and in the use of means for adjusting the ends of the upper bridge bar with relation to the ends of the lower bridge bar, for the purpose of truing the wheels, all as hereinafter set forth.

In the accompanying drawings, Figure 1, is a top view of my improved sulky; Fig. 2, a side elevation; Fig. 3, a sectional detail on plane of line 3—3 Fig. 1, on an enlarged scale; Fig. 4, is a rear view of my improved sulky taken on a plane at right angles to the axle truss; Fig. 5, is a sectional detail of a portion of the axle truss upon an enlarged scale; Fig. 6, is a sectional detail of the cross brace; Fig. 7, is a similar view showing a modification.

The wheels W, are mounted in the axle truss A, in the usual manner,—that is to say between the extremities of the upper and lower bridge bars a, a', which are held apart by the usual spacing stays a^2. The bends of the inner bridge bar a', are stiffened and rendered practically rigid, each by a compound brace B, consisting of the bow b, and truss rod b', secured to the bridge bar a', by bolts b^2, and spacing stays b^3, as will be understood more particularly by reference to Fig. 5. This reinforcement of the lower bridge bar a', renders it a substantial foundation or base for the whole structure. An arch brace C, the ends of which rest upon and are secured to these reinforced bends or corners of the lower bridge bar a', reinforces the upper bridge bar a, centrally, immediately under the rear end of the seat S, which latter is secured directly to said bridge bar a, by screws s, or equivalent means,—the front edge of said seat being secured to the trussed cross brace D, as illustrated in Fig. 3. This arch brace C, effectually trusses the upper bridge bar a, and effectually supports and distributes the weight of the driver resting on the seat S, acting as it does as a bridge or arch resting upon and connecting the reinforced corners or bends of the lower bridge bar a'.

The trussed cross brace D, consists of the cross bar d, resting upon and secured to the upper sides of the thills E, and the truss d', secured to the under side of the thills, and centrally to the underside of the cross bar d, as shown in Fig. 6; in which the truss d', is reinforced by a stiffener d^2; or as shown in Fig. 7, the truss d', with its stiffener d^2, may constitute the essential portion of the trussed cross bar D, the upper bar d, being divided and secured to the truss d', or the structure may be otherwise modified as may be found most expedient, the essential feature in this connection being the use of a trussed cross bar between the thills and in advance of the axle truss A. The inner ends of the thills E, are attached to the axle truss A, at e, above the compound brace B, as well as to the trussed cross bar D, as before stated.

F, F, are lateral braces attached to the inner side of the thills E, to the trussed cross brace D, and to the axle truss A, as shown in Fig. 1. Spacing stays f, f, are interposed between the lateral braces F, F, and the thills E. These lateral braces F, stiffen and reinforce the inner ends of the thill so that the lateral vibration or sway is effectually prevented, and they also prevent the spreading of the rear portion of the thills in use.

The ends a'', of the upper bridge bar a, are made adjustable within certain limits with relation to the ends of the lower bridge bar a', by any suitable means, those shown in the drawings consisting of rods r, secured to the lower bridge bar a, and engaging with the upper bridge bar a, by means of set nuts r', r'. This adjustment is for the purpose of truing the hubs of the wheels on their axes,—the requisite degree of adjustment be-

ing very slight, and being amply provided for by the spring or resilience of the ends a'', of the upper bridge bar a.

By my construction and arrangement of parts I attain a light, substantial and practically rigid structure back of the point at which the forward ends of the lateral braces F, are secured to the thills E. The compound braces B, contribute largely to this result and are supplemented in this respect by the arch brace C. The trussed cross bar D, also performs an important function in that it affords means whereby the lateral braces F, and other parts are effectually and rigidly bound together.

What I claim as my invention and desire to secure by Letters Patent is,

1. In a sulky, the combination with the axle truss, of compound braces arranged to reinforce the bends of the lower bridge bar, each compound brace consisting of a bow and a truss rod, secured to said lower bridge bar, substantially as and for the purpose described.

2. In a sulky, the combination with the axle truss, of compound braces arranged to reinforce the bends of the lower bridge bar, each compound brace consisting of a bow, and a truss rod secured to said lower bridge bar and spacing stays interposed between the bow and said bridge bar, for the purpose described.

3. In a sulky, the combination of an axle truss the bends of the lower bridge bar of which are reinforced by compound braces each consisting of a bow and a truss rod, and an arch brace interposed between the upper and lower bridge bars, the ends of said arch brace overlapping and being secured to the said reinforced bends of the lower bridge bar and the central portion of said arch brace being arranged to support the upper bridge bar, substantially in the manner and for the purpose described.

4. In a sulky, the combination of the axle truss, compound braces arranged to reinforce the bends of the lower bridge bar, each compound brace consisting of a bow and a truss rod secured to said lower bridge bar, and an arch brace interposed between the upper and lower bridge bars, of the truss, the ends of said arch brace resting upon the lower bridge bar above said compound braces, and the center of said arch brace resting against the upper bridge bar, substantially in the manner and for the purpose described.

5. In a sulky of the character designated, the combination with the upper and lower bridge bars, of the axle truss, means for adjusting the ends of the upper bridge bar with relation to the ends of the lower bridge bar by utilizing the resilience of the upper bridge bar, said means of adjustment being interposed between the bends and the ends of said upper and lower bridge bars of the truss, substantially in the manner and for the purpose described.

6. In a sulky, the combination of the axle truss, comprising an upper and lower bridge bar and connections, the thills attached to the upper bridge of the axle truss, a truss cross bar secured to the thills in advance of the axle truss, and lateral braces secured at their forward ends to the inner sides of the thills and at their rear ends directly to the upper bridge bar of the axle truss, said lateral braces being also secured intermediately to the said truss cross bar, for the purpose described.

HENRY J. MILLER. [L. S.]

Witnesses:
D. W. GARDNER,
GEO. WM. MIATT.