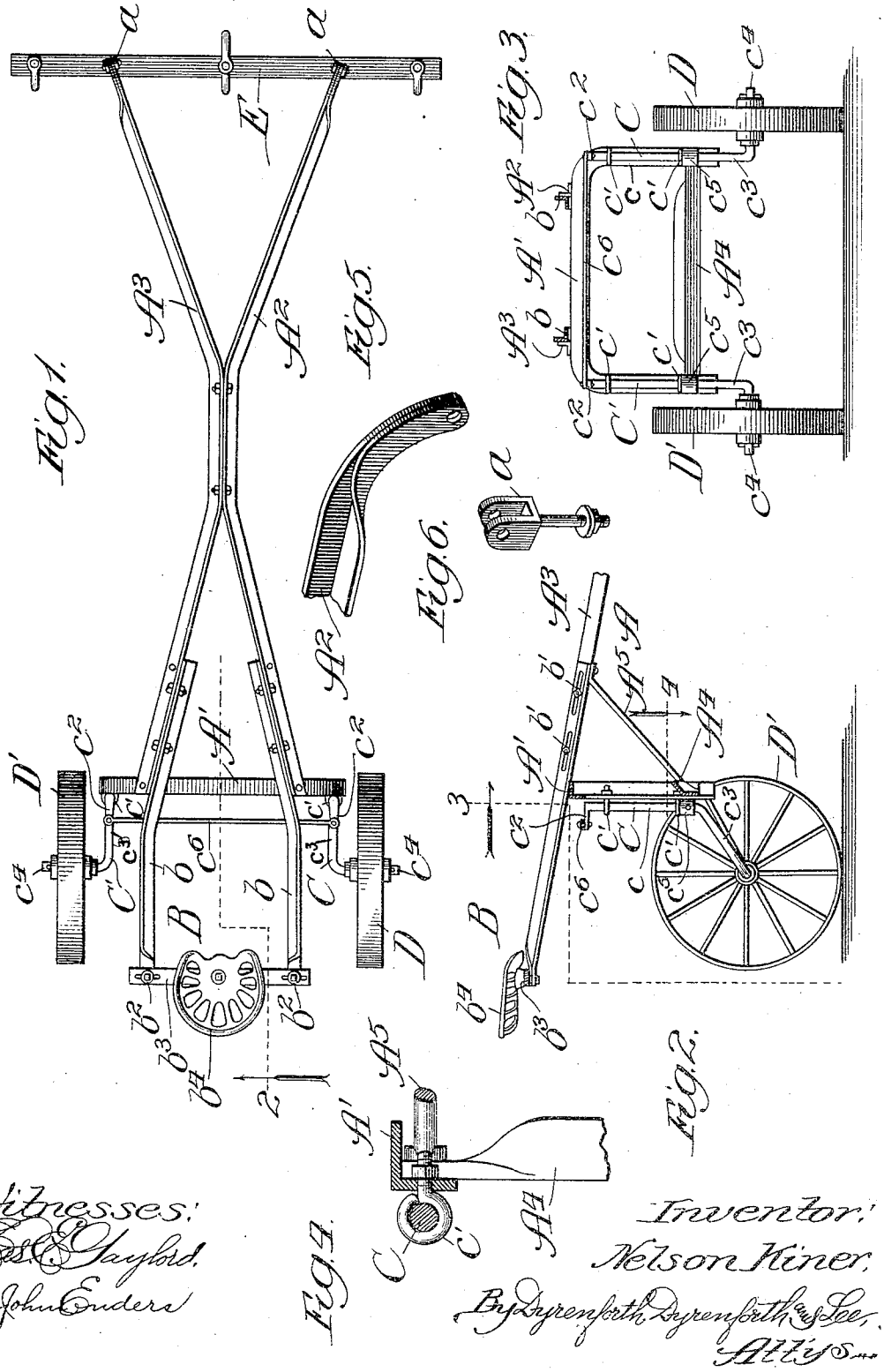
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N. KINER.

HARROW SULKY.

APPLICATION FILED MAY 2, 1904.

NO MODEL.



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UNITED STATES PATENT OFFICE.

NELSON KINER, OF MARSEILLES, ILLINOIS.

HARROW-SULKY.

SPECIFICATION forming part of Letters Patent No. 765,846, dated July 26, 1904.

Application filed May 2, 1904. Serial No. 205,909. (No model.)

To all whom it may concern:

Be it known that I, NELSON KINER, a citizen of the United States, residing at Marseilles, in the county of Lasalle and State of Illinois, have invented a new and useful Improvement in Harrow-Sulkies, of which the following is a specification.

My invention relates particularly to sulkies adapted for attachment to harrows; and my primary object is to provide a sulky for the purpose designated having improved features of construction throughout, rendering the sulky thoroughly practicable and admirably adapted to the purpose for which it was devised.

The invention is illustrated in its preferred embodiment in the accompanying drawings, in which—

Figure 1 represents a plan view of my improved sulky attached to a draw-bar or evener of a harrow; Fig. 2, a broken longitudinal sectional view taken as indicated at line 2 of Fig. 1; Fig. 3, a transverse sectional view taken as indicated at line 3 of Fig. 2; Fig. 4, an enlarged broken section taken as indicated at line 4 of Fig. 2; Fig. 5, a broken perspective view illustrating the shape of one of the shaft members at the point of attachment to the draw-bar, and Fig. 6 a perspective view of a clip employed in the connection at the draw-bar.

In the preferred construction, A represents a frame comprising a yoke or arch A′, shaft members A^2 A^3, a cross member A^4, and braces A^5, joining the vertical portions of the arch with the members A^2 A^3; B, a seat adjustably connected with the frame; C C′, caster-stems having vertical portions joined by swivel connections to the upright portions of the arch A′ and having at their lower ends outturned spindles, and D D′ wheels journaled on said spindles.

The arch A′ is preferably formed of angle-iron bent into U shape, the top-forming portion of the angle-bar having an upper forwardly-turned flange and a rear downwardly-turned flange, and the vertical portions having outer forwardly-turned flanges and rear inwardly-turned flanges. The reach or tongue members A^2 A^3 are formed of angle-irons whose rear ends are attached to the top of the arch, whose centers are connected together and whose front ends are separated, as shown. The members A^2 A^3 have adjacent upturned flanges, and at the front ends the horizontal flanges of the members are turned into a vertical plane, as shown in Fig. 5. The front ends of said members are curved downwardly and perforated for pivotal connection with bolts *a*, having swivel connection with the draw-bar. As thus described, the members A^2 A^3 brace each other, as clearly appears from Fig. 1.

The seat B comprises angle-shaped members *b*, having their front portions converging to correspond with the convergence of the rear portions of the members A^2 A^3, and said converging portions are joined by bolt-and-slot connection b' to the rear ends of the members A^2 A^3. In the rear of said connections the members *b* rest upon the top of the yoke A′. The members *b* have lower inturned flanges and upturned vertical flanges. The vertical flanges are bent down to a horizontal plane at their rear ends, at which point they are connected by bolt-and-slot connection b^2 with the cross member b^3, which support the seat proper, b^4.

Each stem C comprises a vertical portion *c*, swivelly connected by means of eyebolts c' with the upright members of the arch A′, rearwardly-turned arms c^2 at the upper ends of said vertical portions, downwardly and rearwardly inclined portions c^3 at the lower ends of said vertical portions, and outturned spindles c^4 at the rear lower ends of the portions c^3. The lower portions of the vertical parts *c* are equipped with collars c^5, affording bearings upon which the lower eyebolts c' rest, and the arms c^2 are connected together by a rod c^6.

From the foregoing description it will be understood that the tongue of the sulky extends over the harrow and is so attached to the draw-bar as to permit the tongue to swing in a vertical plane with relation to the draw-bar. When a turn is made with the harrow, the axis of the tongue remains in a plane at right angles to the plane of the draw-bar, which is represented by E, and the stems C C′ turn

in unison to maintain the body of the sulky directly in the rear of the center of the harrow. The cross member A^4 has a forwardly and upwardly inclined flange, which forms a convenient foot-rest. The seat is adjustable forwardly and backwardly to enable the sulky to be properly balanced, according to the weight of the driver. The construction is an all-metal structure, and is therefore thoroughly durable and is perfectly adapted to the purpose for which it has been devised.

It will be understood that changes in details of construction within the spirit of my invention may be made. Hence no undue limitation should be understood from the foregoing detailed description.

What I regard as new, and desire to secure by Letters Patent, is—

1. In a sulky of the character described, the combination of a frame having tongue members adapted to be secured at different points on the machine to which it is to be attached, a seat connected with said frame, a pair of wheels, a pair of caster-stems provided with spindles upon which said wheels are journaled and equipped with arms, and a rod connecting said arms, for the purpose set forth.

2. In a sulky of the character described, the combination of a frame comprising a yoke of U-form angle-iron, a tongue comprising angle-irons secured at their rear portions to the horizontal portion of said yoke and bent to meet at their central portions and having their front ends separated, connecting means joining the central portions of said second-named angle-irons, caster-stems having swivel connections with the vertical portions of said yoke and equipped with spindles, and wheels journaled on said spindles, for the purpose set forth.

3. In a sulky of the character described, the combination of a frame comprising a yoke of U-shape angle-iron, tongue members connected at their rear ends with the horizontal portion of said yoke and having their central portions meeting and connected together and their front portions separated, a seat having members bearing on the horizontal portion of said yoke and adjustably connected with said tongue members, caster-stems having swivel connections with said frame and equipped with spindles, and wheels journaled on said spindles.

4. The combination of a pair of wheels, a pair of caster-stems equipped with spindles on which said wheels are journaled and provided at their upper ends with rearwardly-turned arms, connecting means connecting said arms, a frame-arch having vertical portions with which the vertical portions of said stems are swivelly connected, a tongue having members connected with the horizontal portion of said arch, braces connecting the lower ends of the vertical portions of said arch with said tongue members, and a seat connected with said tongue members, for the purpose set forth.

5. The combination of a pair of wheels, a pair of caster-stems having vertical portions c, arms c^2 and rearwardly and downwardly inclined portions c^3 equipped with outturned spindles on which said wheels are journaled, an arch of angle-iron having its vertical portions equipped with inturned rear flanges, eyebolts joined to said flanges and swivelly connecting the vertical portions of said caster-stems thereto, a rod connecting the arms c^2, a tongue connected with said arch, and a seat connected with the frame, for the purpose set forth.

6. In a sulky of the character described, the combination of a frame-arch, a pair of caster-stems swivelly connected therewith and equipped with spindles, a pair of wheels journaled on said spindles, and a tongue comprising angle-irons having adjacent upturned flanges, said angle-irons being bent together and connected at their central portions, the front portions of the horizontal flanges of said angle-irons being bent into vertical planes and the angle-irons perforated thereat, for the purpose set forth.

NELSON KINER.

In presence of—
M. T. MACKENZIE,
WALTER N. WINBERG.