

(No Model.)

2 Sheets—Sheet 1.

T. HARRINGTON.
RACING SULKY.

No. 508,707.

Patented Nov. 14, 1893.

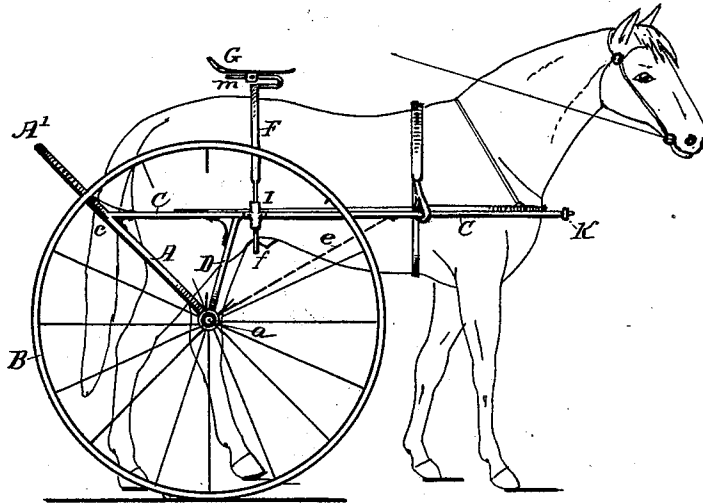


Fig. 1

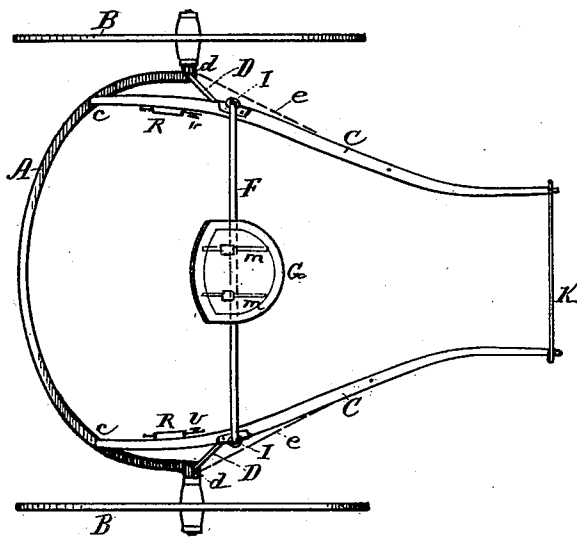


Fig. 2

Witnesses.

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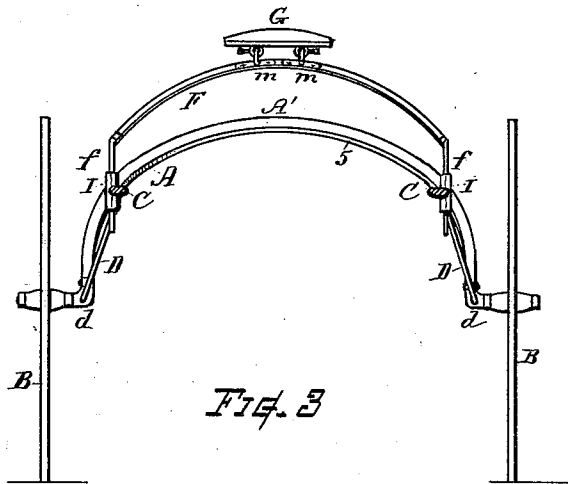


Fig. 3

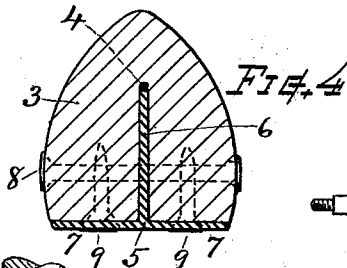


Fig. 4

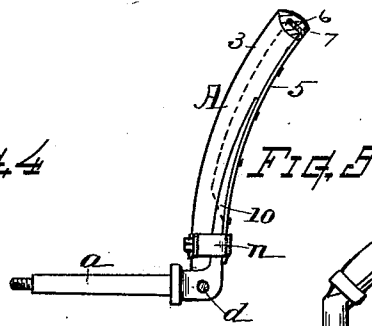


Fig. 5

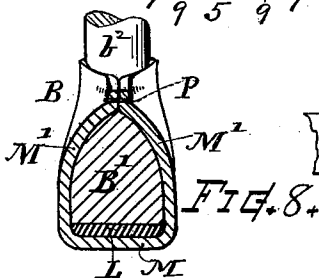


Fig. 8

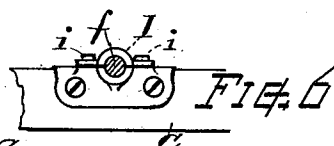


Fig. 6

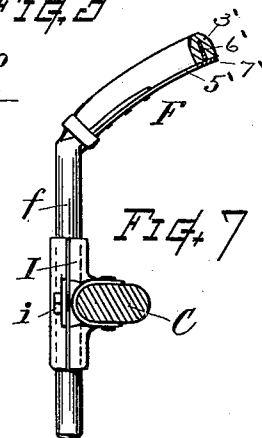


Fig. 7

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UNITED STATES PATENT OFFICE.

THEODORE HARRINGTON, OF SOUTHBRIDGE, MASSACHUSETTS.

RACING-SULKY.

SPECIFICATION forming part of Letters Patent No. 508,707, dated November 14, 1893.

Application filed July 5, 1893. Serial No. 479,565. (No model.)

To all whom it may concern:

Be it known that I, THEODORE HARRINGTON, a citizen of the United States, residing at Southbridge, in the county of Worcester and State of Massachusetts, have invented a new and useful Racing-Sulky, of which the following, together with the accompanying drawings, is a specification, sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The object of my present invention is to provide a racing sulky having its frame constructed in peculiar form with an axle that is arched and disposed in a backwardly inclined position relatively to the thills, which latter are attached thereto in a manner to give a strong independent connection for each, and to afford a free space for the horse between the wheels, as more fully hereinafter explained; also, to provide a seat support that extends over the back of the horse and which is vertically adjustable in supporting sockets attached to the thills or body frame, and to afford facilities for the backward and forward adjustment of the seat thereon.

Another object is to render the construction of the arched axle and the arched seat support strong, stiff, and durable without encumbering the same with undue weight and bulk.

These objects I attain by the peculiar construction illustrated and explained in the following detailed description; the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a side view of a racing sulky illustrating my invention. Fig. 2 is a top view. Fig. 3 is an elevation view looking toward the rear; the thills being in section. Fig. 4 is a transverse section showing the construction of the axle, and Fig. 5 a front view of one end of the axle. Figs. 6 and 7 show details of an adjusting attachment for the seat-supporting arch. Fig. 8 is a horizontal section of the yielding tug-attaching device, and Fig. 9 is a transverse section of the wheel-felly and the tire.

Referring to parts, A indicates the axle which is made with an upwardly arched central portion of approximately semi-circular form, having at its lower ends rigid, horizontal, outwardly projecting bearing journals or arbors *a*, upon which the wheels B B are mounted, preferably with suitable ball-bearings or other anti-frictional devices, so that said wheels will run with the least amount of resistance. This arched axle is disposed with its upper central part or arch backwardly inclined at an angle of about forty five degrees, more or less, from the vertical plane. The rear ends of the thills C are rigidly attached to the respective arched sides of the axle at some distance above the wheel centers, as indicated at *c*; and suitable braces or connecting irons can be employed to give strength and rigidity to the attachment. The lower ends of the axle are also rigidly connected with the under side of the respective thills by an upright or forwardly inclined standard-brace D, one end of which is fixed to the heel of the arbor at *d*, and the other to the thill. If desired a light forward brace *e* can be employed, as indicated by dotted lines in Figs. 1 and 2.

The length of the thills C and the location of the combined parts are such that when in use the wheels run at the sides of the horse, the wheel centers being preferably about in line with the hip-joint of the animal, and the backwardly inclined axle extends around in rear of his crupper at a sufficient height and distance to allow free action of the horse without liability of contact therewith.

A bow-shaped frame or arch F, having the seat G mounted in connection with the central part thereof, is connected with the thills C by suitable sockets or fastening devices I, somewhat forward of the wheel centers, and extends upward and across from one thill to the other in manner substantially as indicated, so that the seat occupies a position that is above the back of the horse when the sulky is in use. (See Fig. 1.) This seat-supporting arch is best provided with rigid upright guiding ends *f* that fit into and are ad-

justable up and down in the sockets I which are rigidly attached to the thills; and said sockets are provided with efficient holding devices, or binding-screws *i* whereby they can be firmly clamped upon said guiding ends *f* for retaining the arch F at any position. Vertical adjustment of the seat-supporting arch and seat is thus attained for accommodating the sulky to different sized horses.

- 10 The upper part of the arched frame F is best provided with horizontal guides *m* whereon the seat G is secured by ears that embrace the guides, and is thus arranged to slide or adjust to a more backward or forward position, as desired; suitable set-screws or holding devices being provided for retaining the parts when adjusted.

The arched axle is best made of a wood bar 3 bent to the required curvature, and a longitudinal saw kerf 4 formed therein, preferably at the center, and of a depth but partially through the wood. A thin steel double flanged bar or plate 5, formed to corresponding curvature, is then combined with said wood bar 3 in the manner indicated (see Figs. 4 and 5) with its central web 6 introduced into the said saw kerf, and its flanges 7 fitting against the under surface; and the wood and steel bars firmly united by transverse rivets 8 and screws 9, introduced at such intervals of spacing as required, thus producing a very strong and stiff structure. The bearing journals or arbors *a* are made with suitable heel blocks and shanks 10 that extend along the axle arch for a sufficient distance to afford a proper and durable attachment, as indicated in Fig. 5; the end of the wood 3 and steel 5 being secured by clasps *n* or bolts as may be desired. The seat-supporting arch F is in like manner formed of a kerfed wood bar and a steel angle bar of the required strength, size and stiffness. (See Fig. 7.) The sockets I should be made to accurately fit the standing ends *f* and with sufficient vertical extension to afford efficient support against sidewise leverage thereon.

At the front end of the shafts I arrange a cross-bar K having therein eyes that engage with suitable heads or lugs formed on the shafts by slipping over the same, and thus forming a detachable brace that maintains the shafts at proper distance apart and prevents their independent lateral flexure when the sulky is in use. The bar K is detached from the thills by any pressure against it from the rear, so that in the event of any accident that would release the horse from the sulky the advance of the horse would instantly throw off the connecting bar K. This bar K may in any instance be omitted when desired.

If a covering or tire of leather is desired it may be formed as shown in section in Fig. 9. The wheel rim or felly B', which is made of wood or suitable material, is surrounded by a tire or band of metal L that has rounded

outer edges. Outside this rim is a band or tire of leather M, the sides M' of which are wrapped about the felly B' and brought together at the inner part of the rim where the edges of the leather are sewed together at P, preferably with copper wire stitches, along that portion between the spokes *b*² of the wheel; thus forming a wheel surface that will not easily slip upon the track when rounding curves; but which is sufficiently hard, and moderately elastic, to insure good running and wearing qualities.

I claim as my invention herein, to be secured by Letters Patent—

1. The sulky frame, composed of the arched axle A, backwardly inclined at an angle of about forty five degrees, and having wheel-bearing arbors at its lower ends, in combination with thills C having their rear ends attached to said axles at the sides of the arch, and the standard braces D, respectively disposed in triangular relation to, and rigidly connecting the lower ends of the axle with the thills, all substantially as set forth.

2. In combination with the sulky-frame composed of the backwardly inclined arched axle, the thills, and the rigidly connected standard braces, as described; the seat-supporting arch, mounted upon and connected with the thills forward of the wheel centers, extending transversely over the back of the horse, and a seat carried on the center of said arch, for the purpose set forth.

3. The combination substantially as described, of the thills provided with upright sockets fixed thereon, the seat-supporting arch having upright guiding ends fitting into and vertically adjustable within said sockets, and means for clamping and releasing said ends to facilitate adjustment of the height of the same within said sockets, for the purpose set forth.

4. The seat-supporting arch provided with guides *m* at right angles to the plane of the arch, the seat provided with bearings that are adjustable on said guides, and means for securing the seat at adjustable position, in combination with the sulky body having the thills provided with connecting joints or sockets whereby said arch is sustained upon the thills, for the purpose set forth.

5. In a racing sulky or vehicle, the combination of a seat-supporting arch vertically adjustable in connection with the thills or frame, a seat horizontally adjustable in connection with said arch, and means for securing the parts at positions of adjustment, substantially as set forth.

6. In a racing sulky the arched axle composed of the bent wood body-portion 3 having a vertical saw kerf 4 cut longitudinally therein, and the arched double flanged steel-plate 5 its central web 6 inserted into said saw kerf and its flanges 7 fitted against the under face of the wood body-portion, the parts rigidly secured together by screws 9 inserted ra-

dially through flanges, and rivets 8 extending laterally through the wood and steel web, from side to side as shown, in combination with the axle arbors having upwardly curved
5 shanks 10 that extend along the arch and are secured between the wood and steel plates, substantially as shown and described.

Witness my hand this 1st day of July, A.
D. 1893.

THEODORE HARRINGTON.

Witnesses:

CHAS. H. BURLEIGH,
ELLA P. BLENUS.