2 Sheets—Sheet I.

W. J. DONLEY.

TROTTING-SULKIES.

No. 195,588. Patented Sept. 25, 1877.

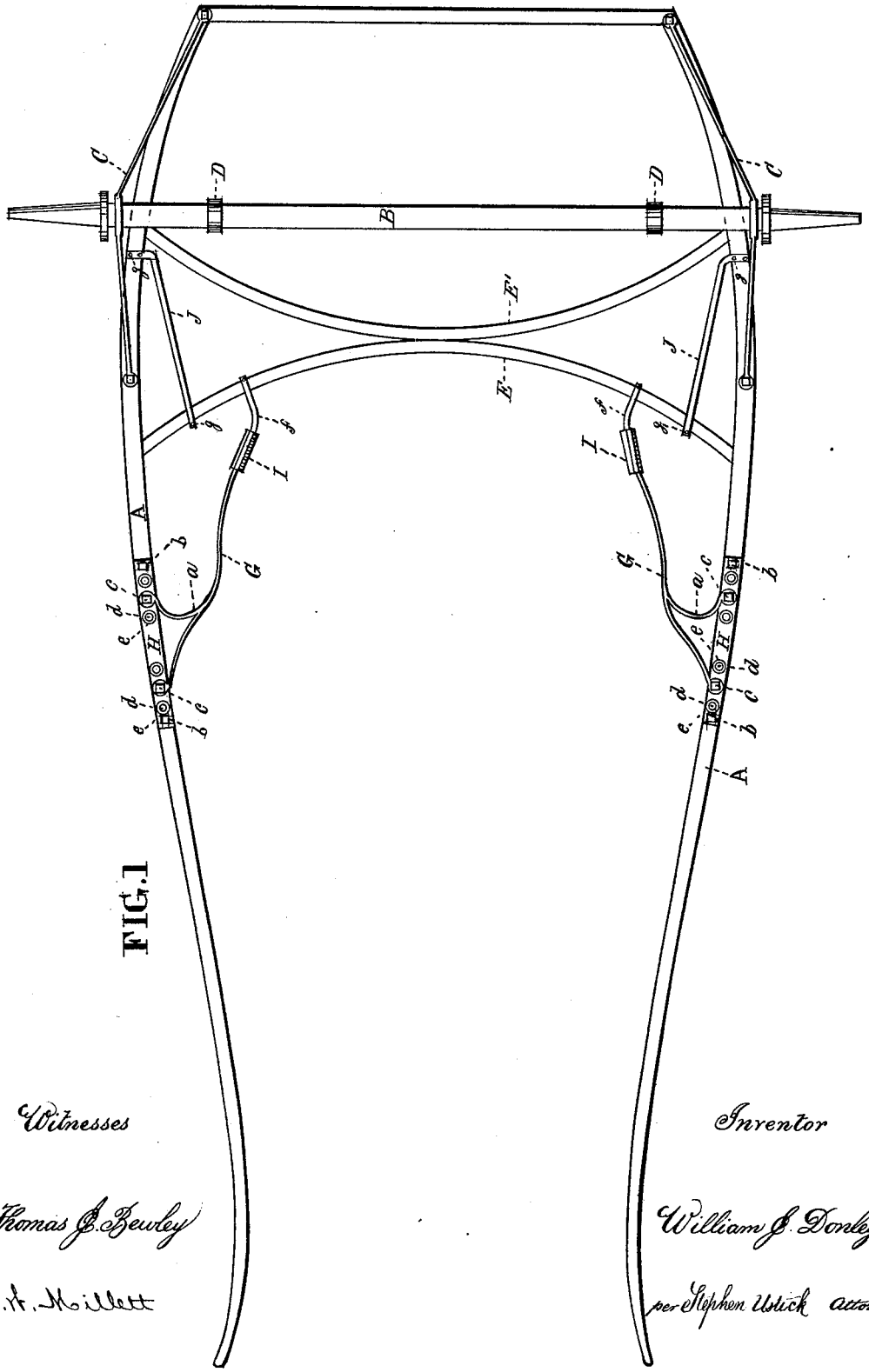

FIG. 1

Witnesses

Thomas J. Bewley

S. H. Millett

Inventor

William J. Donley

per Stephen Ustick attorney

2 Sheets—Sheet 2.

W. J. DONLEY.

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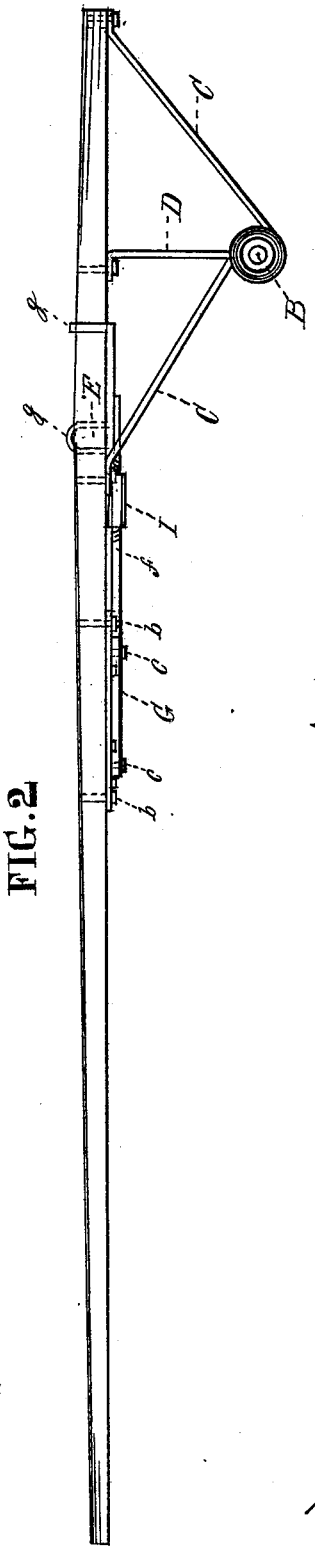

FIG. 2

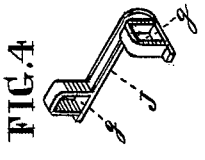

FIG. 4

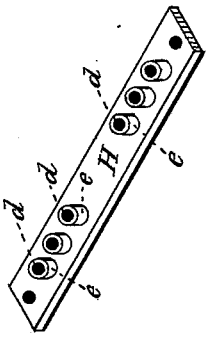

FIG. 5

Witnesses

Thomas J. Bewley

S. H. Millett

Inventor

William J. Donley

per Stephen Ustick Attorney

UNITED STATES PATENT OFFICE.

WILLIAM J. DONLEY, OF CAMDEN, NEW JERSEY, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHARLES S. CAFFREY, OF SAME PLACE.

IMPROVEMENT IN TROTTING-SULKIES.

Specification forming part of Letters Patent No. **195,588**, dated September 25, 1877; application filed July 31, 1877.

To all whom it may concern:

Be it known that I, WILLIAM J. DONLEY, of the city and county of Camden, in the State of New Jersey, have invented a new and useful Improvement in Stirrups or Foot-Irons for Track or Trotting Sulkies, which improvement is fully set forth in the following specification and the accompanying drawings, in which—

Figure 1 is a bottom view of the shafts and axle of a sulky and parts attached having my improved stirrups or foot-irons. Fig. 2, Sheet No. 2, is a side elevation of the same. Fig. 3 is an isometrical view of one of the plates H on an enlarged scale. Fig. 4 is an isometrical view of a stay-rod, J.

Like letters of reference in all the figures indicate the same parts.

Heretofore the stirrups or foot-irons have been permanently attached to the shafts at a suitable distance from the seat of the sulky for persons of medium size, and consequently too near the seat for large persons, and too far from it for small ones, causing the former to sit with their legs more or less cramped, and the latter to be under the necessity of sitting too much on the front part of the seat, in order to rest their feet on the stirrups.

To overcome these difficulties, and adapt the stirrups of any sulky to persons of various sizes, is one object of my invention; and a quick and convenient lateral adjustment of the front ends of the shafts, so as to vary the size of the space between them to suit horses of various sizes, is another object of my invention.

The nature of my invention by which the first-mentioned object is attained is an adjustment of the stirrups or foot-irons in the longitudinal direction of the shafts, so as to vary the distance of the foot-rests from the seat of the sulky, as fully described hereinafter.

The invention, in the second place, consists in making the stirrups or foot-irons in two pieces, and connecting them with coupling-nuts having right and left screw-threads, whereby the length of the irons is expeditiously varied to suit their longitudinal adjustment on the shaft, and a means is afforded of inclining the front ends of the shafts either outward or inward to vary the size of the space between them to suit horses of various sizes. The strain upon the cross-bar is relieved by means of braces connected with it and the shafts.

A A represent the shafts of a track or trotting sulky. B is the axle, and C C the braces or stays which support it. D D are the upright stays, connected with the shaft and axle in the usual manner. E and E′ are, respectively, the front and rear cross-bars.

So far this description applies to the same parts of an ordinary sulky, while my invention is set forth in what now follows.

G G are the stirrups or foot-irons, which, instead of having the ordinary permanent position on the shafts A A, are adjustable in the direction of the length of the latter; so as to vary the distance of the foot-rests *a a* from the seat of the sulky to suit persons of various sizes. To effect this there are plates H H confined to the lower sides of the shafts by means of screws *b*. To these plates the stirrups or foot-irons are confined by means of screws *c*, there being a series of holes, *d*, in the plates for the purpose of varying the position of the foot-irons at pleasure, so as to increase or decrease the distance of the foot-rests from the seat. In order to relieve the confining-screws *c* of lateral strain, the plates H H have projections *e* around the holes *d*, which fit in corresponding depressions around the screw-holes of the foot-irons. The same object may be attained by serrating the plates H crosswise, and having corresponding serrations in the bearing-surfaces of the foot-irons.

I do not confine myself to the adjustment of the stirrups or foot-irons on the plates H having a series of holes, as described, as the object may be accomplished in other ways without departing from the principle of my invention. For instance, grooves or slots, either dovetailed or plain, may be made in the plates H, and tongues or ribs on the bearing-faces of the foot-iron, or vice versa, the said grooves or slots running in the longitudinal direction of the plates. By this means a very accurate adjustment may be made before confining the foot-irons firmly upon the plates by means of the screws.

For the double purpose of adapting the length of the stirrups or foot-irons to their adjusted positions, and also to vary the distance between

the front ends of the shafts A A, so as to suit the different sizes of horses, I make the rods *f*, which connect with the cross-bars, in two pieces, and connect them with coupling-nuts I, so that by turning the nuts in one direction the length of the rods is increased, or by turning them in the opposite direction it is diminished, as may be required to suit the adjustment of said irons; and when the proper adjustment of the irons is effected, and they are secured in their places by the confining-screws *c*, by an increased lengthening of the stirrup by means of the coupling-nuts the shafts are expanded or inclined outward at their front ends to widen the space between them as the nuts are turned in one direction, and by turning the nuts in the opposite direction, so as to contract the length of stirrups, the shafts are inclined inward to decrease the width of the space, thus varying the size of the space between the front ends of the shafts to suit the size of the horse.

When the advantage of altering the size of the space between the shafts A A is only desired, that part of the invention relating to the adjustment of the stirrups or foot-irons may be omitted.

J J are stay-rods, connected at one end with the cross-bar E and at their other end with the shafts A A, to counteract the strain exerted upon the bar by the stirrups or foot-irons. A very firm and quick connection of these stay-rods is made with the cross-bar and shafts by means of the eyes *g g* on the ends of the rods, which have a close fit upon the same.

I claim as my invention—

1. The plates H H, having a series of holes, *d*, in combination with the shafts A A and stirrups or foot-irons G G, for the adjustment of the latter, substantially as set forth.

2. The stirrups or foot-irons G G, having their rods *f f* made in two pieces, connected together by means of coupling-nuts I I, or other suitable device, in combination with the shafts A A and cross-bar E, substantially as and for the purpose set forth.

3. The combination of the stay-rods J J, having sockets or eyes *g g* on their ends, with the shafts A A, cross-bar E, and stirrups or foot-irons G G, for resisting the strain of the foot-irons upon said bar, substantially as set forth.

WILLIAM J. DONLEY.

Witnesses:

STEPHEN USTICK,

S. W. MILLETT.