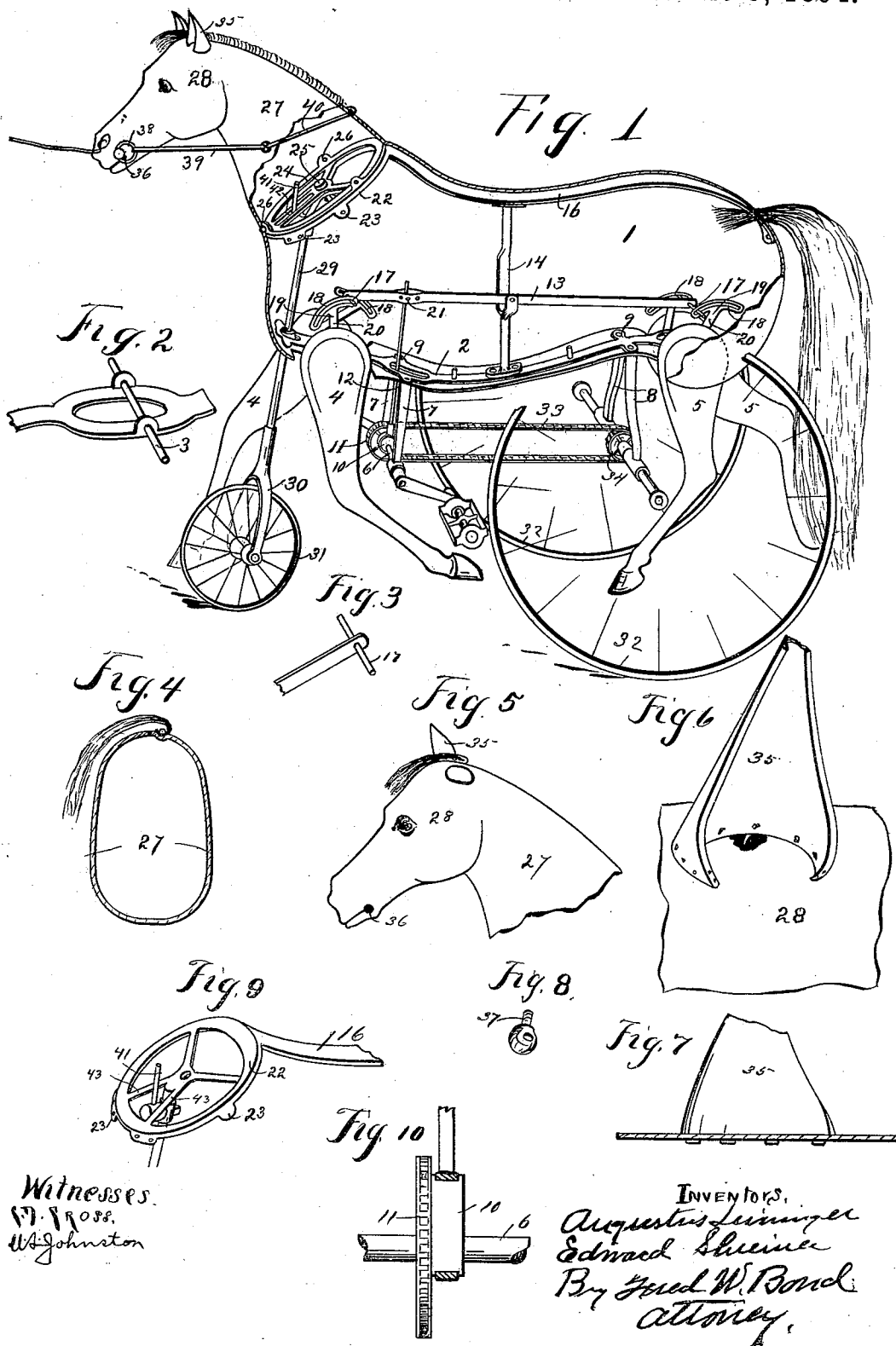


A. LEININGER & E. SHREINER.
TRICYCLE.

Patented June 5, 1894.



UNITED STATES PATENT OFFICE.

AUGUSTUS LEININGER AND EDWARD SHREINER, OF CANTON, OHIO.

TRICYCLE.

SPECIFICATION forming part of Letters Patent No. 520,790, dated June 5, 1894.

Application filed September 21, 1893. Serial No. 486,068. (No model.)

To all whom it may concern:

Be it known that we, AUGUSTUS LEININGER and EDWARD SHREINER, citizens of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Tricycles; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1, is a longitudinal section, showing the location of the different parts calculated to communicate movement of the legs. Fig. 2, is a view showing a portion of one end of the lower attaching bar or rib. Fig. 3, is a view showing a portion of one end of the rock-bar together with its cross pin. Fig. 4, is a transverse section on the neck. Fig. 5, is a detached view of the head showing one of the ears removed. Fig. 6, is a view illustrating the manner of attaching the ears to the head. Fig. 7, is a similar view. Fig. 8, is a detached view of one of the bit eyes. Fig. 9, is a view showing the lower section of the turn table and illustrating a portion of the back bone or bar. Fig. 10, is a view showing a portion of the pedal shaft and illustrating the position of the eccentric and sprocket wheel located thereon.

The present invention has relation to tricycles and it consists in the different parts and combination of parts hereinafter described and particularly pointed out in the claim.

Similar figures of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the body, which in this instance is that of a horse; but it will be understood that the body of any other quadruped can be substituted for that of the horse shown, without departing from the nature of our invention, but we prefer in the manufacture of our improved tricycle to use the body of a horse. The body proper is formed in sections or halves and the halves attached together as hereinafter described. For the purpose of providing a means for supporting the body and attaching the different parts properly belonging to the body the lower center band or bar 2 is pro-

vided, which is formed with sufficient strength to properly support and hold the different parts to be hereinafter described.

The center bar or rib 2 is provided with the cross bars 3, which cross bars are for the purpose of pivotally connecting the legs 4 and 5. In Fig. 1 the cross bars 3 are not shown; but it will be understood that they are to be located so as to properly attach the legs 4 and 5.

For the purpose of properly supporting the pedal shaft 6 the bracket 7 is provided, which bracket is securely attached by means of bolts or rivets to the center bar 2 or its equivalent; and for the purpose of providing suitable attaching surfaces for the brackets 7 and 8 the lateral arms 9 are provided, which lateral arms are formed integral with the center bar 2. To the bottom or lower end of the bracket 7 is journaled the pedal shaft 6, which pedal shaft is provided with the eccentric 10 and the sprocket wheel 11. To the band of the eccentric 10 is attached in any convenient and well known manner the pitman 12, which pitman extends upward as indicated in Fig. 1, and is pivotally connected at its top or upper end to the rock-bar 13. For the purpose of providing a fulcrum for the rock-bar 13, the post 14 is provided, to which post the rock-bar 13 is pivotally attached; the post 14 is extended upward, and its top or upper end attached to the back bone or bar 16, substantially as illustrated in Fig. 1; the object and purpose of extending the post 14 upward and attaching it to the back bone 16, is to provide a better means for securely holding the post 14 in proper position, and at the same time providing a support for the back bone 16. The ends of the rock-bar 13 are provided with the cross pins or bars 17, which cross pins or bars are so adjusted that they will engage the curved slots 18, which curved slots are formed in the T shaped heads 19, said T shaped heads being located upon the top or upper ends of the leg extensions 20. As rotary motion is communicated to the pedal shaft 6, a reciprocating motion is imparted to the pitman 12, which in turn imparts a rocking motion to the rock-bar 13 and by means of the cross pins 17 and the curve shaped slots 18 movement is communicated to the legs 4 and 5. For the purpose of producing the natural movement of

the legs 4 and 5, the extensions 20 together with their T shaped heads and curved slots are oppositely timed. For the purpose of regulating the throw of the legs 4 and 5 the top or upper end of the pitman 12 is set or adjusted to or from the pivotal point of the rock-bar 13, by means of a series of apertures, such as 21 or their equivalents. To the front or forward end of the bar 16 is attached the disk 22, which disk is provided with flanges 23, said flanges being for the purpose of attaching the sides of the body. Upon the upper side of the disk 22 is pivotally attached the disk 24 by means of the rivet 25 or its equivalent. The disk 24 is provided with the flanges 26, which flanges are for the purpose of attaching the bottom or lower end of the neck 27. It will be understood that by providing the disks 22 and 24 and pivotally attaching the same together the head 28 and the neck 27 will be jointed to the body.

For the purpose of properly supporting the front or forward end of the body, 1 together with the different attachments belonging thereto the rod 29 is provided at its bottom or lower end with the yoke 30, to which is journaled the wheel 31. For the purpose of communicating rotary motion to the rear wheels 32, the drive chain 33 and the sprocket wheel 34 are provided, said parts being located and arranged in the ordinary manner. To the head 28 are attached the ears 35, which ears are preferably formed of leather and are attached to the head substantially as illustrated in Figs. 6 and 7. The head 28 is provided with the apertures 36, which apertures are for the purpose of receiving the screw threaded ends of the bit eyes 37, said bit eyes being for the purpose of receiving the rings 38. It will be understood that the lower center bar 2, the post 14, the back bone 16, the disks 22 and 24 can be formed of cast metal,

and said parts when properly attached together will form the skeleton for the body of the horse or other animal. To the rings 38 are attached the rein bars 39, to the rear ends of which are attached the rein strap 40 or if desired the rein strap 40 may be extended along the rein bars 39. The rein bars 39 and the strap 40 are for the purpose of communicating movement to the head 28 by the rider. For the purpose of causing the bar 29 together with the yoke 30 to follow the movements of the head 28, the top or upper end of the rod 29 is provided with the extended arm 41, which extended arm extends upward through the slot 42. For the purpose of limiting the movements of the head and also the yoke 30, the bars 43 are provided, which bars are formed in the lower disk 22. The object and purpose of limiting the movement of the yoke 30, together with the wheel 31, is to prevent said wheel 31 from coming in contact with the pivoted legs 4.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The combination of the body 1, the lower center bar 2, the back bone 16, the post 14, the rock-bar 13 provided with cross pins or bars 17, the legs 4 and 5 pivotally attached and provided with the extensions 20 having the T shaped heads, provided with the curved slots, and means for communicating a rocking movement to the rock bar, substantially as and for the purpose specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

AUGUSTUS LEININGER.
EDWARD SHREINER.

Witnesses:

U. S. JOHNSTON,
F. W. BOND.