No. 701,747. Patented June 3, 1902.

G. W. MANSON.

BICYCLE.

(Application filed Nov. 17, 1900.)

(No Model.)

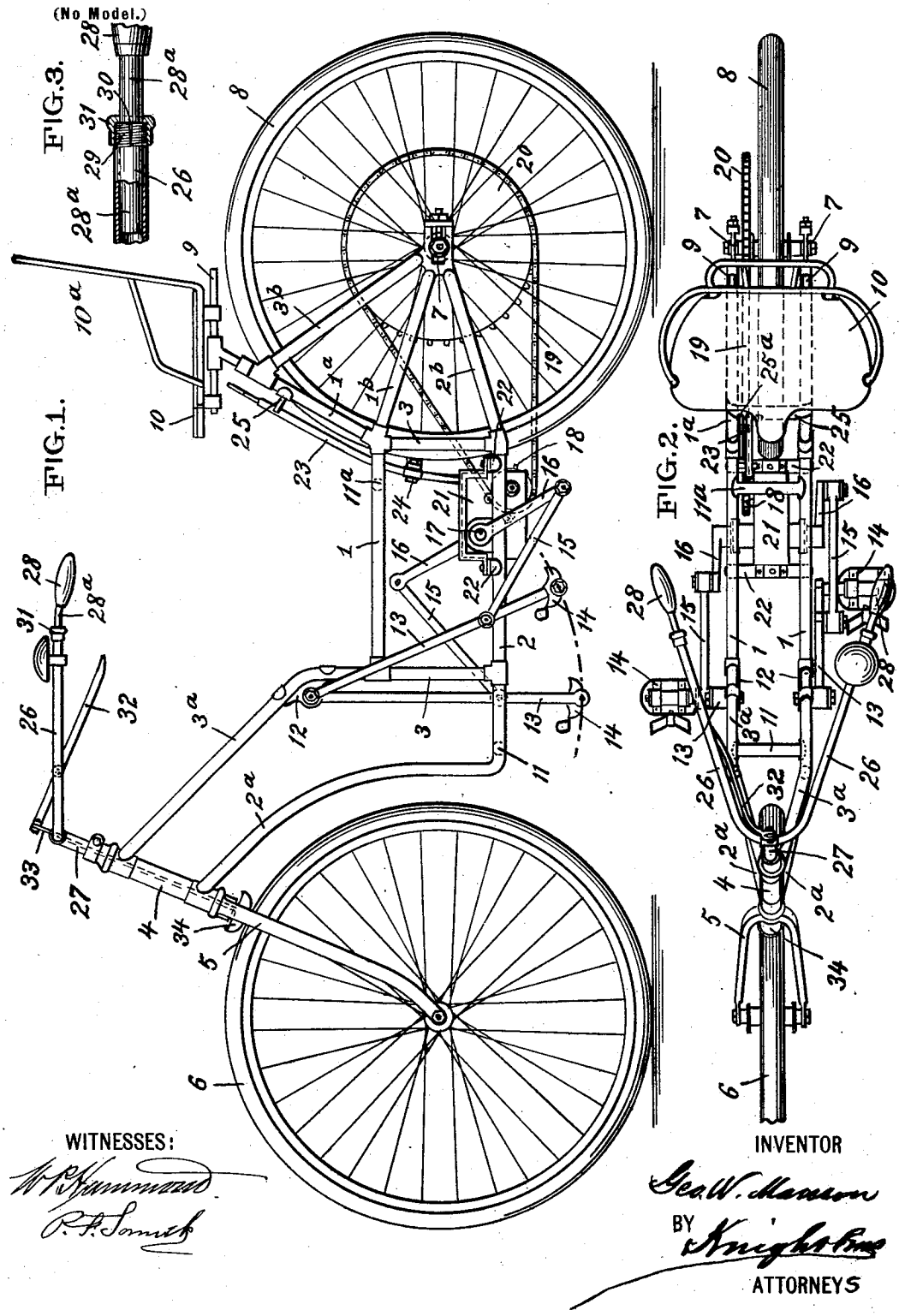


FIG. 1.

FIG. 2.

FIG. 3.

WITNESSES:

W. P. Hammond

R. F. Schmidt

INVENTOR

Geo. W. Manson

BY Knight Bros

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE W. MANSON, OF NEW YORK, N. Y.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 701,747, dated June 3, 1902.

Application filed November 17, 1900. Serial No. 36,643. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. MANSON, a citizen of the United States, and a resident of the borough of Manhattan, in the city and State of New York, have invented certain Improvements in Bicycles, of which the following is a specification.

My invention consists of improvements in the construction and combination of the frame, pedal-levers, seat, handle-bar, and steering-head, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side view of a bicycle, illustrating my invention. Fig. 2 is a top view of the same. Fig. 3 is a detail view, partly in section, of connected portions of the handle-bar and one of the handles on a larger scale.

In Letters Patent No. 616,421, granted to me the 20th of December, 1898, I described an improved construction of bicycle-frame, having on each side a pair of longitudinal bars in parallel position one above the other, inclined upward and forward in front and converging to the steering-head, having a drive-wheel mounted between their rear ends and a seat mounted on a vertical yoke-frame forming a truss for the rear part of the frame. In my present improvement I construct the respective sides of the frame in form of a parallelogram with tubes extending from its upper and lower front corners converging forward, upward, and inward to the steering-head and at rear with rearwardly-inclined tubular posts for the support of horizontal bars on which the seat is adjustably mounted and with tubular bars converging rearward from the top and bottom of the parallel side frames and the upper end of the seat-post to a box on each side of the drive-wheel, in which its bearings are adjustably mounted.

The central part of each side frame consists of a parallelogram made up of an upper tubular rail 1 and lower tubular rail 2, united at front and back by vertical tubes 3 3. The lower tubular rail 2 extends forward some distance beyond the front post 3, as shown in Fig. 1, and from thence upward in the form of a curved and forwardly-inclined standard 2^a. Said standards converge inward from each side frame and are firmly secured in front to the lower end of the tubular head 4, in which the fork 5 of the steering-wheel 6 has its bearings. From the front upper corner of each quadrangular side frame a tubular standard 3^a extends upward and forward, said inclined standards 3^a converging from each side to the upper end of the tubular head 4, to which they are likewise firmly secured. From the rear end of the rectangular portion 1 2 3 of each side frame tubular rails 1^b 2^b extend backward, converging in vertical planes to the boxes 7, in which the bearings of the drive-wheel 8 are adjustably mounted. From the rear upper corners of the said quadrangular portions of the respective side frames standards 1^a extend upward with a rearward inclination for the support of horizontal rails 9, on which the seat 10 is mounted. From near the upper ends of the standards 1^a tubular braces 3^b extend downward to the boxes 7. The respective side frames thus constituted are rigidly trussed in vertical planes and are made especially strong and stiff in their rear parts, where the weight of the rider is sustained. The two side frames are rigidly connected by horizontal tubular bars 11 11^a 25, so as to be firmly braced also in horizontal direction.

A bracket 12 is attached to the forward upper tubular standard 3^a of each side frame, upon which is hung a lever 13, having a foot-pedal 14 at its lower end. At a point about one-third the length of the lever from the pedal connection is made through connecting-rod 15 to crank 16 for turning the main shaft 17 of a train of gearing which drives the small sprocket-wheel 18, chain 19, and large sprocket-wheel 20, which is secured to the hub of the drive-wheel 8. The crank-shaft, the sprocket-wheel shaft, and intermediate gearing are mounted in a separate casing 21, which is placed between the side frames and secured to two cross-bars 22, attached to the lower rail 2 of each side frame. A lever 23 for controlling and shifting the gearing is pivoted to the frame at 24 and held in place by notches 25^a in the cross-bar 25 of the seat-frame 1^a.

The handle-bars 26 are turned sharply back from steering-head 27 of the fork 5 and the handles 28 placed the usual distance apart. The ends of the tubular handle-bars 26 are screw-threaded at 29 and split, as shown at

30, and provided with a nut 31, having a tapering thread which serves to clamp the ends of handle-bars upon the telescoping shank 28^a of the handles 28. One of the handle-bars is provided with a brake-lever 32, having the brake-rod 33 passing down through the center of steering-head 27 and acting on a brake-shoe 34 of common form. The handle-bar arms 26, projecting backward, as shown, and the handles 28, adjustable longitudinally therein, together with the vertical and longitudinal adjustment of the seat and its vertical adjustment afforded by mounting its support telescopically in the seat-standards 1^a, as shown, afford great facility for adjusting the bicycle for the use of riders of different stature and length of limb.

The position of the seat 10 considerably to the rear of the pedals 14 and the provision of a back 10^a for the seat and the rearward inclination of the pedal-levers 13 enable the use of the leg-muscles to the greatest advantage in propelling without depending mainly on the weight of the rider applied to the pedals.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

The combination of the handle-bars, formed with rearwardly-projecting arms 26, the handles 28 separately adjustable longitudinally of said arms, the seat 10, 10^a adjustable in height and longitudinally on the inclined standard 1^a and the rearwardly-inclined pendent pedal-levers 13 mounted on a suitable frame, substantially as described, to enable the adaptation of the machine for advantageous use by riders of different arm-reach and stature.

GEORGE W. MANSON.

Witnesses:
OCTAVIUS KNIGHT,
WM. P. HAMMOND.