

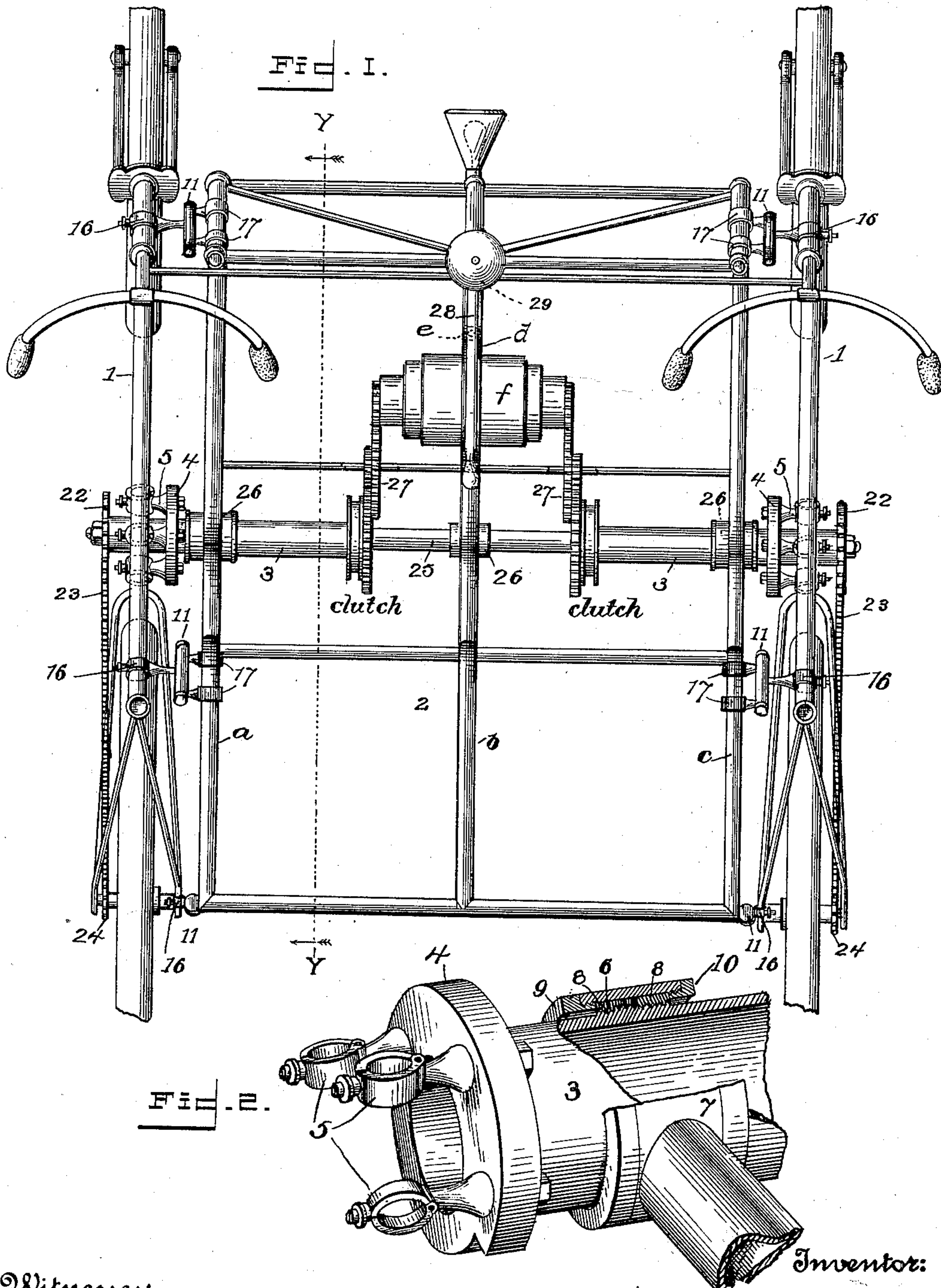
(No Model.)

3 Sheets—Sheet 1.

H. G. MEUMANN.
VELOCIPÈDE.

No. 598,228.

Patented Feb. 1, 1898.



Witnesses:
Fenton S. Pelt,
J. A. Williams.

Inventor:
Herman G. Meumann,
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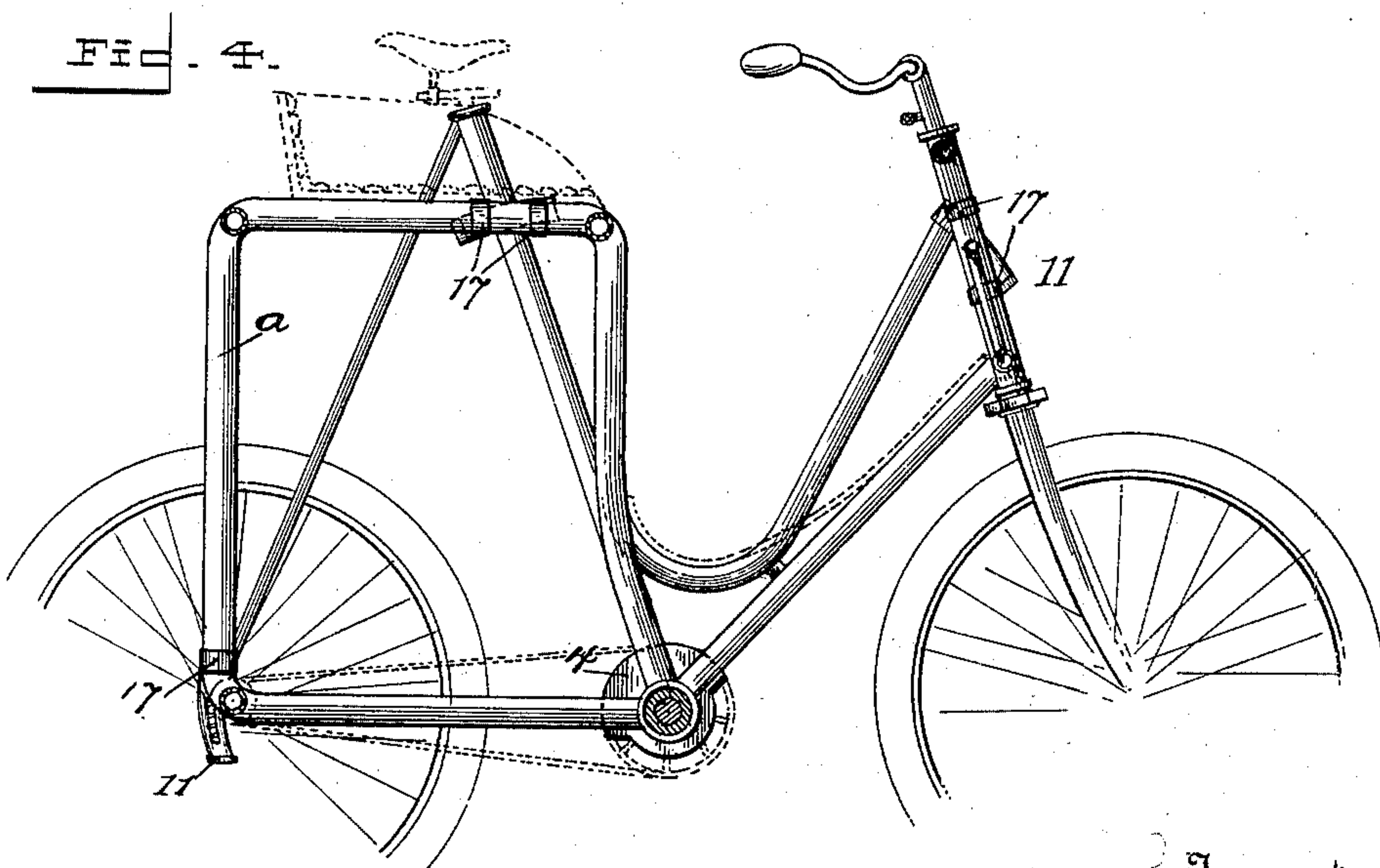
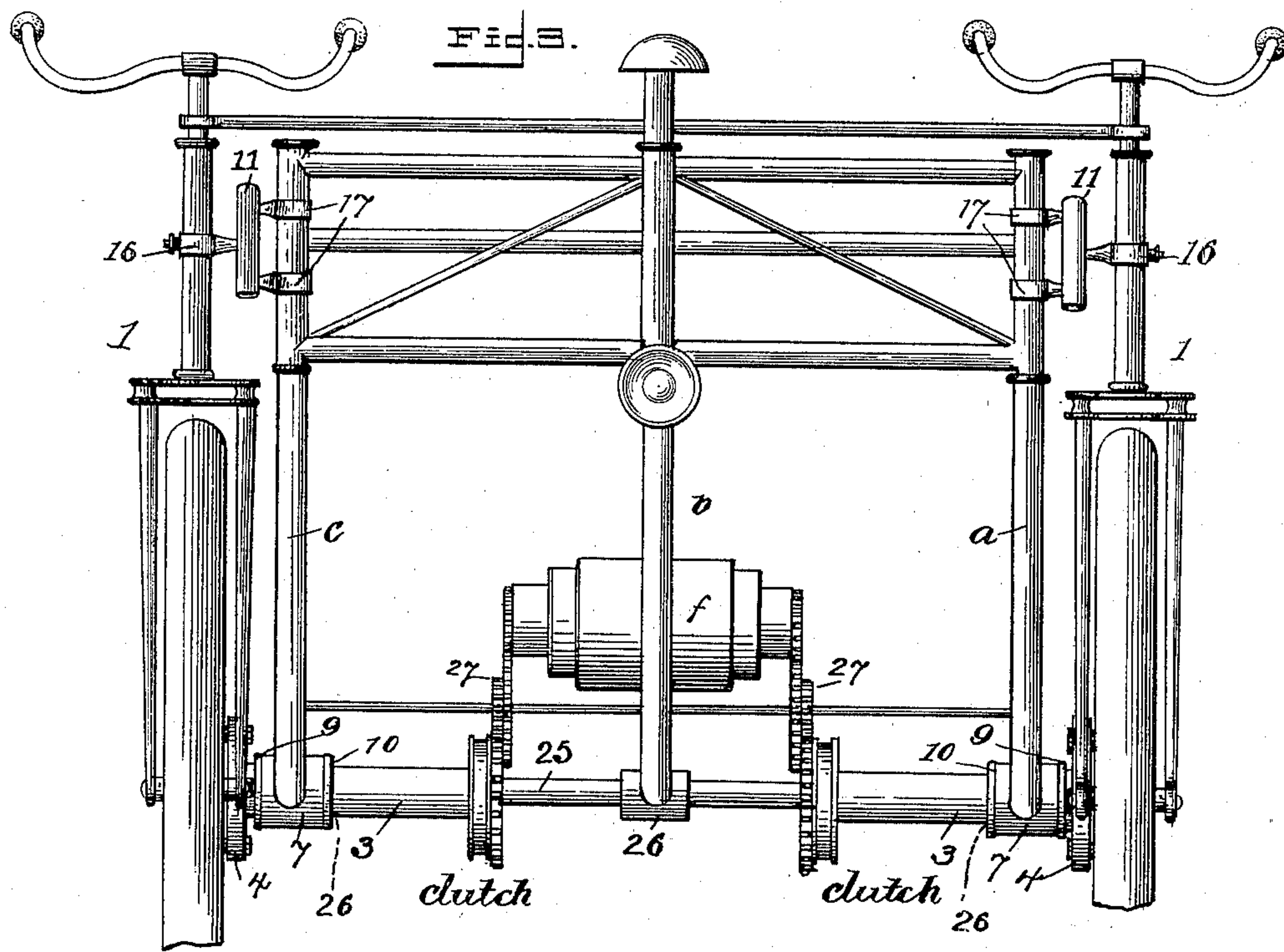
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3 Sheets—Sheet 2.

H. G. MEUMANN.
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(No Model.)

3 Sheets—Sheet 3.

H. G. MEUMANN.
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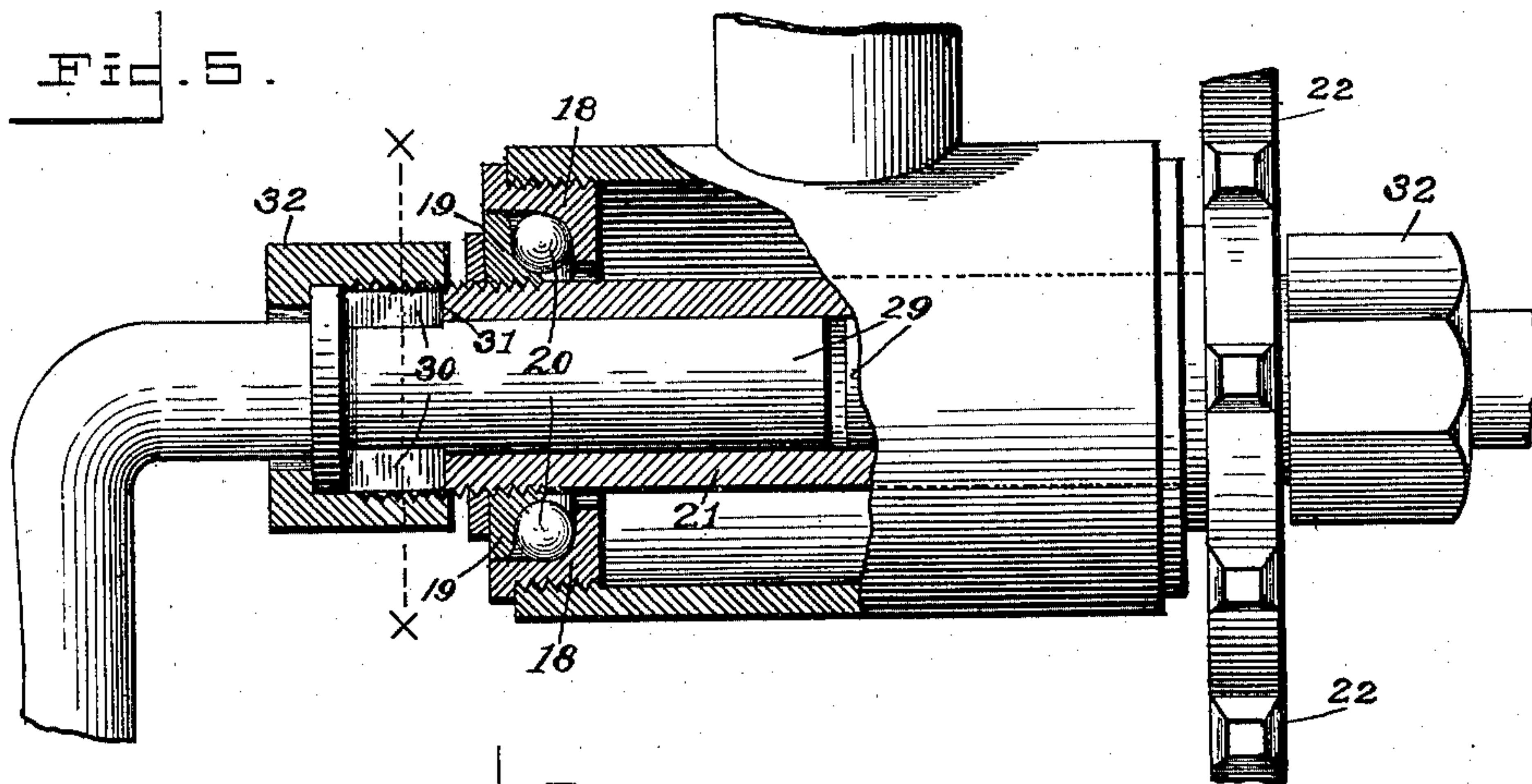


Fig. 6.

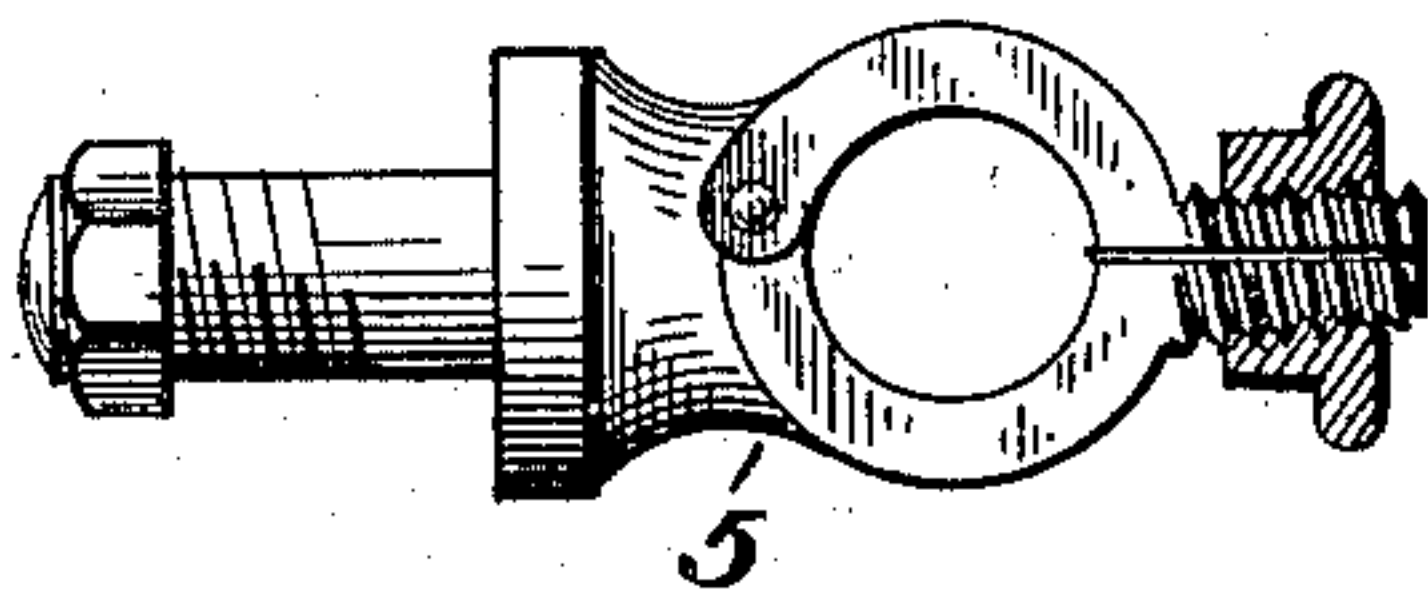


Fig. 7.

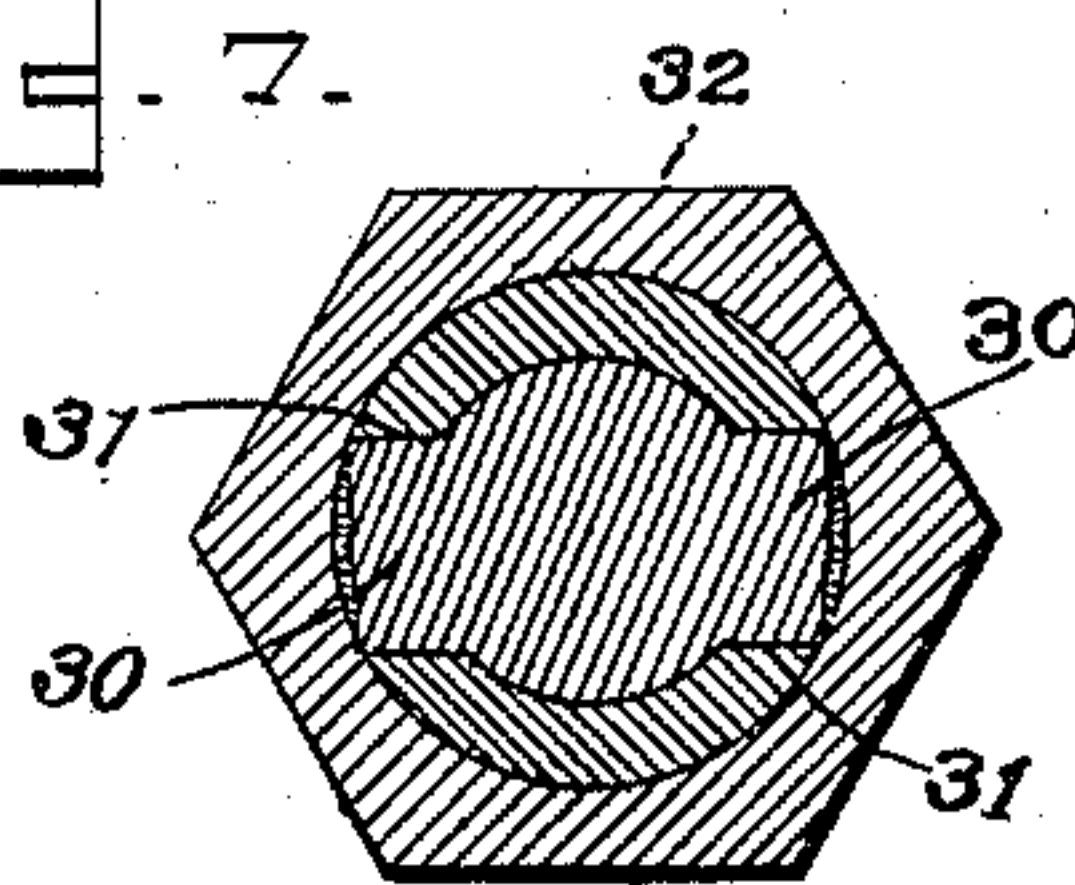


Fig. 8.

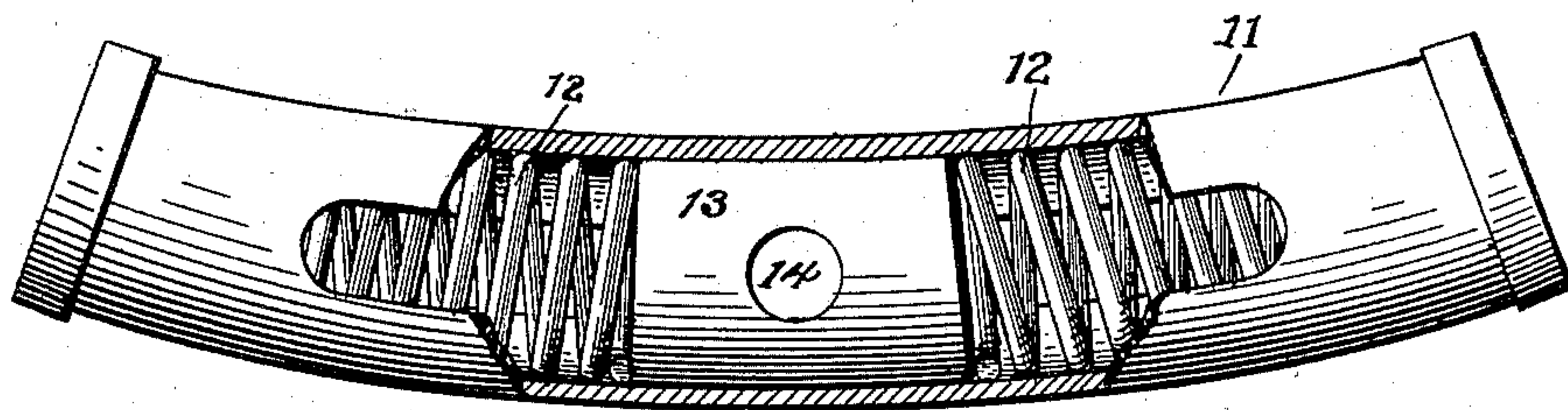


Fig. 9.

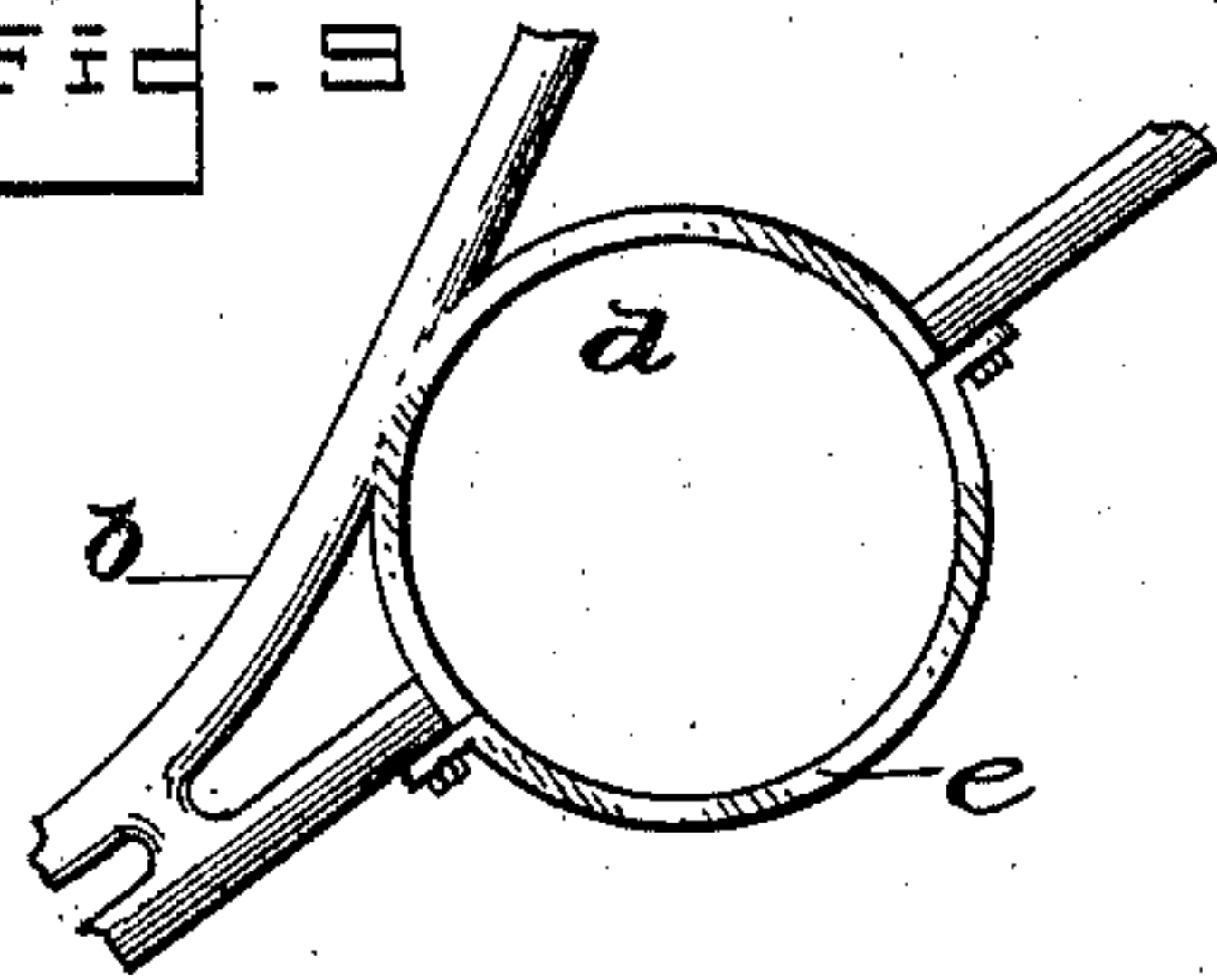
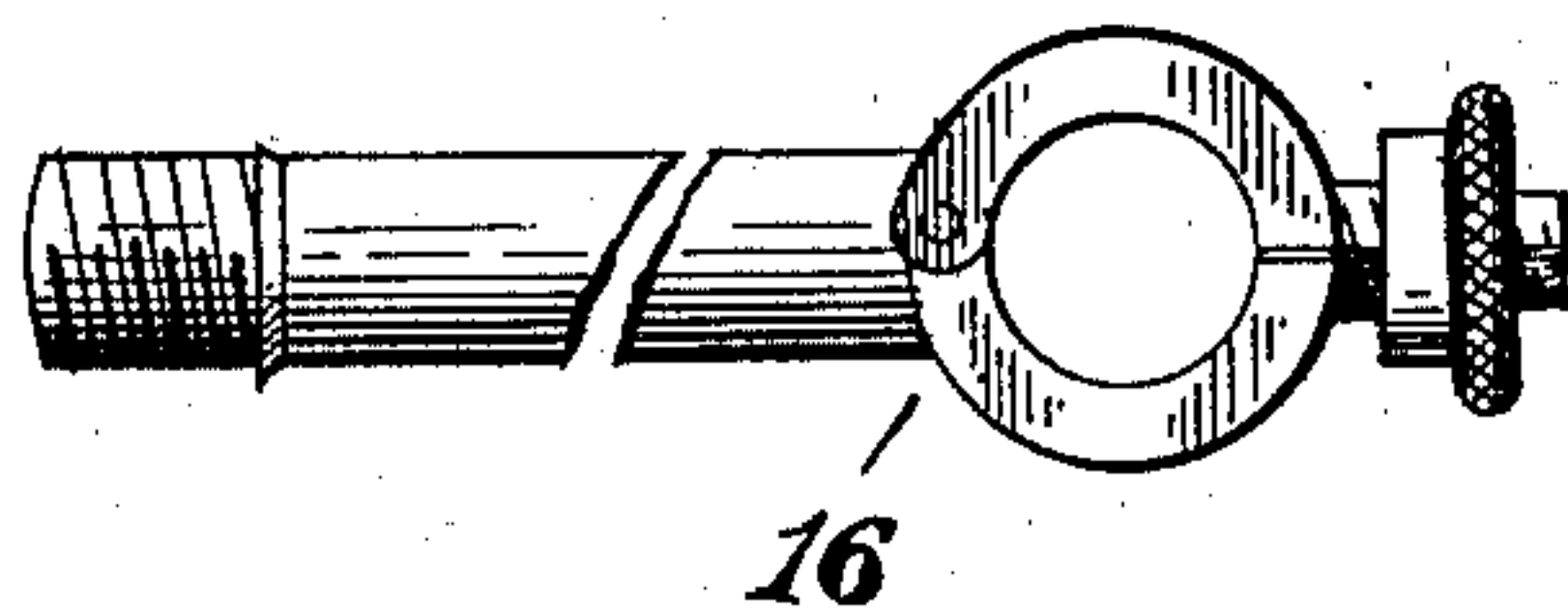


Fig. 10.



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UNITED STATES PATENT OFFICE.

HERMANN G. MEUMANN, OF BESSEMER, ALABAMA.

VELOCIPEDÉ.

SPECIFICATION forming part of Letters Patent No. 598,228, dated February 1, 1898.

Application filed August 7, 1897. Serial No. 647,435. (No model.)

To all whom it may concern:

Be it known that I, HERMANN G. MEUMANN, a citizen of the United States, residing at Bessemer, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Velocipedes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to velocipedes, and more particularly to that class of machines known as "duplex."

The object of the invention is to provide a machine of this character which, while resembling in many respects the machine for which I made application for Letters Patent, Serial No. 620,097, embodies certain changes in the construction whereby the present machine will run more easily and have a better support upon the ground.

A further object is to provide means so that should the machine become damaged or it be desired to disconnect the ordinary bicycles from the machine-frame proper this disconnection may be effected without disturbing the ball-bearings.

With these objects in view the invention consists of certain features of construction and combination of parts, which will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a plan view of a machine embodying my invention, showing the seat and foot-support removed in order to illustrate the underlying parts. Fig. 2 is a detail perspective view, on an enlarged scale, illustrating one of the hanger-sleeves used in connecting the main frame of the machine to the bicycle-frames. Fig. 3 is a front view of the machine. Fig. 4 is a sectional view on line *y y*, Fig. 1, looking in the direction of the arrows. Fig. 5 is an enlarged elevation, partly in section, of one of the crank-shaft hangers of one of the bicycles, illustrating the form of crank-shaft employed and the application of the crank-shafts used when the bicycles are separated from the main frame and are adapted to be propelled by the rider. Fig. 6 is an enlarged view of one of the bolt-clamps shown in Fig. 2. Fig. 7 is a sectional view on line *x x* of

Fig. 5. Fig. 8 is an enlarged view of one of the spring-balances. Fig. 9 is a fragmentary elevation of a portion of the central section of the main frame, showing the clip for attaching the motor in position; and Fig. 10 is an enlarged view of one of the bolt-clamps for connecting the bicycles to the spring-balances secured to the sides of the main frame.

In the drawings, 1 denotes the frames of two ordinary safety-bicycles, and 2 denotes the main frame, to the sides of which the bicycles are attached. This frame consists of three sections *a b c*, the central section being provided with an integral arch *d* and with a clip *e*, whereby the electric motor *f* is supported.

The main frame is secured to the bicycle-frame in a manner to permit of the four wheels of the two bicycles remaining on the ground whether the machine is traveling upon a flat surface or a rolling or uneven surface. The connections comprise sleeves 3, provided with heads 4, which have clamping-bolts 5, which are clamped about the parts of the bicycle-frame near the crank-shaft hanger of each bicycle. These sleeves have threaded portions 6 and extend through bearings 7 on the two outside sections of the main frame and are held therein against sidewise movement in a novel manner, the description of which is as follows: Rings 8 8 are screwed upon the threaded portions of the sleeves, and nuts 9 are placed upon the outer ends of the sleeves. The sleeves are then inserted through the bearings 7 of the frame, from the outside thereof, and the nuts are then engaged with interior threads on the bearings and screwed up until they contact with one of the rings. Similar nuts 10 are now screwed upon the threads at the other end of the bearings until they abut against one of the screw-threaded rings, so that it is impossible for the sleeve to have any sidewise movement whatever when thus secured, while at the same time the main frame of the machine is permitted to have a rocking movement. Now to regulate this movement I connect the front and rear ends of the main frame with the front and rear parts of the bicycles by spring-balances, which consist of segmentally-curved tubes 11, two of which are secured at the

front end, two at the rear end, and two intermediate the ends of the main frame, as shown more clearly in Fig. 1 of the drawings. Located within each of these segmental tubes are two springs 12, having located between their inner or adjacent ends a sliding block 13, provided with a screw-threaded aperture 14. This tube is provided with a segmental slot 15, through which passes a clamping-bolt 16. (Shown more clearly in Fig. 10.) This bolt has its inner screw-threaded end engaging the screw-threaded aperture of the block, while its clamp-section is clamped about the frame of the bicycle, as shown in Fig. 1. The tube has on its opposite side two fixed studs having collars 17, which are brazed or otherwise permanently secured to the main frame of the machine. It will thus be seen that the main frame is nicely balanced, permitting the wheels of the two bicycles to always remain upon the ground whether the machine is traveling over smooth or uneven ground, and at the same time, owing to the rocking motion of the main frame of the machine, the occupants of the machine will not be jolted or jarred, as would be the case were the frames rigidly secured to the bicycle-frames.

The crank-shaft hangers of each bicycle are of usual construction, having the ball-cups 18, cones 19, and confined balls 20. A sleeve 21 extends through each of these crank-shafts and has a drive-sprocket 22, which is geared by a chain 23 with the small sprocket-wheels 24, which are secured to the axles of the rear wheels of the bicycles.

25 denotes the main drive-shaft, which is suitably journaled in bearings 26 in the main frame and projects through hanger-sleeves and through the sleeves 21 and are keyed thereto, so that when said shaft is rotated the sleeves, with their sprocket-wheels, will be likewise rotated and this motion communicated to the drive-wheels of the bicycles.

The drive-shaft is geared with the motor by trains of gearing 27, so that when said motor is in operation the shaft will be rotated. Clutch mechanism is also provided in order to allow the machine to move while the motor is at rest, as in coasting, and as this clutch mechanism may be of any well-known or approved construction, but preferably of the construction shown in my application hereinbefore referred to, a detail description of the same is not deemed necessary.

The electric motor receives its power from a storage battery, (not shown,) which storage battery is adapted to be supported by the center section of the main frame, the space being shown in Fig. 4 of the drawings.

28 denotes a tiller which is pivoted to the central section of the main frame and has its outer end pivoted to links 29, connected to the steering-stems of the bicycles, so that the machine may be under complete control of one of its occupants.

Should the machine break down, all that is necessary is to disconnect the clamping-bolts

from the bicycles, remove the bicycles from the main shaft of the main frame, and then insert the two-part crank-shaft 29. (Shown in Fig. 5.) Each part of this crank-shaft is provided with squared portions or extensions 30, which fit into slots 31, formed in the ends of the crank-shaft-hanger sleeve, and nuts 32 are used for clamping the two parts of the axle in place against endwise movement. After the bicycles have been thus separated from the main frame of the machine and the crank-shafts applied the occupants may ride off and leave the injured part in the care of some person until they have secured the assistance of some competent or skilled workman to repair the damage.

It will be noticed that in removing the bicycles from the main frame the balls in the crank-shaft hangers will not be disturbed in the least, owing to the fact that the sleeve always remains in the hanger. This is a decided improvement over my former device covered by the application for patent above referred to, as it permits of a more ready separation of the parts of the bicycle from the bicycle-frame.

While I have shown and described an electric motor for driving the velocipede, I would have it distinctly understood that I contemplate as coming within the scope of my invention the use of other motors—such, for instance, as a steam or gas motor—and wherever the word “motor” appears in the claims the same is intended to cover any form of motor which I may desire to employ for driving the velocipede.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a velocipede, the combination with two bicycles of ordinary construction, of a main frame removably hung to the bicycle-frames, spring-balances connected to the frame and removably connected to the bicycle-frames, and a motor supported by the main frame and geared with the propelling mechanism of the two bicycles, substantially as set forth.

2. In a velocipede, the combination with two bicycles of ordinary construction, of a main frame having bearings, hanger-sleeves extending through said bearings and provided with clamping-bolts to removably connect the bicycle-frames with the main frame, spring-balances consisting of segmental tubes suitably secured to the main frame and provided with a segmental slot, springs arranged within said tubes, blocks interposed between the adjacent ends of the springs, a clamp-bolt connected to said block and removably clamped to the bicycle-frame, and a motor supported by the main frame and geared with the driving mechanism of the bicycles, substantially as set forth.

3. In a velocipede, the combination with the bicycle-frames and the main frame, of a hanger-sleeve removably connected to the bi-

cycle-frame and supported in bearings formed
in the main frame, and provided with a
threaded portion, rings screwed upon said
threaded portion, and nuts screwed upon the
5 bearings of the main frame and against said
ring, whereby the main frame is allowed a
rocking motion with respect to the bicycle-
frames or vice versa, and is prevented from

shifting sidewise or laterally, substantially as
set forth.

In testimony whereof I hereunto affix my
signature in presence of two witnesses.

HERMANN G. MEUMANN.

Witnesses:

CHAS. F. KASTENHUBER,

FRED J. JACKSON.