March 9, 1926.

1,575,786

J. E. PARR

VELOCIPEDE

Filed April 16, 1925

2 Sheets-Sheet 1

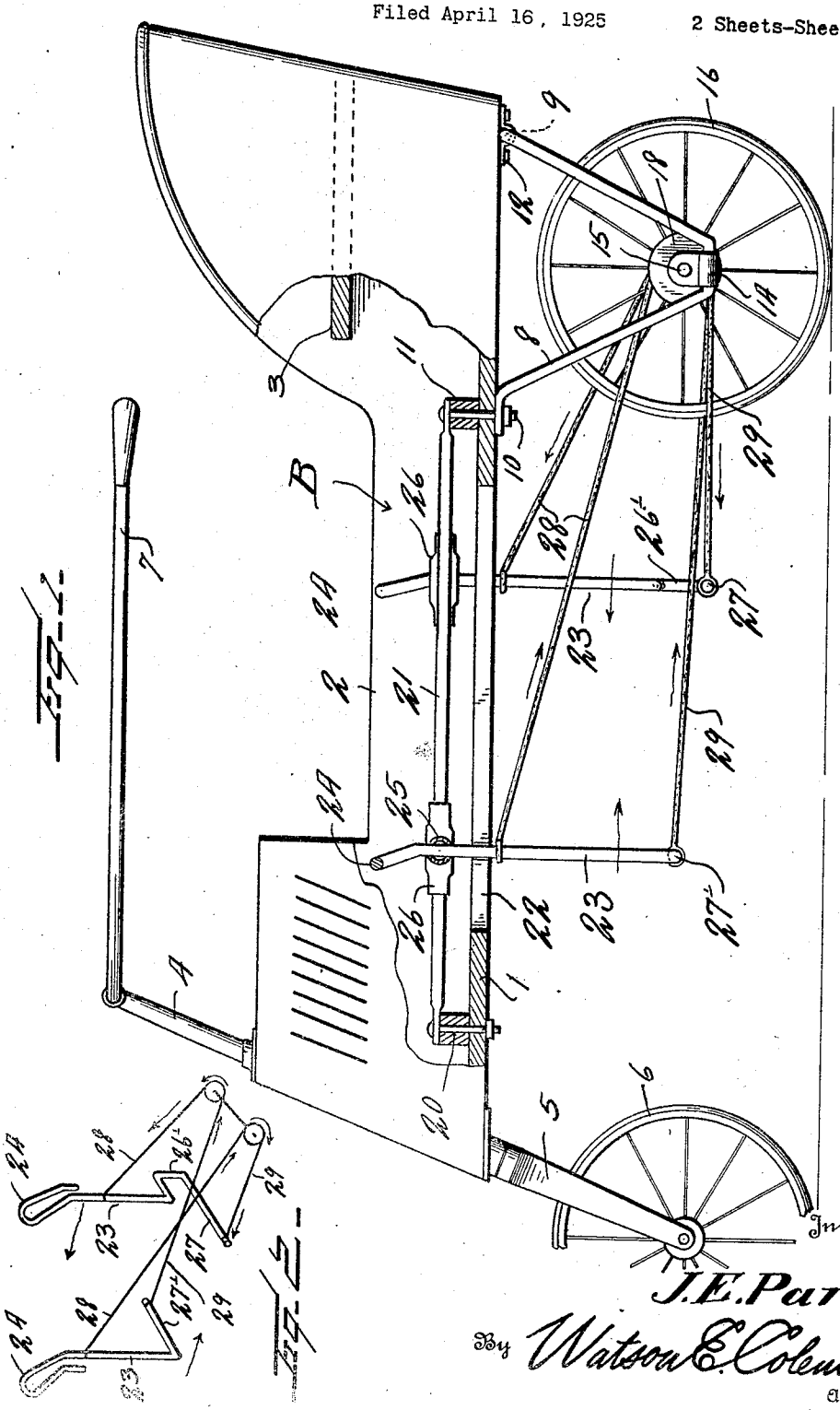


Fig. 1.

Fig. 2.

Inventor

J. E. Parr

By Watson E. Coleman

Attorney

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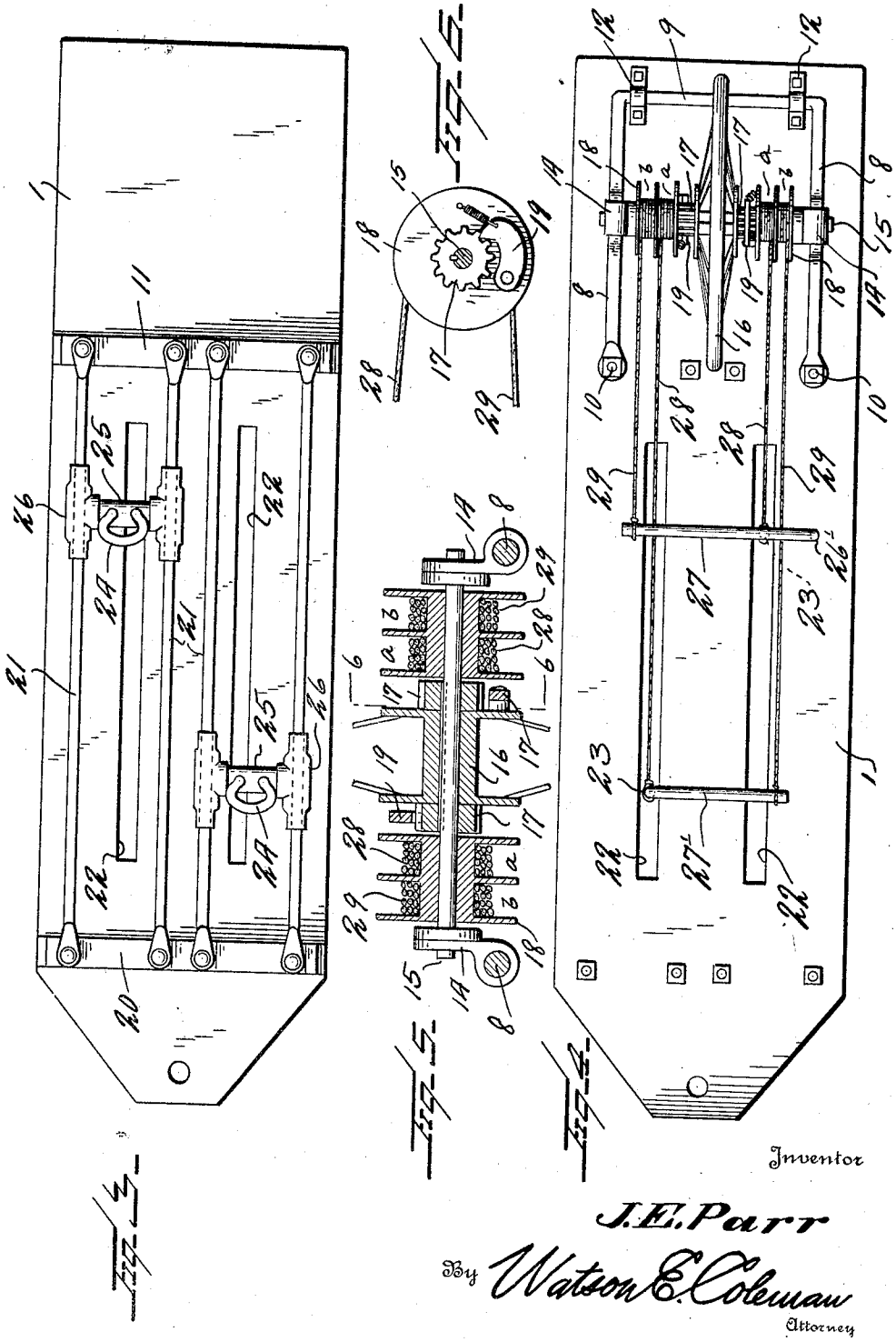
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2 Sheets-Sheet 2



Inventor

J. E. Parr

By Watson E. Coleman

Attorney

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UNITED STATES PATENT OFFICE.

JOHN E. PARR, OF CONNELL, WASHINGTON.

VELOCIPEDE.

Application filed April 16, 1925. Serial No. 23,656.

To all whom it may concern:

Be it known that I, JOHN E. PARR, a citizen of the United States, residing at Connell, in the county of Franklin and State of Washington, have invented certain new and useful Improvements in Velocipedes, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in velocipedes and has relation more particularly to a device of this general character of the bicycle type, and it is an object of the invention to provide novel and improved means whereby requisite rotation may be imparted to the driving wheel.

Another object of the invention is to provide a device of this general character embodying novel and improved means whereby reciprocating movement may be converted into rotary movement to effect the desired driving of the vehicle.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved velocipede whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:—

Figure 1 is a view partly in side elevation and partly in section illustrating a velocipede constructed in accordance with an embodiment of my invention;

Figure 2 is a diagrammatic view in perspective illustrating the propelling means as herein embodied;

Figure 3 is a view in top plan of the structure as illustrated in Figure 1, with certain of the parts omitted;

Figure 4 is a view in bottom plan of the structure as illustrated in Figure 1, with certain of the parts omitted;

Figure 5 is a longitudinal sectional view taken through the drums and the parts directly associated therewith as herein disclosed;

Figure 6 is a sectional view taken substantially on the line 6—6 of Figure 5;

As disclosed in the accompanying drawings, B denotes the body of my improved velocipede or vehicle comprising a bottom or floor board 1, side walls 2 of requisite configuration and a seat structure 3 carried by the rear portion of the floor board 1. Rotatably supported in any desired manner by the forward portion of the body B is a steering post 4 the lower end portion of which being provided with a fork 5 providing a mounting for the steering wheel 6 while the upper end portion of said post is provided with a handle 7 of a type to terminate within easy reach of the occupant of the seat structure 3.

Depending from the rear portion of the floor 1 are the transversely spaced bolsters 8 each substantially in the form of a V with the extremities of the rear legs connected by the integral cross member 9. The free end portions of the forward legs of the bolsters 8 are bolted or otherwise connected, as at 10, to the under surface of the floor 1, said bolts 10, as herein disclosed, also serving to maintain in applied position the transversely disposed cleat 11 arranged upon the forward portion of the floor 1. The cross member 9 is held to the under surface of the floor 1 by the loops 12 bolted or otherwise attached to the floor.

The lower or apex portions of the bolsters 8 have secured thereto the upstanding bearings 14 which provide mountings for the shaft or axle 15 disposed transversely of the body B. Keyed or otherwise fixed to the shaft or axle 15 at a point substantially midway of the bolsters 8 is a drive wheel 16 of requisite dimensions and also keyed or otherwise fixed to the shaft or axle 15 and immediately adjacent thereto are the pinions 17.

Loosely mounted on the shaft or axle 15 between a pinion 17 and a bolster 8 is a drum 18 provided with the spools *a* and *b*. The inner end or flange of the drum 18 is provided with a spring operated pawl 19 to engage the adjacent pinion 17 upon rotation of the drum in one direction to effect a unitary rotation of the shaft or axle 15 and the drive wheel 16 carried thereby, said pawl 19, however, permitting independent rotation of the drum 18 in the opposite direction. It is to be noted that the pawl 19 carried by

one of the drums 18 is reversely disposed with respect to the pawl 19 carried by the second drum 18.

Disposed transversely across the rear portion of the floor 1 at a point in advance of but in relatively close proximity to the seat structure 3 is a second cleat 20 and interposed between and suitably secured to the cleats 11 and 20 are the longitudinally disposed rods or bars 21 the same being arranged in pairs. Between each pair of rods or bars 21 the floor 1 is provided with a relatively long slot 22 disposed lengthwise thereof and through which is directed a rigid arm 23. The upper end portion of the arm 23 is returned, as at 24, to provide a pedal, the outer or free extremity of said returned portion 24 and the adjacent portion of the rod 21 being disposed through and held by a cross member 25 connecting the slides 26 mounted for rectilinear or reciprocating movement upon the pair of rods or bars 21.

The lower end portion of the arm 23 is outwardly offset, as at 26′, with the free end of said arm continued by an inwardly directed extension arm 27 disposed transversely of the floor 1. The second arm 23 terminates slightly above the inwardly directed extension arm 27 of the first named arm 23, the lower end portion of said second arm 23 being provided with the inwardly directed extension arm 27′. The offset portion 26′ of the first named arm 23 permitting the arms 23 to have reciprocating movement in reverse directions without hindrance or obstruction being offered by one to the other.

The inner spools *a* have secured thereto and winding therearound the flexible members 28 the opposite or outer end portions of which being suitably secured to the arms 23 at a point adjacent to the floor 1. The outer spools *b* have suitably attached thereto and winding therearound the flexible members 29 the opposite or outer end portion of one of said members 29 being suitably anchored to the outer or free end portion of an extension arm 27 while the similar end portion of the second flexible member 29 is suitably secured to the outer or free end portion of the second extension arm 27′. By this mounting and arrangement of the flexible members 28 and 29 it will be readily noted that when a member 28 is winding about its spool *a* the member 29 coacting with the adjacent spool *b* is unwinding and vice versa. It is to be noted that the flexible members 28 constitute the pulling or operating members for the drive wheel 16 as the arms 23 are pushed forwardly by the occupant of the seat structure 3 and that as one of said arms 23 is being pushed forwardly, the member 29 secured thereto serves to effect the opposite rotation of the second drum 18 to move the second arm 23 rearwardly, the operation of the device being such that the arms 23 are operated in unison but in opposite directions.

From the foregoing description it is thought to be obvious that a velocipede constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. A velocipede comprising, in combination, a body provided with a floor, a shaft, bearings for the shaft operatively carried by the body, a drive wheel fixed to the shaft, two pairs of spools loosely mounted on the shaft, a pinion fixed to the shaft adjacent to each pair of spools, a dog carried by one of each pair of spools engaging the adjacent pinion, two pedals supported by the floor of the body for reciprocating movement, a flexible member secured to each of the pedals and winding around a spool of one pair, and a second flexible member secured to each pedal and winding around a second spool of each pair, the spool coacting with one of the second flexible members being comprised in one pair of spools and the spool associated with the other of said second named flexible members being comprised in the other pair of spools.

2. A velocipede comprising, in combination, a body provided with a floor, a shaft, bearings for the shaft operatively carried by the body, a drive wheel fixed to the shaft, two pairs of spools loosely mounted on the shaft, a pinion fixed to the shaft adjacent to each pair of spools, a dog carried by one of each pair of spools engaging the adjacent pinion, two pedals supported by the floor of the body for reciprocating movement, a flexible member secured to each of the pedals and winding around a spool of one pair, and a second flexible member secured to each pedal and winding around a second spool of each pair, the spool coacting with one of the second flexible members being comprised in one pair of spools and the spool associated with the other of said second named flexible members being comprised in the other pair of spools, the pairs of spools being arranged at opposite sides of the drive wheel.

3. A velocipede comprising, in combination, a body provided with a floor, a shaft,

bearings for the shaft operatively carried by the body, a drive wheel fixed to the shaft, two pairs of spools loosely mounted on the shaft, a pinion fixed to the shaft adjacent to each pair of spools, a dog carried by one of each pair of spools engaging the adjacent pinion, two pedals supported by the floor of the body for reciprocating movement, a flexible member secured to each of the pedals and winding around a spool of one pair, and a second flexible member secured to each pedal and winding around a second spool of each pair, the spool coacting with one of the second flexible members being comprised in one pair of spools and the spool associated with the other of said second named flexible members being comprised in the other pair of spools, the floor of the body being provided with elongated slots through which the pedals extend, the second flexible members being secured to the pedals below the floor.

4. A velocipede comprising, in combination, a body provided with a floor, a shaft, bearings for the shaft operatively carried by the body, a drive wheel fixed to the shaft, two pairs of spools loosely mounted on the shaft, a pinion fixed to the shaft adjacent to each pair of spools, a dog carried by one of each pair of spools engaging the adjacent pinion, two pedals supported by the floor of the body for reciprocating movement, a flexible member secured to each of the pedals and winding around a spool of one pair, and a second flexible member secure to each pedal and winding around a second spool of each pair, the spool coacting with one of the second flexible members being comprised in one pair of spools and the spool associated with the other of said second named flexible members being comprised in the other pair of spools, the floor of the body being provided with elongated slots through which the pedals extend, the second flexible members being secured to the pedals below the floor, the lower end portions of the pedals being provided with transversely disposed and inwardly directed arms, the second named flexible members being engaged with the extremities of said arms.

5. A velocipede comprising, in combination, a body provided with a floor, a shaft, bearings for the shaft operatively carried by the body, a drive wheel fixed to the shaft, two pairs of spools loosely mounted on the shaft, a pinion fixed to the shaft adjacent to each pair of spools, a dog carried by one of each pair of spools engaging the adjacent pinion, two pedals supported by the floor of the body for reciprocating movement, a flexible member secured to each of the pedals and winding around a spool of one pair, a second flexible member secured to each pedal and winding around a second spool of each pair, the spool coacting with one of the second flexible members being comprised in one pair of spools and the spool associated with the other of said second named flexible members being comprised in the other pair of spools, rods mounted upon the floor of the body, slides mounted upon the rods, and means for connecting the pedals to the slides.

6. A velocipede comprising, in combination, a body provided with a floor, a shaft, bearings for the shaft operatively carried by the body, a drive wheel fixed to the shaft, two pairs of spools loosely mounted on the shaft, a pinion fixed to the shaft adjacent to each pair of spools, a dog carried by one of each pair of spools engaging the adjacent pinion, two pedals supported by the floor of the body for reciprocating movement, a flexible member secured to each of the pedals and winding around a spool of one pair, a second flexible member secured to each pedal and winding around a second spool of each pair, the spool coacting with one of the second flexible members being comprised in one pair of spools and the spool associated with the other of said second named flexible members being comprised in the other pair of spools, said shaft and drive wheel being arranged adjacent to one end of the body, and a steering wheel operatively engaged with the opposite end portion of the body.

In testimony whereof I hereunto affix my signature.

JOHN E. PARR.