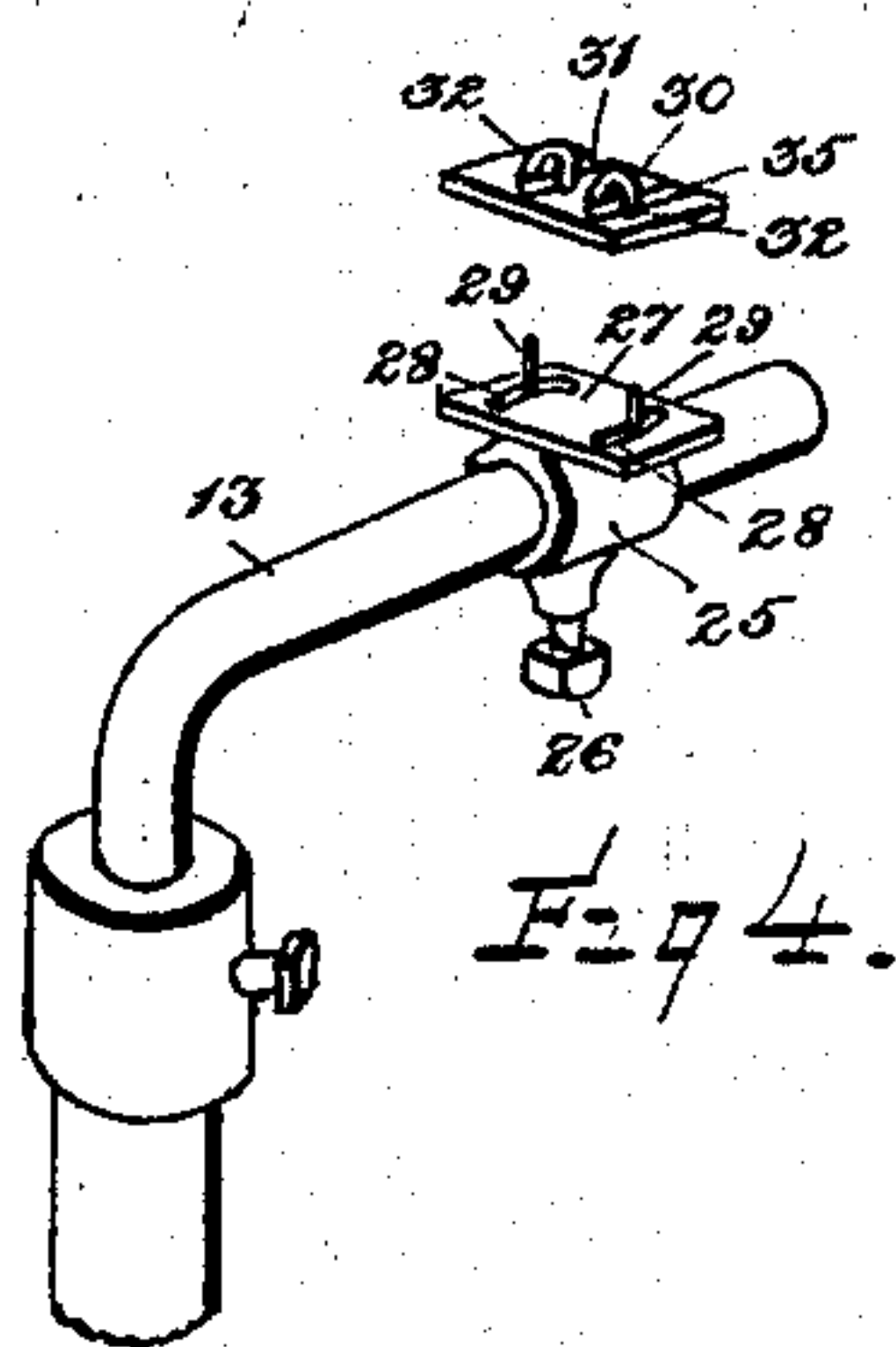
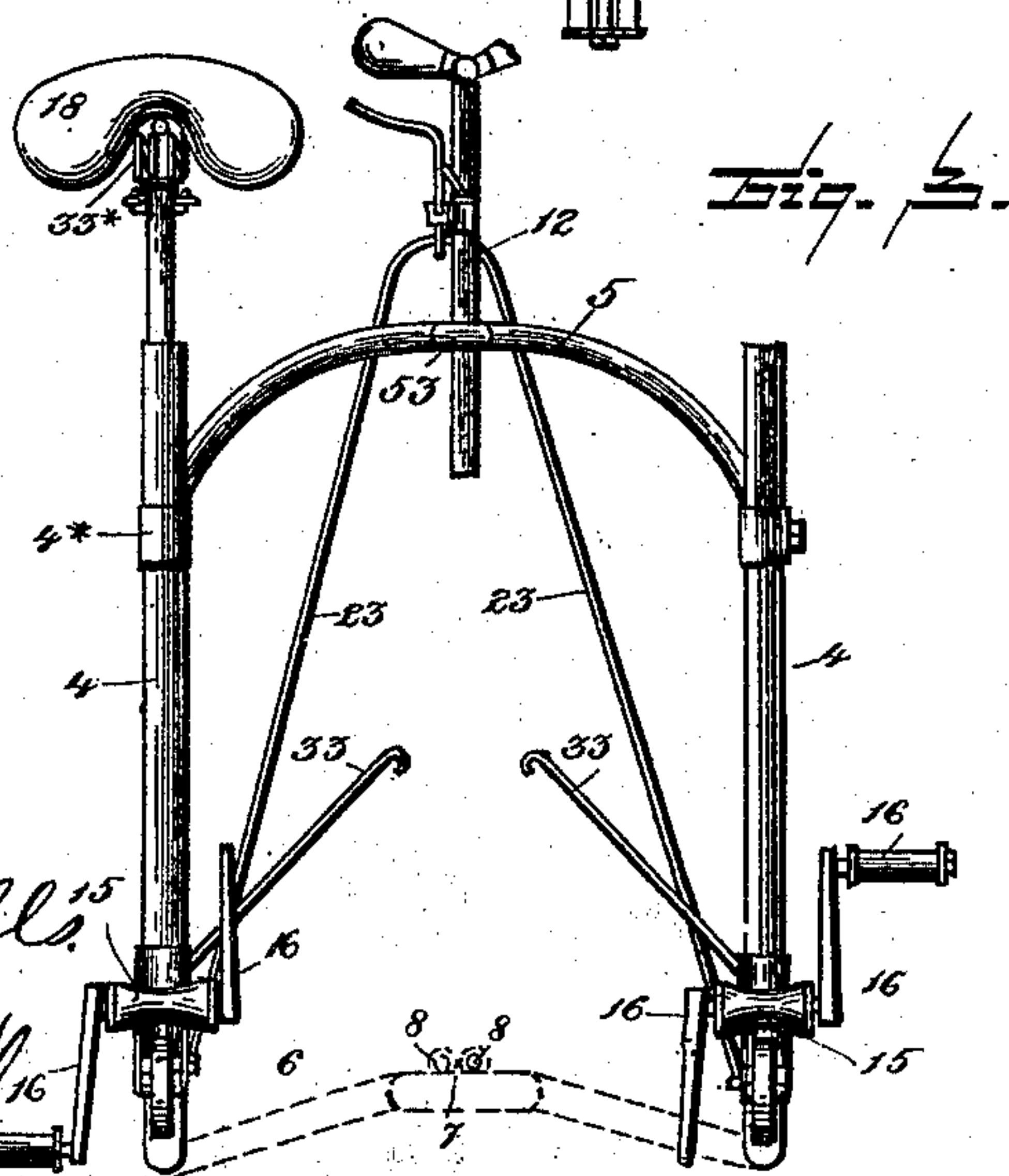
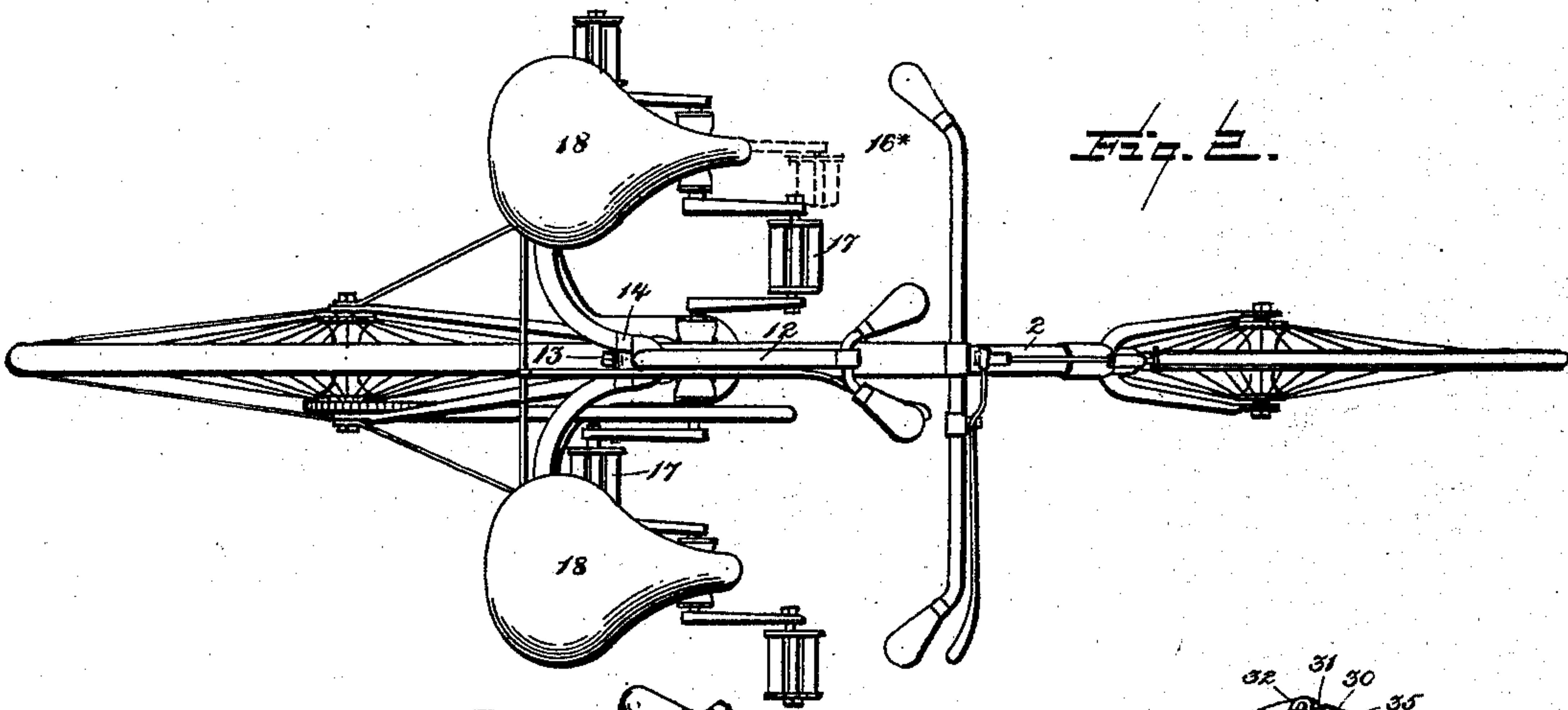
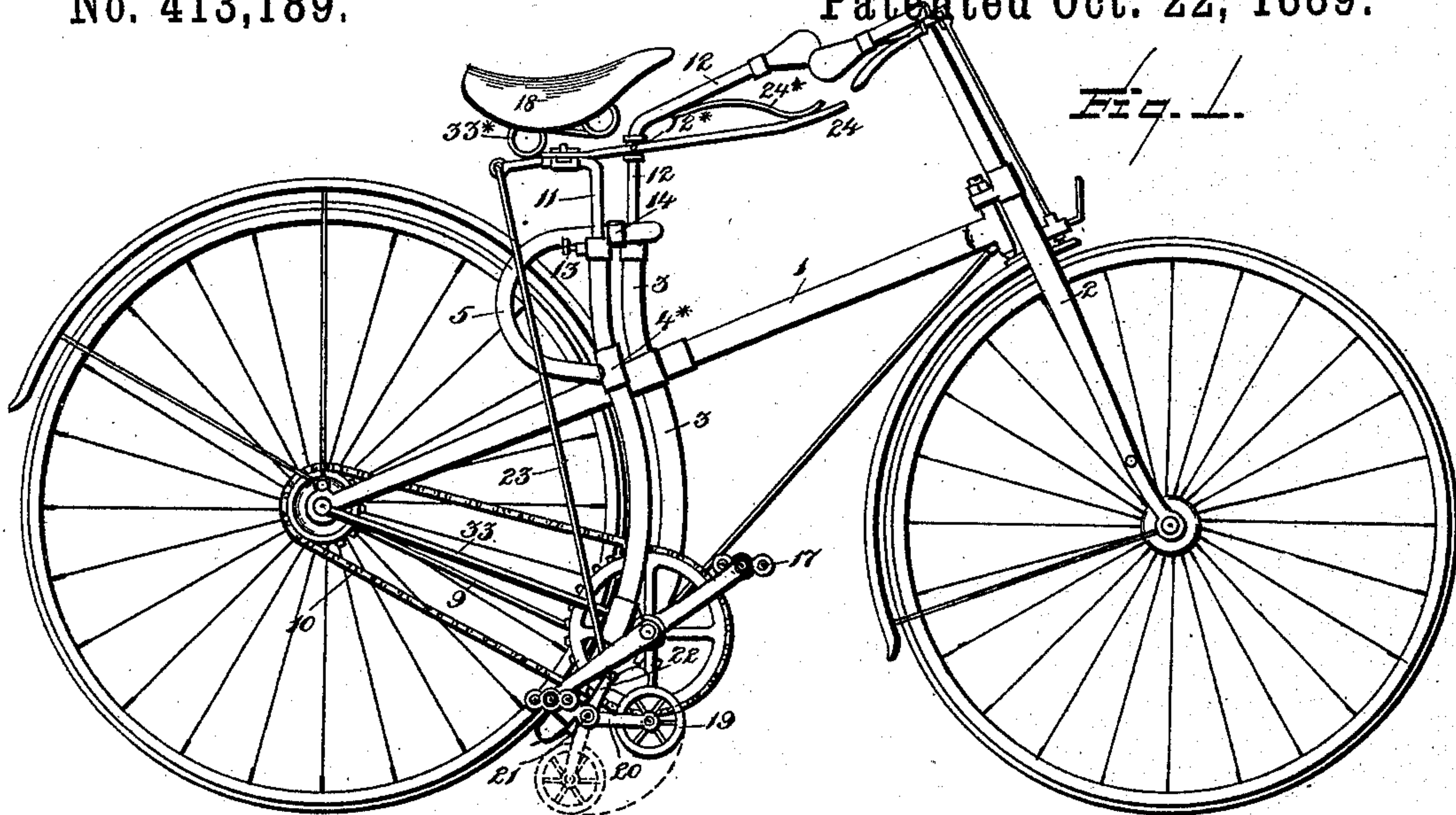


(No Model.)

J. A. KIRK.
ATTACHMENT FOR BICYCLES.

No. 413,189.

Patented Oct. 22, 1889.



Witnesses:
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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 413,189, dated October 22, 1889.

Application filed May 28, 1888. Serial No. 275,307. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. KIRK, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Attachments for Bicycles, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to an attachment for bicycles whereby the latter may be adapted to be ridden by two or more persons. The objects, construction, and advantages will be fully hereinafter described, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a bicycle provided with my improved attachment, the whole being shown in side elevation. Fig. 2 is a plan of Fig. 1. Fig. 3 is a front elevation of my attachment detached, and Fig. 4 is a detail in perspective of an adjustable saddle-plate.

Like numerals of reference refer to like parts in all the figures.

1 represents the backbone, 2 the forward fork, and 3 the seat and crank mechanism standard, of a bicycle of a well-known class, the construction and operation of which do not require specific description only so far as to render clear the manner of applying my attachment to one form of two-wheel vehicles, or bicycles, it being understood that mechanical skill only is required to adapt the attachment to any two-wheeled vehicle.

My attachment comprises two crank and saddle standards 4, connected at the top by an arch 5, and, if desired, although not absolutely required, by an arch 6, connecting the lower ends of the standards 4, which arch may or may not, as desired, be divided into two parts at the line 7, and which, whether divided or not, may be provided with two eyes 8, which are to be mounted upon the usual stay-rods 9, extending from the rear axle forward to the standard 3, in order to brace the same against the stress of the drive-chain 10. These rods 9 usually terminate in screw-threaded ends, on which nuts for connecting the rods to the standards are threaded.

When the lower arch 6 is employed, these nuts are removed, the eyes 8 placed one upon

each of the rods 9, (there being one upon each side of the wheel,) and the nuts replaced, thereby providing a firm connection of the arch with the machine. The upper arch 5 is connected with the upper end of the standard 3, and in case two riders are to be provided for the ordinary saddle-bracket is removed and a hand-hold 12 is inserted in the standard in place thereof, the set-screw 13, ordinarily provided for securing the saddle in the standard 3, being used to secure the hand-bar in position in a manner hereinafter described for said purpose. The upper arch 5 is bent at 5° to embrace, as desired, either the hand-hold or the upper end of the standard 3, and is provided with a clamp 14, through which the set-screw 13 passes into the standard 3 to secure the hand-hold 12 in position therein. The arch 5 is curved rearwardly and downwardly, and is connected to the standards 4 at 4°.

The lower end of each of the standards 4 is provided with a box 15, in which is mounted a crank-shaft having at each end thereof a crank-arm 16. The outer arm 16 has a treadle, the inner arm 16 of each crank-shaft being without a treadle, and thereby adapted to be directly connected with the treadle 17 of the machine proper; but if it is desired to adapt the machine for three riders an additional treadle 16^x (see dotted lines, Fig. 2) is provided on each of the inner cranks 16, so as to be connected in line with the crank 17, thereby providing six treadles for three riders. In this case, also, instead of inserting the hand-hold 12 into the standard 3, the ordinary saddle of the machine is retained in said standard. Saddles 18 are mounted in the upper ends of the standards 4, and are secured therein by set-screws 13, as clearly shown in Fig. 1.

As thus far described, it will be seen that by the provision of my attachment, which consists, essentially, of an inverted-U-shaped frame having crank-shafts and treadles at its lower end and saddles at its upper end, the same being in any suitable manner adapted to be attached to an ordinary two-wheeled machine, said machine is quickly changed, so as to be ridden by two persons, and that without any alteration of the construction of the machine itself. I therefore do not limit my

invention to the exact details of construction shown, whereby the same is adapted to any particular machine. As a further provision for convenience and safety, I provide additional wheels 19 at the side or sides of the machine proper, in order in mounting and dismounting, or, if desired, in practice riding, to render the machine safe against falling sidewise. The wheels 19 are mounted on rock-arms 20, projecting from a shaft 21, mounted in brackets projecting from the boxes 15, and having a companion rock-arm 22, from which a rod 23 extends to a hand-lever 24, pivoted, if desired, on the hand-hold 12, as at 12^x, so that by elevating the free end of the lever 24 the wheels may be thrown down into contact with the ground, as shown by dotted lines in Fig. 1, for the purposes stated, and by a reversed movement of said lever the wheels may be raised from the ground, as shown by full lines in Fig. 1. A spring 24^x on the lever may serve to throw the wheels in one direction.

As a means to adapt the attachment for use by persons who materially vary as to their individual weight, I have provided a novel feature of construction as regards the connection of the saddle with the saddle-standard, which may or may not be employed, as desired. This is illustrated in detail in Fig. 4. In this figure the saddle-standard 11 is surrounded by a clamp 25, having a set-screw 26 for securing the clamp thereon. The upper surface of the clamp is a flat plate 27, having two curved slots 28, through which bolts 29 project, with their threaded ends disposed upwardly. On the plate 27 there is arranged another plate 30, having the usual spring-receiving grooves 31 and spring-embracing staples 32, by which the plate is secured to the usual springs 33^x of the saddle, so that the saddle and plate 30 are secured together and move as one piece. Now, in case a light person is to ride with a heavier one, the saddle-standard 11 is swung outwardly, so as to bring the saddle farther from the longitudinal center of the machine; but as this would throw the saddle out of line with the backbone of the machine the bolts 29 are now loosened and the saddle and plate 30 are together swung into line with the backbone of the machine, when the bolts are tightened and the parts secured in position, so that a light person sitting farther from the longitudinal center of the machine counterbalances the weight of a heavier person sitting nearer to said center line.

33 represents guy or stay rods, which, in order to strengthen the machine, may, if desired, be extended from the lower ends of the standards 4 to the rear axle of the machine.

What I claim is—

1. An attachment for a two-wheeled machine, adapted to carry cranks and treadles, and means, substantially as described, for connecting the attachment to a fixed part of the machine-frame intermediate the bearings of the two wheels, substantially as specified.

2. An attachment for bicycles, comprising an arch adapted for connection with the standard of a machine occurring between the bearings of the two wheels, and saddle-supporting standards, each of which is provided at one end with a box for a crank-shaft and treadle and at the other end with means for connection therewith of a saddle, substantially as specified.

3. An attachment for bicycles, consisting of an arch bent to embrace the saddle-standard of a machine, and having at the bent portion a clamp and saddle-screw, and carrying standards each of which is adapted to receive at one end a crank-shaft and treadles and at the other end a saddle, substantially as specified.

4. An attachment for bicycles, consisting of an arch having a clamp and terminating in standards having shaft and saddle receiving devices at opposite ends, and safety-wheels and means for raising and lowering the wheels, substantially as specified.

5. A saddle-standard provided with a clamp terminating in a flat plate, in combination with a saddle mounted on a plate adapted to fit the plate of the clamp, and bolts for adjustably securing the plates together, the whole combined and operating substantially as specified.

6. An attachment for bicycles, comprising a U-shaped frame adapted to be attached to the frame-work of a bicycle, and carrying crank-shafts and treadles, one crank of each pair being adapted for connection with the treadles of the machine, substantially as specified.

7. In an attachment for bicycles, the combination of treadle and saddle-standards 4, and connecting and supporting arch 5, adapted at its center 5^x for connection with the seat-standard of a machine and provided with a clamp, substantially as specified.

8. The combination of the standards 4, having the boxes 15, and adapted to support the rock-shaft 21, the machine-standard 3, the arch 5, the wheels 19, arms 20 22 23, and lever 24, substantially as specified.

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

JNO. A. KIRK.

Witnesses:

E. B. STOCKING,
W. S. DUVALL.