

(No Model.)

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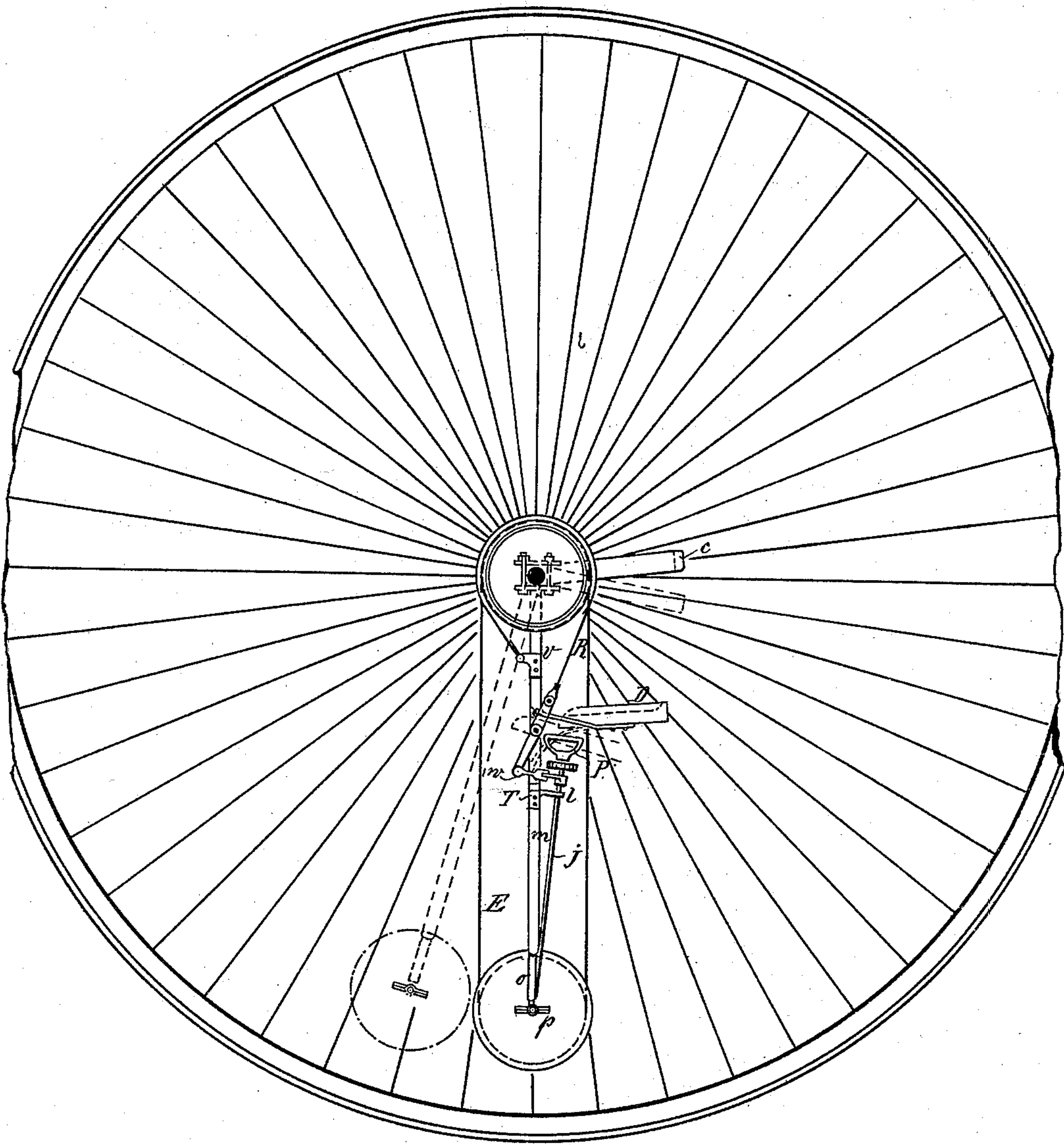
A. H. BOCK.

VELOCIPÈDE.

No. 331,113.

Patented Nov. 24, 1885.

Fig. 1.



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(No Model.)

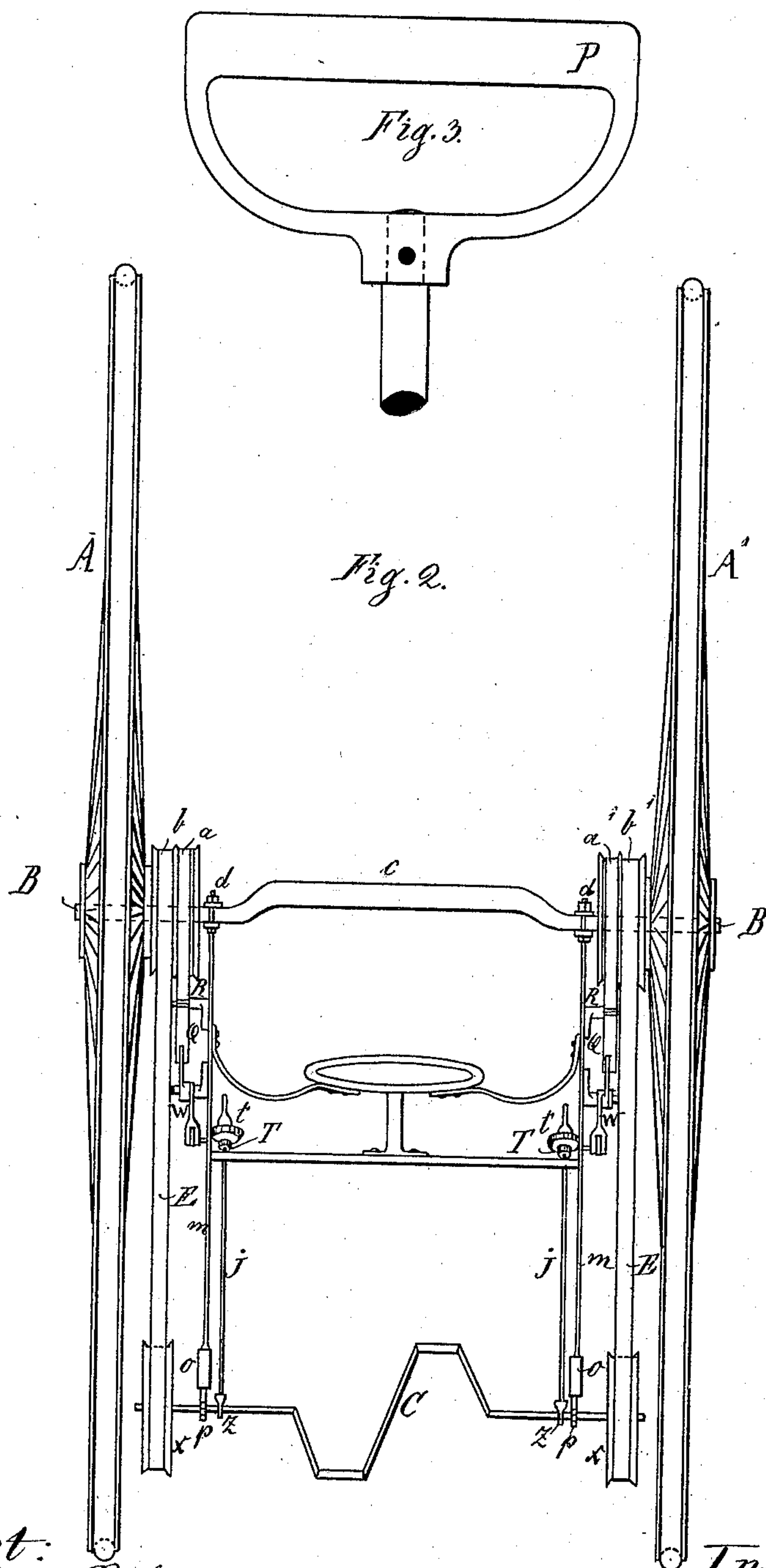
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3 Sheets—Sheet 3.

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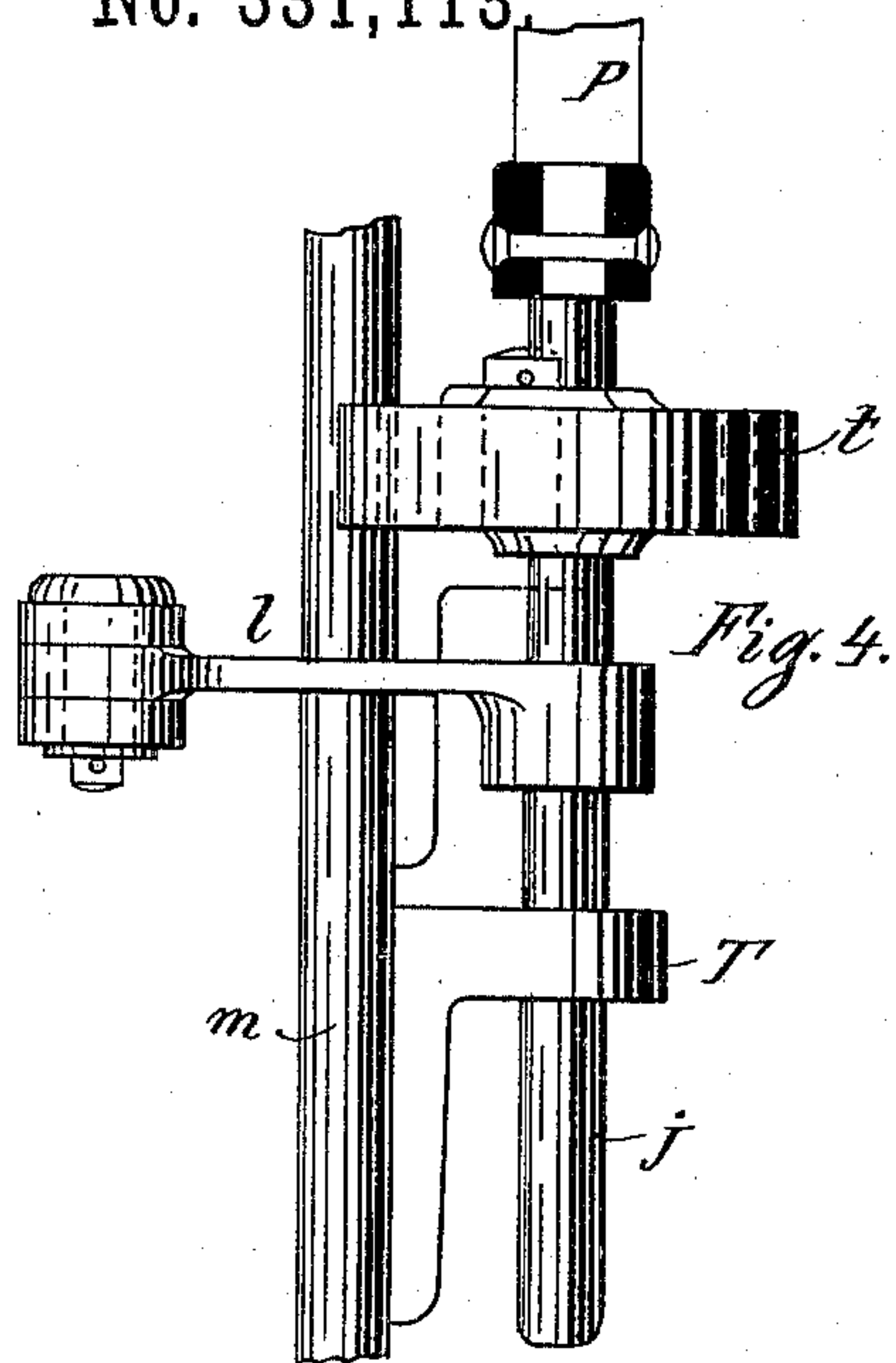


Fig. 4.

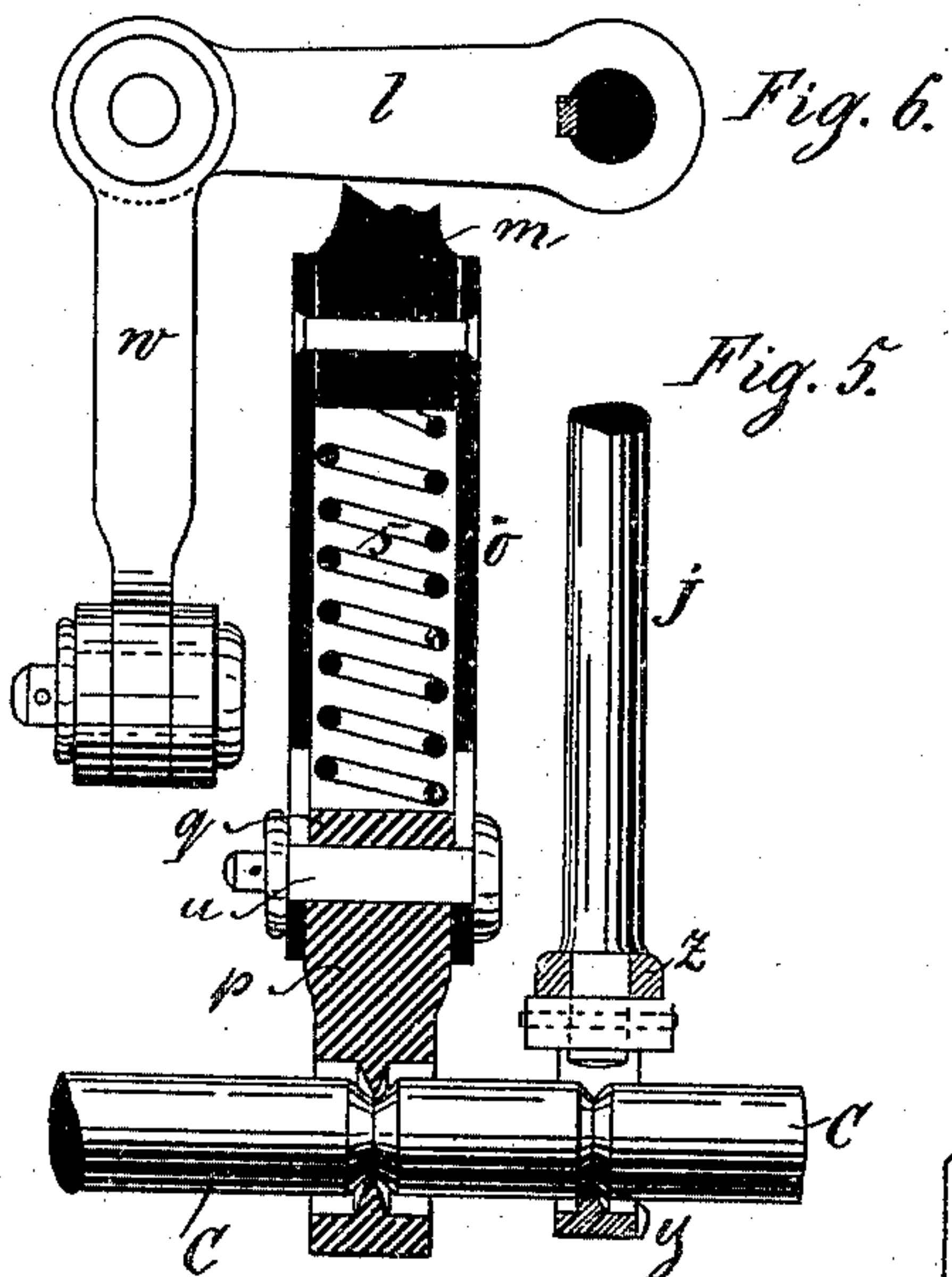


Fig. 6.

Fig. 5.

Fig. 5a.

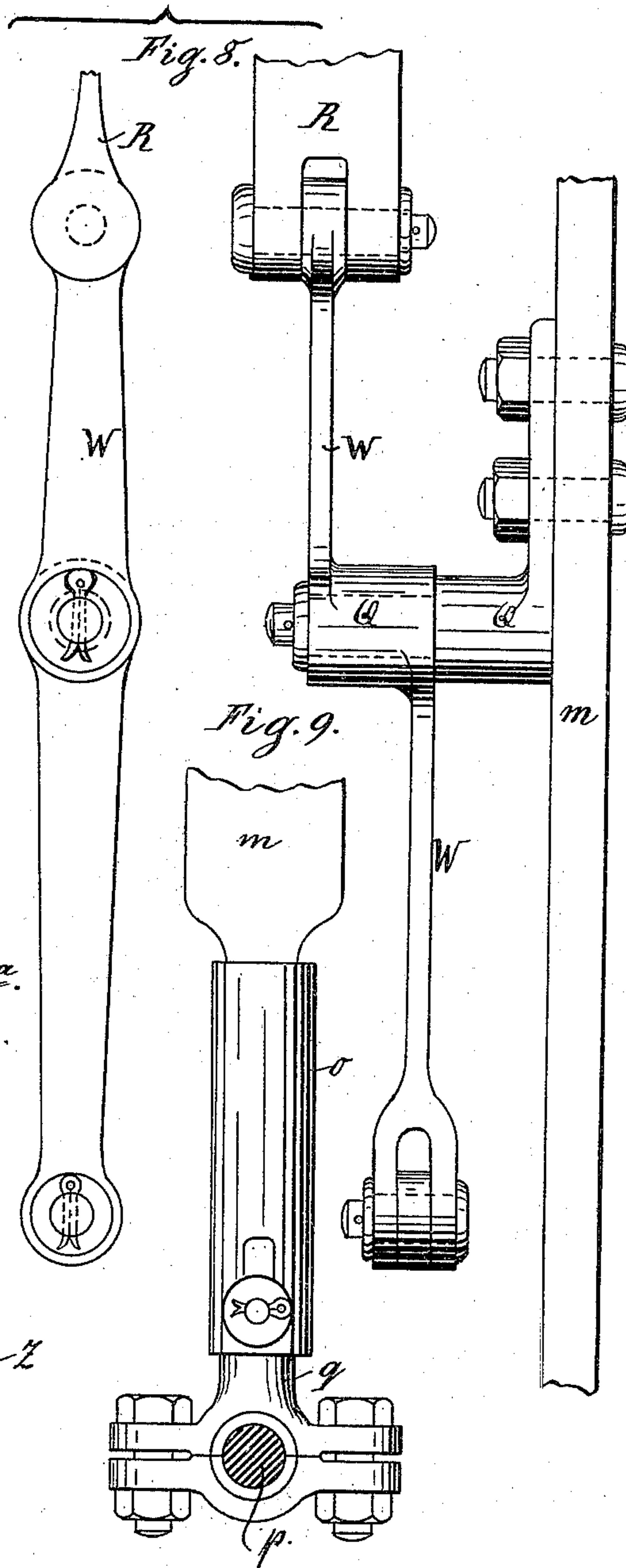
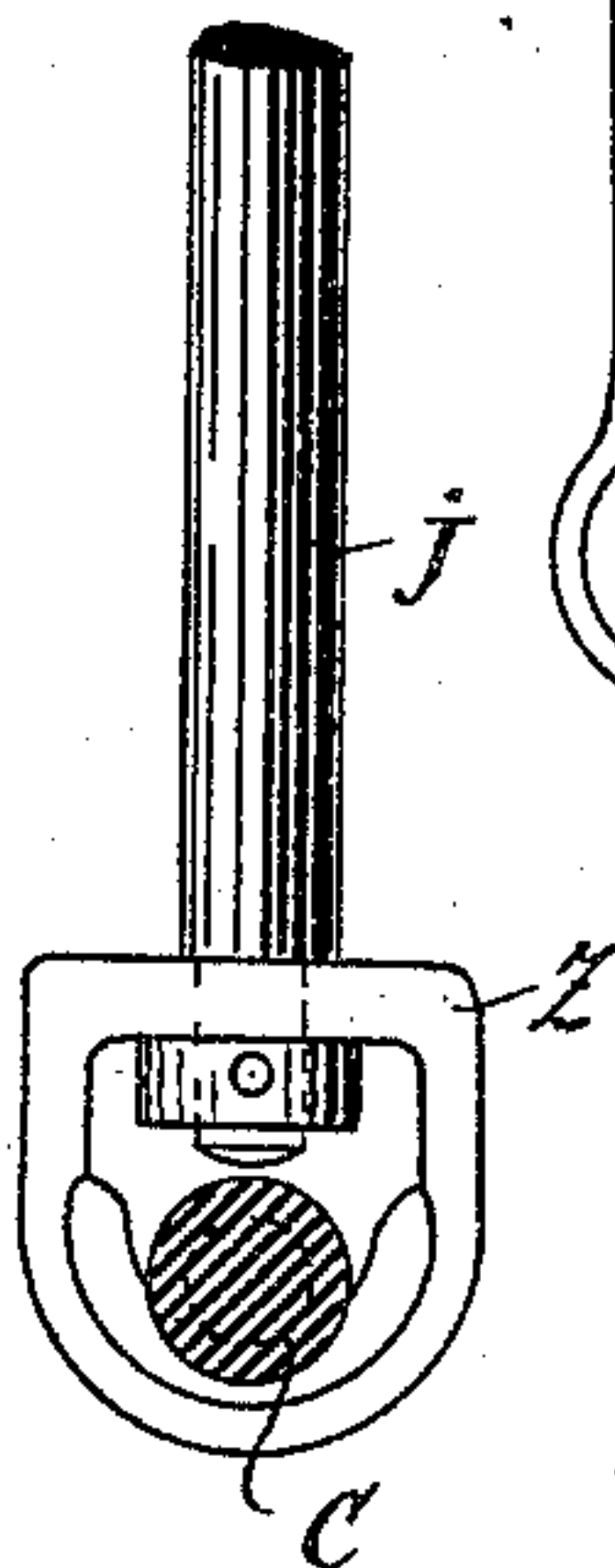


Fig. 8.

Fig. 9.

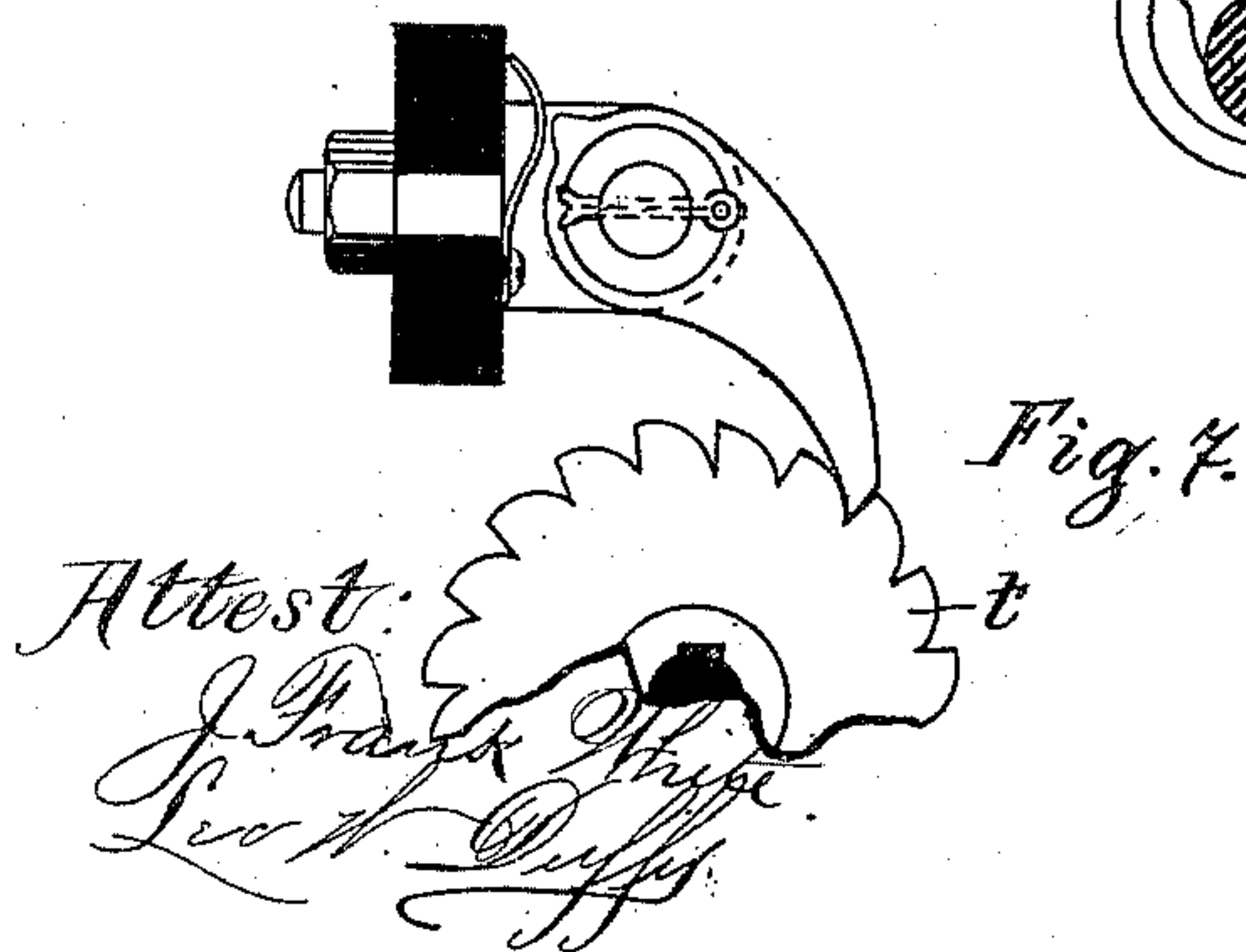


Fig. 7.

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UNITED STATES PATENT OFFICE.

ANTON HEINRICH BOCK, OF MEISSEN, SAXONY, GERMANY.

VELOCIPEDÉ.

SPECIFICATION forming part of Letters Patent No. 331,113, dated November 24, 1885.

Application filed February 12, 1885. Serial No. 155,734. (No model.)

To all whom it may concern:

Be it known that I, ANTON HEINRICH BOCK, a resident of the city of Meissen, Kingdom of Saxony, German Empire, have invented a new and useful Improved Velocipede, of which the following is a specification.

The hereinafter-described improvements relate to velocipedes having two wheels side by side, the characteristic point of this construction being that the load on the seat is placed below the center of the axles of the wheels. By this construction easy running of the whole machine is at the same time insured, and steering is provided for by the application of a hand-brake to one or other of the wheels.

In the accompanying drawings, Figure 1 is a side elevation, and Fig. 2 a front elevation, of such a velocipede, while Figs. 3 to 9 show details of construction.

A A' are the wheels, constructed in the well-known manner. Upon the hub of each is fixed a brake-disk, *a a'*, covered with india-rubber or leather, or provided with a wooden rim, if preferred. On the hubs of these wheels A A' there are, moreover, fixed driving-disks *b b'*, likewise covered with some rough elastic material, such as leather, rubber, or wood. The shaft B is cranked at the center, *c*, and said wheels A A' run loosely thereon. The cranked part *c* of the shaft B serves as a back for the rider to lean against, and may be suitably cushioned. At *d d* suspension-rods *m* are provided upon the shaft B, which carry the pedal-shaft C, and also the seat D, as well as the lever arrangement for operating the hand-brakes and for throwing out of gear the driving bands or belts E.

As already indicated, the pedal-shaft C is loosely held in bearings on the lower part of the suspension-rods *m* in such a manner that these bearings can be moved vertically within certain limits—say twenty to forty millimeters. To this end each of the suspension-rods *m* is made tubular at its lower end, as shown at *o* in Figs. 2 and 5. The bearing *p* is guided in this tubular extension *o* of the rod *m* by means of a round stud or pivot, *q*, Fig. 5; and a pin, *u*, working in slots of the tube *o*, prevents lateral rotation of the bearing, and also prevents the latter dropping out. The spiral spring *s* always presses the bearing downward, for a purpose presently to be set forth.

The bearing *p* may be an ordinary divided bearing, or preferably, for this purpose, an annular bearing engaging by means of a wedge-shaped rib with a turned recess in the pedal-shaft, so as to reduce friction as much as may be. (See Figs. 5 and 9.) Upon the ends of the pedal-shaft are fixed the pulleys *x x*, constructed similarly to the driving pulleys or disks *b b'*, and on which run the driving-bands E E. These may be thin bands of metal belts or belts woven of wire or of textile material; or leather bands may be used, the latter being protected against the influence of dampness by well-known means.

As near to the bearings *p* as may be, a recess, *y*, is turned in the pedal-shaft, Fig. 5. This is embraced by the stirrup-piece *z*, so fixed on a stud on the rod J that this rod may be turned therein. If, however, this rod J is pulled directly upward, the pedal-shaft C is also raised and the tension of the bands E E upon the pulleys *b b'* and *x x*, respectively, so diminished that they slip, and the shaft C will not rotate—as, for instance, when the velocipede is going down hill and pedaling is not necessary. The said rod J is guided in bearings T, Figs. 1 and 4, in such a manner that it may be raised or lowered as well as turned, the said bearings T being fixed on the suspension-rods. On the upper end of J is provided the handle P, Figs. 1 and 4, which serves for raising and rotating the rod J.

The following arrangement is provided for actuating the brake-band R. The brake-band R is on the one hand fixed to the suspension-rod *m* by a bracket, *v*, the other end being hinged to a double lever, W, the latter receiving motion from a guide-rod, *w*, engaging with its lower end, Figs. 4, 6, and 8. This double lever W is, as will appear from Figs. 2 and 8, so mounted on a bearing in stud Q on the suspension-rod *m* as to be free to rotate. To enable this double lever W to be oscillated, thereby tightening or loosening the brake-band R, the guide-rod *w* is, as above mentioned, attached to its lower end. The latter is likewise hinged to lever *l*, provided on rod J. The lever *l* oscillating in a horizontal plane when rod J is rotated causes motion of the double lever W. Upon the rod J, capable of being rotated by the handle P, there is, moreover, provided the ratchet-wheel *t*, with

which gears a pawl, Figs. 4 and 7, so as automatically to fix the brake when the handle P, and thereby rod J, are so rotated that the brake-band R is tightened.

5 The manipulation of this velocipede in use may be shortly stated as follows: After seating himself on the seat D, the rider assumes the position indicated in dotted lines in Fig. 1. On operating the pedal-shaft C the machine is set in motion, and will be steered by
10 putting the brake on one or the other wheel by rotating handle P, and thereby rod J, this causing the machine to describe a curve. When both brakes are simultaneously put on,
15 the machine stops, which is advantageous, as mounting and dismounting are thus facilitated. The rider, moreover, with this construction, need pay no attention to balance, as is absolutely requisite in older constructions, in

which he is placed above the main shaft, as his center of gravity is placed below the shaft of the wheels, the load being thus pendulously suspended.

I claim—

In two-wheeled velocipedes where wheels 25 are placed side by side on one shaft, in combination with the main wheels, the axle *c*, the rods *m*, crank-axle C, the vertically-adjustable and turning rod *j*, having arm thereon, the rod *w*, the pivoted lever W, and the brake R, 30 as set forth.

In testimony whereof I have hereto set my hand in the presence of two subscribing witnesses.

ANTON HEINRICH BOCK.

Witnesses:

ALEX. SCHOLZE,
B. ROE.