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J. J. BOURCART.

SUPPORT FOR MOTOR CYCLES.

APPLICATION FILED SEPT. 10, 1904.

Fig. 1.

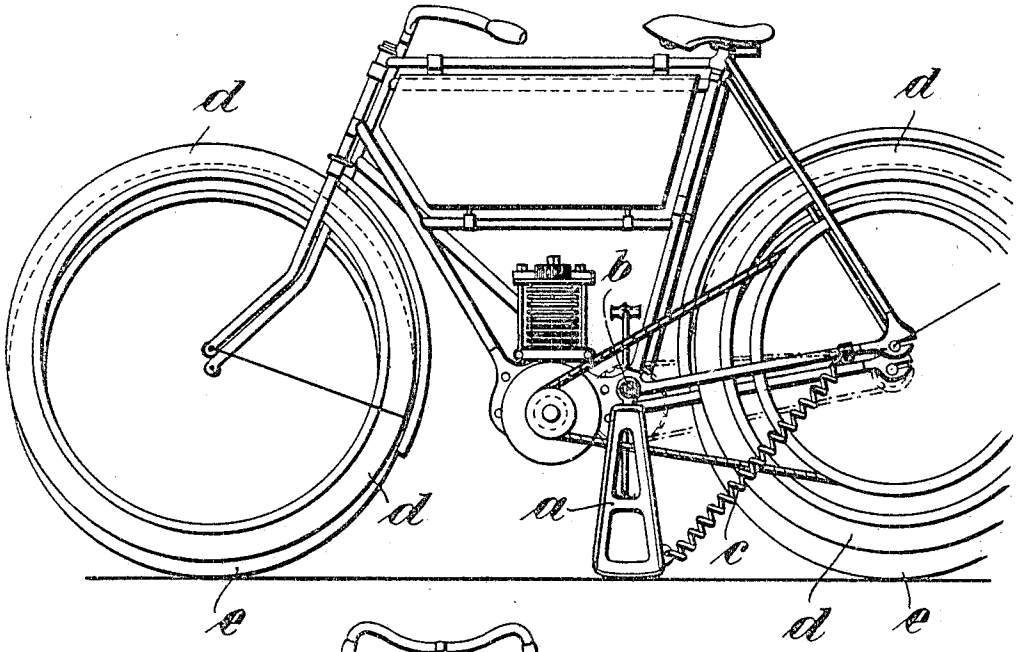
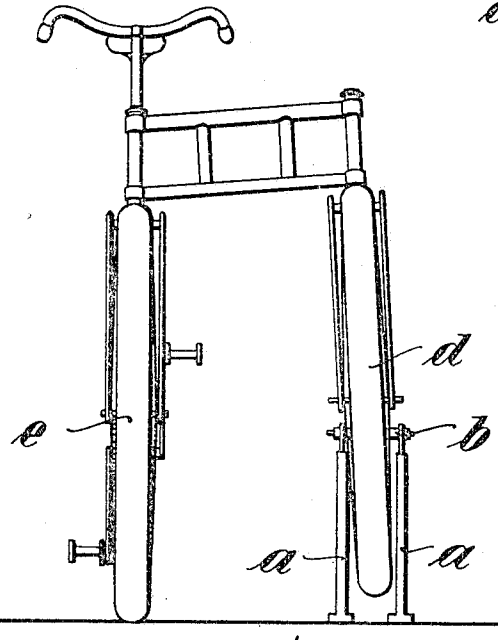


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHAN JAKOB BOURCART, OF COLMAR, GERMANY.

SUPPORT FOR MOTOR-CYCLES.

SPECIFICATION forming part of Letters Patent No. 787,070, dated April 11, 1905.

Application filed September 10, 1904. Serial No. 224,030.

To all whom it may concern:

Be it known that I, JOHAN JAKOB BOURCART, a citizen of Switzerland, and a resident of Colmar, Germany, (whose post-office address is 2 Holandbergwall, Colmar, Alsace, Germany,) have invented certain new and useful Improvements in Supports for Motor-Cycles, of which the following is a specification.

My invention relates to jacks or supports for motor-cycles wherein motive power is supplied by gasolene-engines or the like.

My invention consists of a spring-actuated support or jack carried by the cycle-frame and adapted when swung into a vertical position to support the driving wheel or wheels of the cycle out of engagement with the ground, the said support automatically assuming a non-supporting or retracted position when the cycle is under way.

It is well known that in starting a motor-cycle equipped with a gasolene-engine the initial compression-strokes are effected by pedaling the cycle until an effective explosion occurs, at which time the motor acts as the driving means. This method of securing an initial compression and ignition is a great strain upon the rider, since he is not only called upon to exert the necessary power in order to start the machine, but in addition he must furnish power to reciprocate the piston or pistons against the resistance of compressed gases. Besides the fact that this means of starting draws heavily upon the physical powers of the rider it is very ineffective, for the reason that very rapid reciprocation of the piston of a gasolene-engine is necessary in order to quickly secure an ignition. Such rapid reciprocation is not easily effected by a rider when it is remembered that he is called upon not only to start and propel the cycle, but operate the piston against the resistance of compressed gases. It is not uncommon for a rider to be compelled to pedal his machine through a distance of ten to twenty yards before an initial ignition takes place.

The object of my invention is to provide a supporting arm or jack whereby the driving wheel or wheels of a cycle may be temporarily supported out of contact with the ground, the said means permitting the rider to operate the pedals of the cycle until he has effected an ignition in the cylinder without starting the motor-cycle itself.

My invention will be more fully described in connection with the accompanying drawings and will be more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in side elevation of a motor-cycle coupled with an ordinary cycle of simple form, showing in connection therewith my improved jack or support. Fig. 2 is a front elevation of the cycles shown in Fig. 1.

Like characters of reference designate similar parts throughout the different figures of the drawings.

My invention is herein shown in connection with a motor-driven cycle which is coupled with a cycle of simple form. The coupled or simple cycle is provided with the usual frame and supporting-wheels *c c*, which, as shown, are in contact with the ground. The motor-driven cycle is of the usual form, having a frame mounted on supporting-wheels *d d* and a driving-engine *f* connected by suitable belting *g* to the rear wheel *d*.

My improved support or jack preferably consists of a rigid arm *a*, which, as shown, is pivotally mounted upon the frame of the motor-cycle at *b*. The length of said jack from its pivotal mounting to its outer margin is sufficient when the same is in a downward and vertical position to support the motor-driven cycle, so that its driving and idler wheels *d d* are out of contact with the ground. This position is shown in Fig. 1. When two cycles are thus coupled together, it will be obvious that both the driving and idler wheels of the motor-cycle will be maintained out of contact with the ground when the jack is in a supporting position. After the motor-cycle has been raised to an elevated position and the engine has been started the rider mounts the cycle (shown at the left of Fig. 2) and by exerting a forward pressure on the pedals causes the motor-driven cycle to move forward, and thereby bring the driving-wheel *d* in contact with the ground. The jacks *a a* will have

swung backward and by means of the spring *c* will have been drawn up into a retracted position and will be so held until the operator next desires to operate the engine, when he will force the jack into a downward or vertical position, and the frictional engagement with the ground, caused by the weight of the cycle, will maintain the jack in such position against the resistance of the spring *c*. When the supporting-jacks *a* are secured to an uncoupled motor-cycle, the forward wheel *d* and the supporting-jack will serve as a support for the cycle, tipping the rearward driving-wheel *d* upwardly out of contact with the ground. The balance of the cycle and rider will be maintained by the jacks *a* while he is effecting the initial compression-stroke of the engine. After the initial compression-stroke has been effected and the engine has started the driving or rear wheel *d* the rider may by giving a slight forward lurch of his body cause a forward movement of the cycle, which will result in the machine turning on a fulcrum formed by the lower edge of the jack *a*. It will be readily seen that as the machine moves forward the rearward end will gradually be lowered until the driving-wheel *d* comes into contact with the ground, at which time the jacks *a* will have assumed a rearward and inclined position. As soon as the cycle rests upon its driving and idler wheels *d d* and the jacks *a* are not in frictional engagement with the ground the springs *c* will quickly draw them upwardly into a retracted position.

It will be seen by reference to Fig. 1 that the outer margins of the jacks *a*, as shown, slightly diverge from the pivotal connection at *b*, forming a comparatively long engaging margin at their lower ends. This lower marginal length offers a rigid support for the wheel and effectively withstands vibration caused by effecting the initial stroke of the engine and subsequent vibratory movement caused by the engine after the same has been started and before the driving-wheel *d* is in contact with the ground.

By means of this improved support the rider may start the engine and afterward leave the wheel, if desired, with the assurance that same will be effectively supported so long as the jacks are in a vertical or supporting position.

A jack of this construction obviously has many advantages over a straight supporting bar or rod, as it affords a support quite as effective and rigid as a tripod or a four-legged support.

It will be noted that when my improved support is used in connection with a motor-driven cycle coupled with an ordinary cycle of simple form only one jack need be used, since the coupled wheel maintains the balance; but when said support is used in connection with a single uncoupled motor-cycle unprovided with other balancing means it will be necessary to equip the same with two jacks.

While I have herein shown but a single embodiment of my invention, it will be obvious that changes may be readily made therefrom without departing from the spirit of my invention.

Therefore what I claim, and desire to secure by Letters Patent, is—

1. A support for motor-cycles or the like comprising a jack pivotally mounted upon the cycle, said jack being of sufficient length from its pivotal mounting to its outer margin to support the wheels of the cycle out of contact with the ground, said jack having a relatively long base, and means serving normally to hold said jack in a retracted position.

2. A support for motor-cycles or the like comprising a jack pivotally mounted upon the frame of the cycle said jack being of sufficient length from its pivotal mounting to its outer margin to support the wheels of the cycle out of contact with the ground, the margin of the jack diverging from its upper to its lower end forming a relatively long base and a contractile spring secured at its opposite ends to said jack and cycle serving normally to hold said jack in a retracted position.

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

JOHAN JAKOB BOURCART.

Witnesses:
EDW. BOURCART,
MAX BOURCART.