H. T. SCOTT.

MOTOR CYCLE STAND.

APPLICATION FILED JULY 27, 1914.

1,195,404. Patented Aug. 22, 1916.

Fig. 1

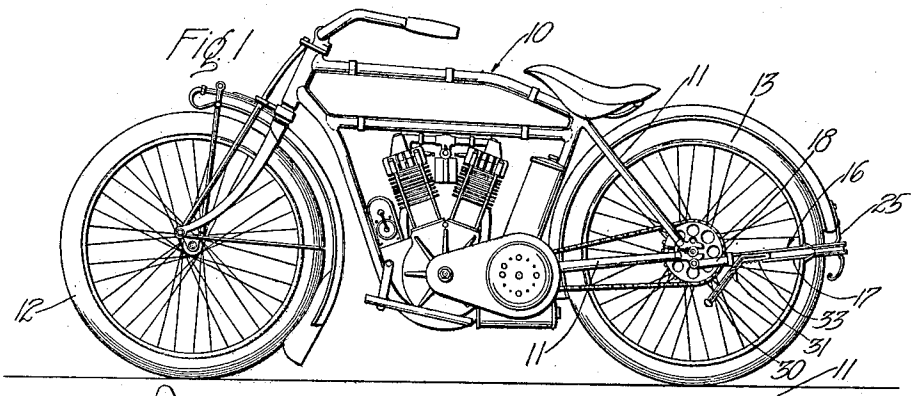


Fig. 2

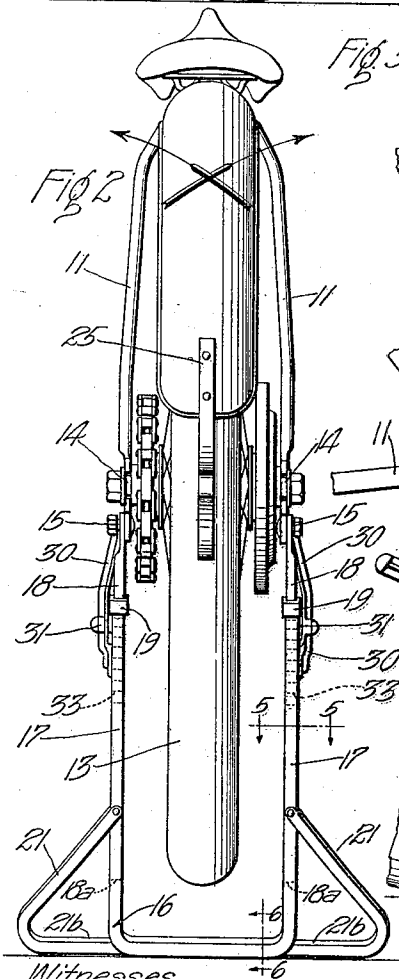


Fig. 3

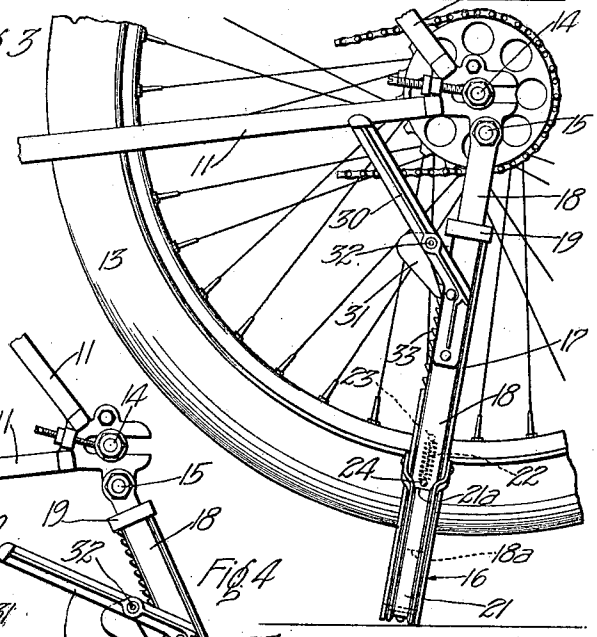


Fig. 4

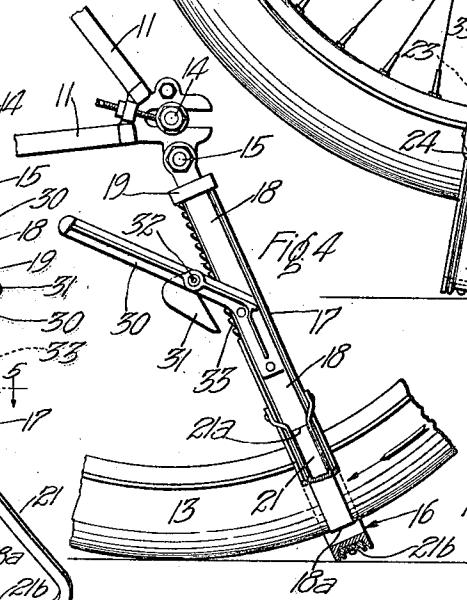


Fig. 5

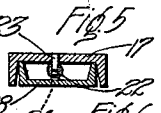


Fig. 6



Witnesses

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UNITED STATES PATENT OFFICE.

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MOTOR-CYCLE STAND.

1,195,404. Specification of Letters Patent. Patented Aug. 22, 1916.

Application filed July 27, 1914. Serial No. 853,294.

To all whom it may concern:

Be it known that I, HARRY T. SCOTT, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Motor-Cycle Stands, of which the following is a specification.

This invention relates to a stand for motor-cycles and the like; and the prime object of the invention is the provision of means for easily raising a motor-cycle or the like and for standing it in proper upright position. It should be understood that my stand may be applied to any article or device which needs the service of such a stand; and that, although I describe my device as applied to motor-cycles and the like, I am not limited to such use or combination.

One of the main features of my invention is a mechanism whereby a heavy weight may be raised off the ground with comparatively little effort.

It is one of the main objections to present motor-cycle stands that considerable muscular energy is required to raise the motor-cycle to proper position; and that is particularly true with the heavier motor-cycles now in vogue.

Another objection to the present motor-cycle stand is the fact that the motor-cycle must stand not necessarily vertically but perpendicularly to the surface on which the stand rests.

It is one of the objects of my invention to provide means so that the motor-cycle or other object may be supported in truly vertical position even when the stand rests upon a slope, such as is the case at the sloping side of a street or road.

To accomplish these and other objects, my invention comprises essentially a stand which includes relatively movable or sliding parts and a means for coördinating those parts so that the stand may be extended and contracted as will be described. I preferably employ a ratchet mechanism between the relatively moving parts of a stand, said ratchet mechanism being so arranged that when the stand is in its operative position (that is, substantially vertically) it will be held against contraction.

All of these features and other specific and structural features of my device are explained in the following specification, reference being had to the accompanying drawings, in which I have shown a preferred form of my device and in which,

Figure 1 is an elevation showing a motor-cycle equipped with my improved stand, Fig. 2 is an enlarged rear elevation of the same, showing the stand in action, Fig. 3 is an enlarged detail elevation showing the stand in action, Fig. 4 is a similar view showing the stand in position as it is being put into action, Fig. 5 is a section taken on line 5—5 of Fig. 2, Fig. 6 is a section taken on line 6—6 of Fig. 2.

In the drawings, I have shown a typical motor-cycle designated by the numeral 10 having frame 11 and front and rear wheels 12 and 13. The rear wheel 13 is mounted at 14 in the rear part of the frame 11 in the usual manner. My stand is attached at the point 15 where a motor-cycle stand is usually attached, the points of attachment being one on each side of the frame and of the rear wheel 13. The frame of the stand may be described as being made up of a U-shaped ground member 16 having two upwardly projecting sides 17, and of two members 18 which are pivotally attached at the point 15 to the frame 11. It is pointed out that the attachment at the points 15 is loose, for the purpose hereinafter noted. The outer or lower ends of the members 18 are vertically movable in some manner with reference to the U-shaped ground member 16, and are preferably slidable thereon.

Although I do not specifically limit myself to the formation shown, and although the members 16 and 18 may have any suitable cross section, for the present purposes I have preferred to show these members having channel-shaped cross section, as is best shown in Fig. 5. The members 18 nest within the members 17 as illustrated. The lower ends of the members 18 are illustrated at 18^a. A strap or collar 19 at the upper end of members 17 confine the sliding members 18; and the lower ends of these members 18 are confined by the end 21^a of the foot piece 21. This foot piece is made in the configuration shown for the purpose of providing a wide base for the stand. A spring or any other suitable device 22 is stretched between pins 23 and 24 to normally pull the ground members 16 outwardly away from the pivots 15.

When the device is in the position shown in Fig. 1 it is held up by a spring catch 25, the outer end of the ground member 16 passing outside the catch 25. By kicking the catch inwardly the whole stand will be dropped toward the position shown in Fig. 4. The motor-cycle is then moved rearwardly, the rear wheel revolving in the direction indicated in Fig. 4, and the wheel is rolled over the lower part of the U-shaped ground member. As this is done, the ground member moves inwardly and upwardly on the members 18 until the ends 18^a of those members strike the upper surface 21^b of the foot piece 21. This is shown in Fig. 4. At this time, the tire of rear wheel 13 is resting upon the lower part of the U-shaped ground member; so that, as the wheel is rolled on rearwardly, it is only necessary to raise the wheel and the motor-cycle by an amount equal to the vertical thickness of that part of the ground member; and this is very easily done. The wheel is rolled on rearwardly until the stand has assumed the angular position shown in Fig. 3 and until the braces 30 have engaged the frame 11 as illustrated in that figure. The braces 30 are mounted directly upon the members 18 as is clearly shown in Figs. 3 and 4. Pawls or dogs 31 are hung at 32 on the braces 30. I provide means for preventing the downward movement of the parts 18 on the ground member 16 and for allowing the free upward movement of those parts. Although such means may take many different forms, for the purposes of the specific combination herein shown I use a ratchet mechanism embodying teeth and pawls. The ends of these pawls engage ratchet teeth 33 on the upright parts 17 when the stand is in the position shown in Fig. 3. The pawls are so weighted that they will not engage the teeth when the stand is in either of the positions shown in Figs. 1 and 4. The device being now in the general position shown in Fig. 3 with the pawls 31 engaging the ratchet teeth (except that the motor-cycle is not raised as shown in that figure, but that the tire of the rear wheel 13 still rests upon the lower part of the U-shaped ground member 16) the last operation is to raise the motor-cycle by causing vertical extension of the stand. This is done simply by rocking the motor-cycle back and forth transversely in the direction indicated in Fig. 2. This is done by lifting upwardly and pushing over with the hand; and then the same motion back. As the top part of the motor-cycle is rocked toward one side the weight is thrown onto the ratchet mechanism at that side and the member 18 and the pawl 31 at the other side is raised up over one or more notches of the teeth 33. The pawl on this opposite side catches; and as the motor-cycle is rocked toward this opposite side, the pawl on the first side is raised and catches in the teeth in turn. Thus, by rocking the motor-cycle back and forth transversely a few times, it may be raised off the ground. The motor-cycle may be raised to any desired height. When standing on a hard pavement it is only necessary to raise the machine a short distance; but when in sand or mud, it may be necessary to raise the motor-cycle higher. My stand provides for raising the machine just as high and no higher than is necessary under any circumstances. Also, it will be seen that one side may be raised higher on the stand than the other, thus putting the machine in proper vertical position if the stand rests upon a slope.

The operation of my stand is extremely simple and easy. A heavy motor-cycle may be raised as described with one hand. It is not necessary to roll the motor-cycle rearwardly with any great amount of force, as the machine is raised very little as it is rolled rearwardly over the lower part of the stand. Another feature I draw attention to is the fact that, where my stand is applied to motor-cycles in which it is not necessery to raise the rear wheel to start the engine, the stand may be put into operation without necessarily raising the machine.

When the stand is thrown back to its normal position, the motor-cycle is merely pushed forwardly in the ordinary manner. As soon as the stand reaches the angular position shown in Fig. 4, and as soon as the rear wheel rolls off the stand, the springs 22 will extend the stand so that when it is raised it will properly coöperate with the spring catch 25.

I have described my stand in connection with a motor-cycle. It may be used in any other situation where its service may be required. In general, it provides an easy means of raising a heavy article by an oscillating or rocking motion. I do not limit myself to the specific construction herein described, my invention consisting rather in the principle and fundamental combinations herein set forth.

Having described my invention, I claim:—

1. A supporting stand, comprising a pair of spaced uprights, members slidably mounted on said uprights and adapted to be pivotally attached to a motor-cycle or the like, and ratchet means between each upright and its corresponding sliding member acting to prevent the sliding member from moving downwardly on the upright, each sliding member being free to independently move upwardly on its upright, said ratchet means including a gravity operated pawl adapted to be thrown by gravity to operative position when the uprights and sliding members are substantially vertical and to be thrown by gravity to inoperative position when the sliding members are horizontal.

2. In combination with a motor-cycle or the like, a stand comprising a lower ground member having a pair of uprights one on each side of the motor-cycle, a pair of members slidable on the uprights and pivotally attached to the motor-cycle, and ratchet means for independently preventing the downward movement of each sliding member on its corresponding upright, each sliding member being free to independently move upwardly on its upright, said ratchet means including a gravity operated pawl adapted to be thrown to operative position when the uprights and slidable members are substantially vertical and to be thrown by gravity to inoperative position when the sliding members are horizontal.

3. In combination with a motor-cycle or the like, a stand comprising a pair of uprights one on each side of the motor-cycle, a pair of members slidable on the uprights and pivotally attached to the motor-cycle, means for independently preventing the downward movement of each sliding member on its corresponding upright, and means to normally hold the upright members away from the pivotal points of attachment of the sliding members to the motor-cycle.

4. In combination with a motor-cycle or the like, a stand comprising a ground member including a U-shaped frame, two members slidable on the sides of the U-shaped frame and pivotally attached to the motor-cycle or the like on opposite sides thereof, and independent ratchet devices acting between each of the slidable members and the corresponding side of the U-shaped frame to independently prevent downward movement of the sliding members on the frame, the sliding members being free to move independently upwardly on the frame, said ratchet devices including pawls adapted to be thrown by gravity into and out of operative position.

5. In combination with a motor-cycle or the like, a stand comprising a ground member including a U-shaped frame, two members slidable one on each side of the U-shaped frame and pivotally attached to the motor-cycle or the like on opposite sides thereof, ratchet teeth on each of the sides of the U-shaped frame, and pawls one on each slidable member adapted to engage the corresponding ratchet teeth, said pawls being weighted so that when the stand is in a horizontal position extending rearwardly from the motor-cycle they will not engage the teeth and so that when the stand is in a substantially vertical position they will engage the teeth.

6. In combination with a motor-cycle or the like, a stand comprising a ground member including a U-shaped frame, two members slidable one on each side of the U-shaped frame and pivotally attached to the motor-cycle or the like on opposite sides thereof, ratchet teeth on each of the sides of the U-shaped frame, and pawls, one on each slidable member adapted to engage the corresponding ratchet teeth, said pawls being weighted so that when the stand is in a horizontal position extending rearwardly from the motor-cycle they will not engage the teeth and so that when the stand is in substantially vertical position they will engage the teeth, and means for holding the stand normally extended by holding the ground member out away from the points where the slidable members are pivoted to the motor-cycle.

7. In combination with a motor-cycle or the like, a stand comprising a ground member including a U-shaped frame, two members slidable one on each side of the U-shaped frame and pivotally attached to the motor-cycle or the like on opposite sides thereof, ratchet teeth on each of the sides of the U-shaped frame, and pawls, one on each slidable member adapted to engage the corresponding ratchet teeth, said pawls being weighted so that when the stand is in a horizontal position extending rearwardly from the motor-cycle they will not engage the teeth and so that when the stand is in a substantially vertical position they will engage the teeth, and spring means for holding the stand normally extended by holding the ground member away from the points where the slidable members are pivoted to the motor-cycle.

8. In combination with a motor cycle or the like, a stand comprising a pair of uprights one on each side of the motor cycle, a pair of members slidable in the uprights and pivotally attached to the motor cycle, ratchet means for independently preventing the downward movement of each sliding member on its corresponding upright, said means including pawls adapted to be thrown to operative position when the stand is approximately vertical and to inoperative position when the stand is approximately horizontal, and means to normally hold the upright members away from the pivotal points of attachment of the sliding members to the motor cycle.

9. In combination with a motor cycle or the like, a stand including a frame with a pair of uprights each adapted to rest on the ground on opposite sides of the motor cycle, two members attached to opposite sides of the motor cycle and vertically movable one on each of the uprights, and means to independently prevent downward movement of each movable member with reference to the corresponding upright, each movable member being free to move upwardly on the corresponding upright independently of the other movable member.

10. In combination with a motor-cycle or

the like, a stand comprising a ground frame, two members pivotally attached to the motor-cycle and movable on the ground frame, the stand being movable about the pivotal connection between horizontal and vertical positions, and ratchet means for preventing movement of the said members downwardly on the ground frame, said ratchet means including pawls adapted to be thrown to operative position when the stand is vertical and to inoperative position when the stand is horizontal.

11. In combination with a motor-cycle or the like, a stand including a frame with a pair of uprights adapted to rest upon the ground on opposite sides of the motor-cycle, two members attached to opposite sides of the motor-cycle and constrained to move vertically therewith and vertically movable one on each of said uprights, and means to independently prevent downward movement of each movable member with reference to the corresponding upright.

12. In combination with a motor-cycle or the like, a stand including a frame with a pair of uprights adapted to rest upon the ground on opposite sides of the motor-cycle, two members attached to opposite sides of the motor-cycle and constrained to move vertically therewith and vertically slidable one on each of said uprights, and ratchet means to independently prevent downward sliding movement of each movable member with reference to the corresponding upright.

It witness that I claim the foregoing I have hereunto subscribed my name this 21st day of July 1914.

HARRY T. SCOTT.

Witnesses:
W. L. CONNOR,
E. H. BARKELEW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."