P. BRIX.

HANDLE GRIP CONTROL FOR MOTOR CYCLES.

APPLICATION FILED OCT. 2, 1913.

1,114,440.

Patented Oct. 20, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

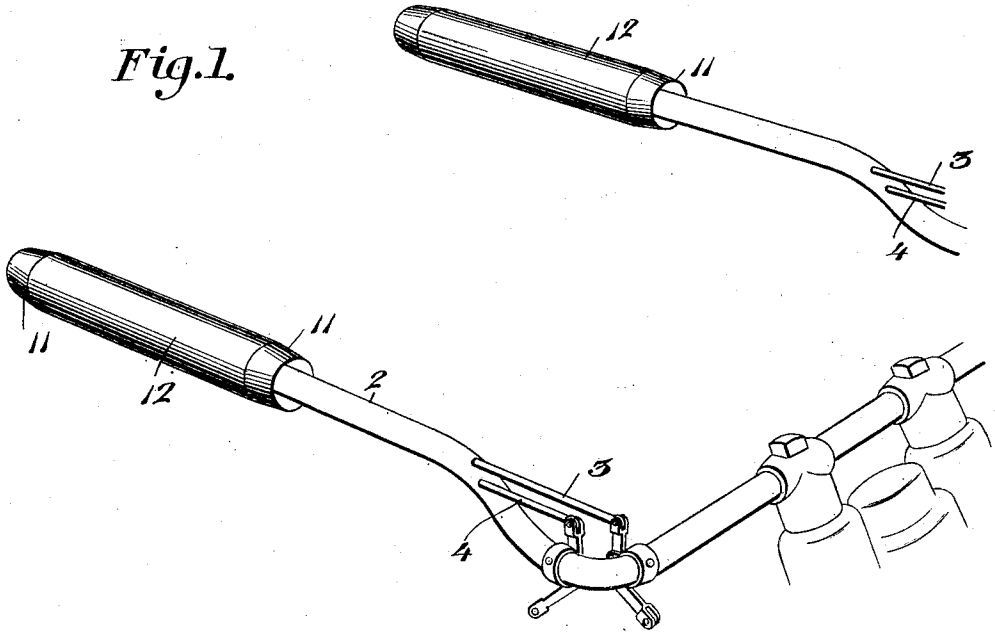
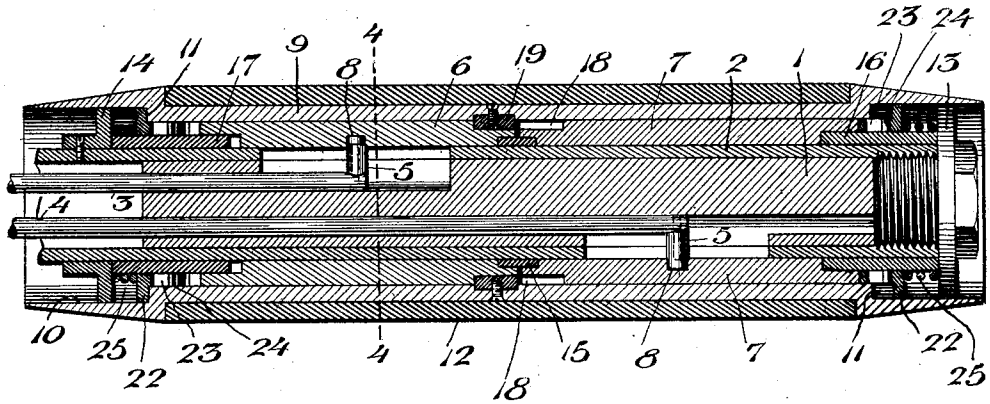


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

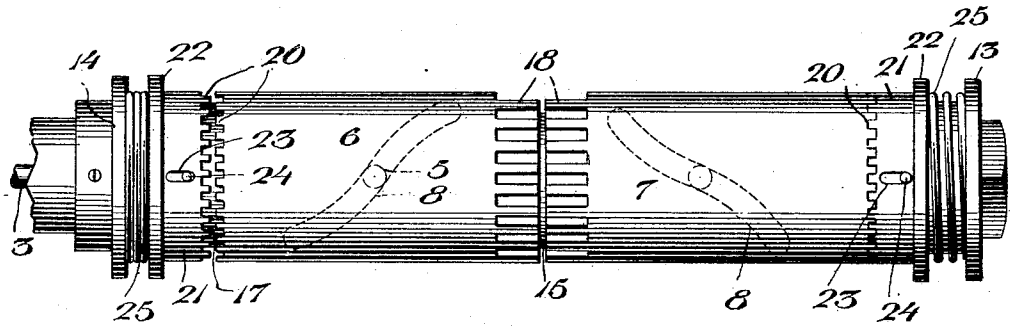


Fig. 4.

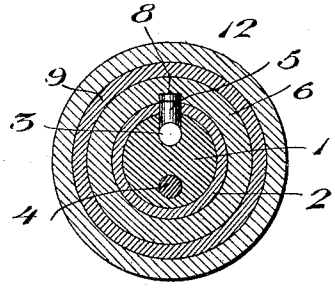


Fig. 5.

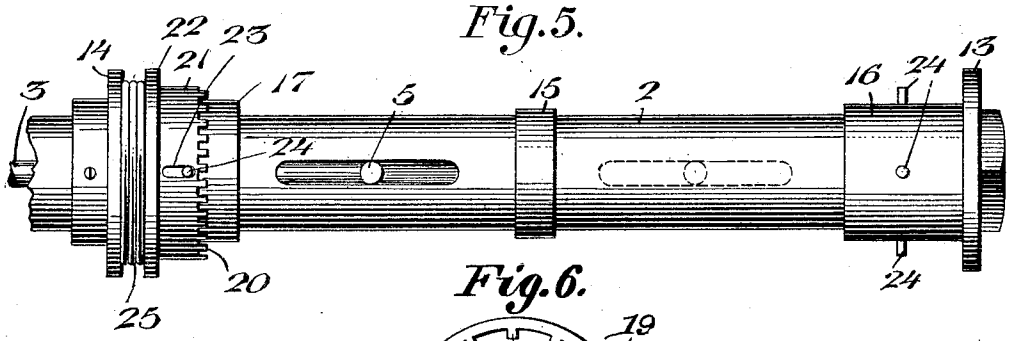
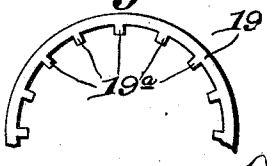


Fig. 6.



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UNITED STATES PATENT OFFICE.

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HANDLE-GRIP CONTROL FOR MOTOR-CYCLES.

1,114,440. Specification of Letters Patent. Patented Oct. 20, 1914.

Application filed October 2, 1913. Serial No. 792,993.

To all whom it may concern:

Be it known that I, PEDER BRIX, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented new and useful Improvements in Handle-Grip Control for Motor-Cycles, of which the following is a specification.

This invention relates to improvements in motor-cycles, and more particularly to a handle grip control for motorcycles.

The object of this invention is to provide a motorcycle with a handle grip control by which the rider may control the spark throttle, muffler and clutch without moving his hands from the handle-bars.

While the preferred forms of this invention are illustrated upon the accompanying sheets of drawings, yet it is to be understood that minor detail changes may be made without departing from the scope thereof.

Figure 1 is a view in perspective illustrating the application of this invention. Fig. 2 is a central, longitudinal sectional view through the handle grip. Fig. 3 is a plan view with the outer casing or hand grip removed. Fig. 4 is a transverse sectional view taken on the lines 4—4 of Fig. 2. Fig. 5 is a plan view with the operating sleeves removed and one locking sleeve removed. Fig. 6 is a partial view in end elevation of the operating ring 19.

In order that the rider of a motorcycle may have complete control without removing his hands from the handle bars, each hand grip is detachably connected with two control rods or wires mounted within the handle bars with their free ends passing therethrough and connected by suitable means to the spark control, throttle, muffler control, and engine clutch, respectively.

As the operation of both hand grips are the same, it will be necessary to describe but one. As illustrated on Fig. 2, a guide block 1 is secured within the end of the handle bar 2 and is provided with two longitudinal guide ways of unequal length for receiving the ends of two control rods 3 and 4. The handle bar is slotted longitudinally adjacent the termination of each guide-way and to the ends of control rods are attached operating blocks 5 adapted to travel within the adjacent slots. Two independent operating sleeves 6 and 7 are mounted on the handle bar, having helical grooves 8 engaging the operating blocks 5 of the respective control rods, so that upon rotation of the operating sleeve the operating block is caused to travel within the handle bar slot.

In order that the hand grip may engage the operating sleeves independently of each other, the hand grip is mounted upon the handle bar with a limited longitudinal, as well as rotary movement thereon. It is preferable to construct the hand grip in the form of a metal sleeve 9, having an enlarged bore 10 at each end, forming a shoulder 11 to limit the longitudinal movement, and a rubber gripping surface 12 is preferably set into the outer surface of the sleeve 9. The end of the handle bar is closed by a shouldered plug 13 received within the enlarged bore 10 of the rear end of the hand grip to limit the rearward movement thereof. A collar 14 is secured upon the handle bar, received within the enlarged bore of the front end of the hand grip to limit the forward movement thereof.

To prevent longitudinal movement of the operating sleeves 6 and 7, each end is preferably undercut, and a positioning sleeve 15 is mounted upon the handle bar between the adjacent ends of the operating sleeves within the undercut portions spacing the ends apart, a positioning sleeve 16, similarly mounted on the handle bar between the rear operating sleeve 7 and rear shouldered plug 13 prevents motion of the operating sleeve in that direction and a similarly mounted positioning sleeve 17 between the front shoulder 14 upon the handle bar and the adjacent end of the operating sleeve 6 prevents movement in that direction.

The outer surfaces of the adjacent ends of the operating sleeves 6 and 7 are provided with a plurality of longitudinal grooves 18, as clearly shown in Fig. 3. An operating ring 19, having a plurality of depending teeth 19^a adapted to register with the grooves 18 is secured upon the inner side of the handle grip 9, and so positioned that when the hand grip is at the end of its movement in one direction the teeth of the ring will be received entirely within the grooves of one of the operating sleeves, and when the hand grip is at the end of its movement in the other direction the teeth will be received entirely within the grooves of the other operating sleeve, so that upon sliding the hand grip forward the operating sleeve will be operatively connected thereto and by rotating the hand grip in this position, the

forward control rod is reciprocated. By sliding the hand grip rearwardly the other control rod may be reciprocated.

In order to lock the operating sleeve while not operatively connected to the hand grip, the outer end of each sleeve is provided with a plurality of teeth 20. A locking sleeve 21 is placed between each toothed end and the adjacent limiting shoulder. The inner end of the locking sleeve is toothed similar to the adjacent operating sleeve and the outer end is provided with an upwardly projecting flange 22 adapted to be engaged by the adjacent shoulder 11 upon the inner bore of the hand grip. It is preferable to provide the locking sleeves with a plurality of longitudinal slots 23, through which pins 24 are passed and secured to the handle bar 2, thereby allowing only a longitudinal movement of the sleeve.

Each locking sleeve is normally held in engagement with the adjacent operating sleeve by means of a spring 25. The length of the sleeve is such that when the hand grip is moved forward the internal shoulder 11 will engage the flange 22 on the forward locking sleeve and withdraw it from engagement with the forward operating sleeve 6, and the spring 25 acting upon the rear locking sleeve 21 will retain it in engagement with the rear operating sleeve 7 and lock the same against rotation while it is disengaged from the hand grip.

What I claim is:

1. A handle-grip control for motorcycles, comprising a hand grip on each handle bar, two control rods mounted in each arm of the handle bar and extending within the hand grips, operating blocks upon the ends of each control rod adapted to slide in longitudinal slots provided in the arms of the handle bar, rotatable sleeves mounted upon the handle bar about each slot having helical grooves adapted to receive the ends of the operating blocks, and means for connecting and disconnecting the respective sleeves to the hand grips.

2. A handle-grip control for motorcycles, comprising a hand-grip, two control rods mounted in the handle bar and extending within the hand grip, a block upon the end of each control rod adapted to slide in a longitudinal slot provided in the handle bar, a rotatable sleeve mounted upon the handle bar about each slot having a helical groove adapted to receive the end of the operating block, means for connecting and disconnecting the respective sleeves to the hand grip, and means to lock the disconnected sleeve.

3. A handle-grip control for motorcycles, comprising a hand grip mounted to slide longitudinally upon the end of the handle bar, two control rods mounted in the handle bar and extending within the hand grip, a block upon the end of each control rod adapted to slide in a longitudinal slot provided in the handle bar, a sleeve rotatably mounted upon the handle bar about each slot having a helical groove adapted to receive the end of the operating block, the adjacent ends of the sleeves provided with a plurality of longitudinal grooves, and an operating ring secured upon the inner side of the hand grip having teeth adapted to engage and be entirely received within the slots upon one sleeve to rotate the sleeve so engaged.

4. A handle-grip control for motorcycles, comprising a hand grip mounted to slide longitudinally upon the end of the handle bar, two control rods mounted in the handle bar and extending within the hand grip, a block upon the end of each control rod adapted to slide in a longitudinal slot provided in the handle bar, a sleeve rotatably mounted upon the handle bar about each slot having a helical groove adapted to receive the end of the operating block, the adjacent ends of the sleeves provided with a plurality of longitudinal grooves, an operating ring secured upon the inner side of the hand grip having teeth adapted to engage and be entirely received within the slots upon one sleeve to rotate the sleeve so engaged, and means to lock the disconnected sleeve.

5. A handle-grip control for motorcycles, comprising a hand-grip mounted rotatably upon the end of each handle bar and having a limited longitudinal movement thereon, means for limiting the longitudinal movement, two operating rods mounted to reciprocate within each arm of the handle bar and extending within the respective grips, two spaced-apart operating sleeves rotatably mounted upon the handle bar within each hand grip, a connection between each sleeve and one operating rod adapted to reciprocate the operating rod upon rotation of the sleeve, the outer end of each sleeve provided with a plurality of teeth, a locking sleeve at each other end having a limited longitudinal movement and provided with teeth adapted to interlock with the teeth on the adjacent sleeve, means normally causing the teeth to engage and lock, means upon each locking sleeve adapted to be engaged by means upon each hand grip when moved in one direction to release that locking sleeve from the adjacent operating sleeve, and means upon each hand grip to engage and operate the freed locking sleeve.

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