No. 713,533. Patented Nov. 11, 1902.

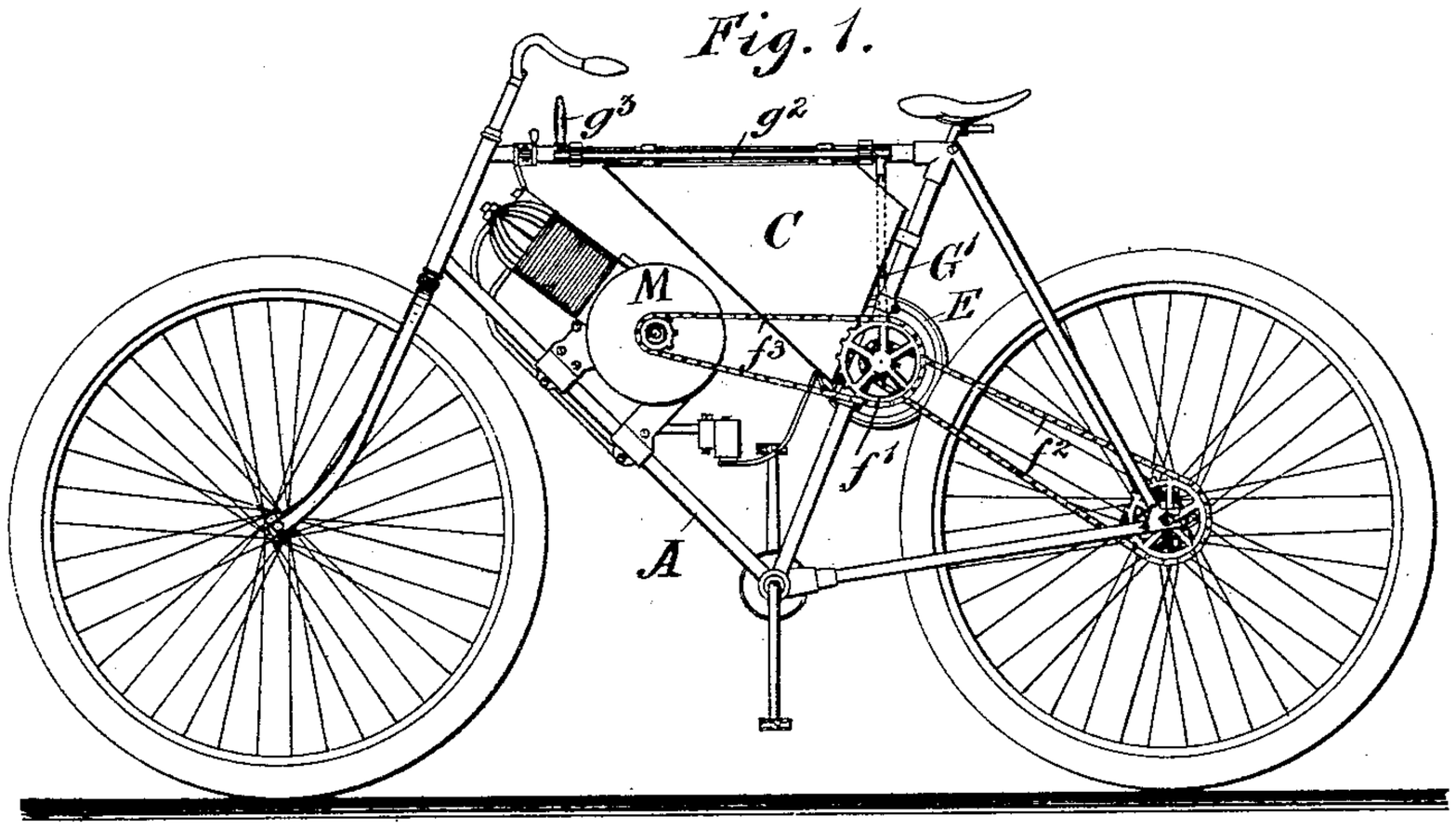
F. THOUROT.

MOTOR CYCLE.

(Application filed Aug. 22, 1902.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



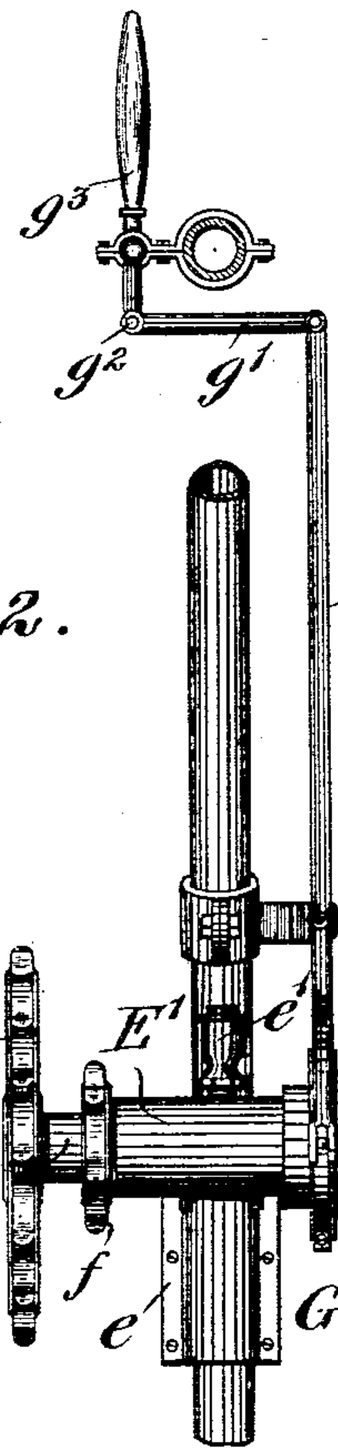


Fig. 2.

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Fig. 3.

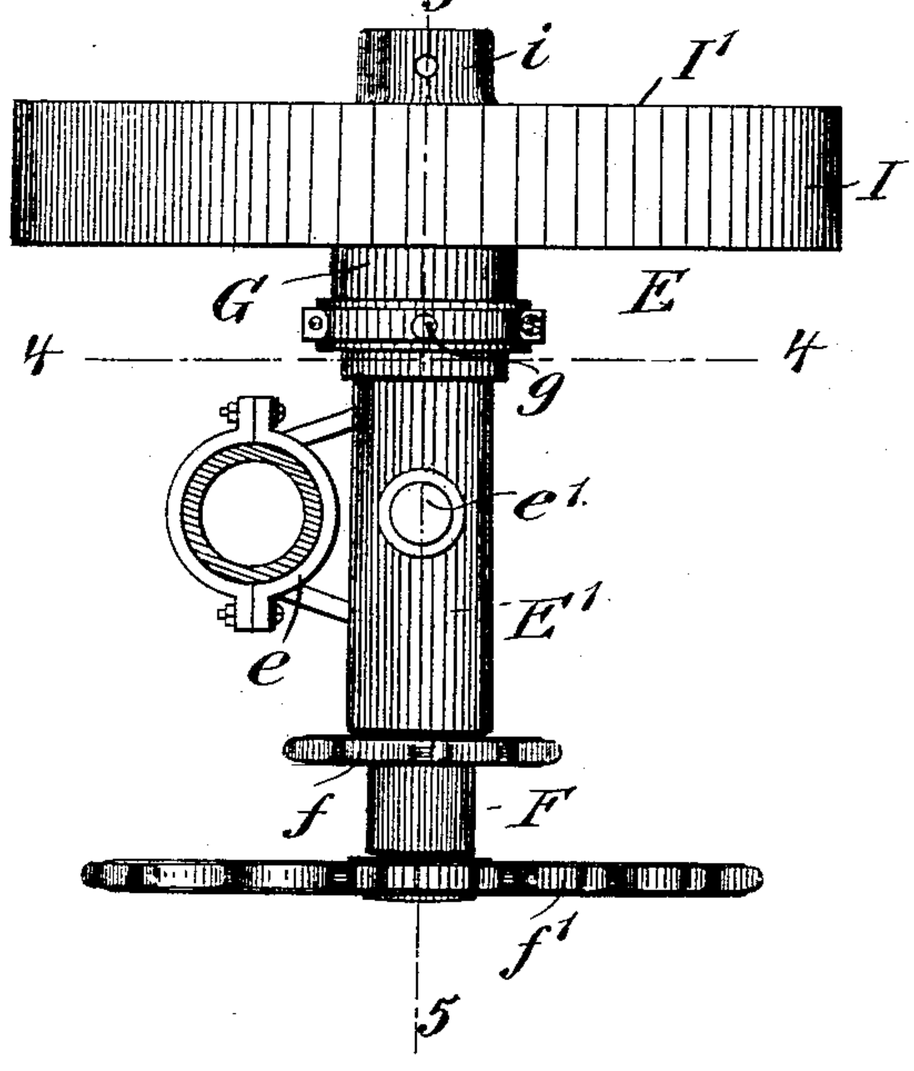


Fig. 4.

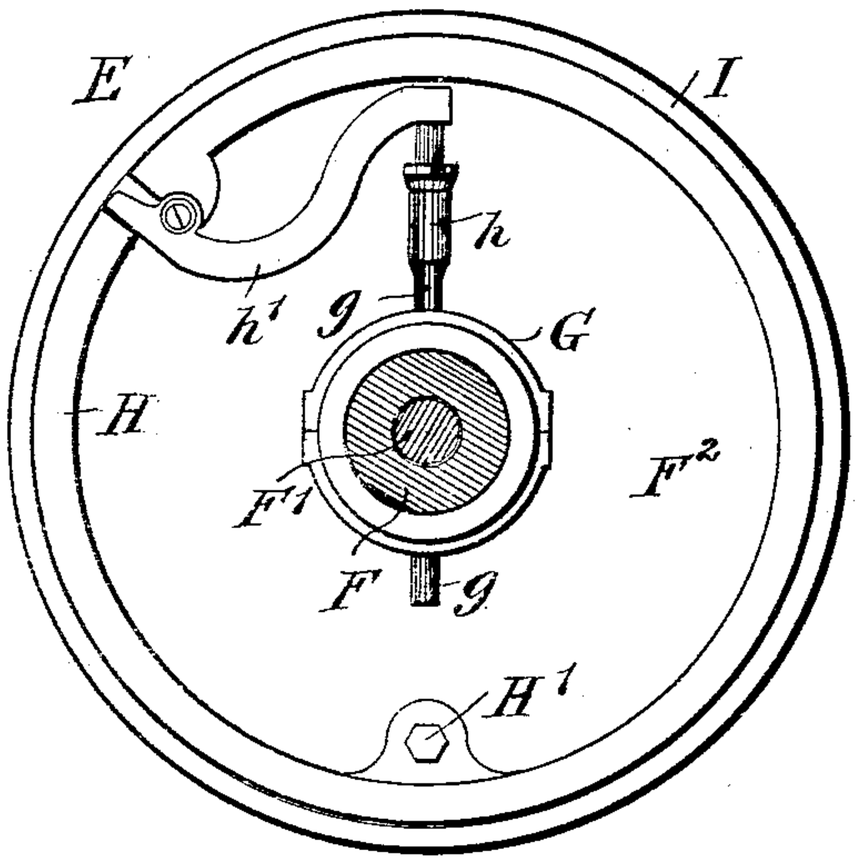
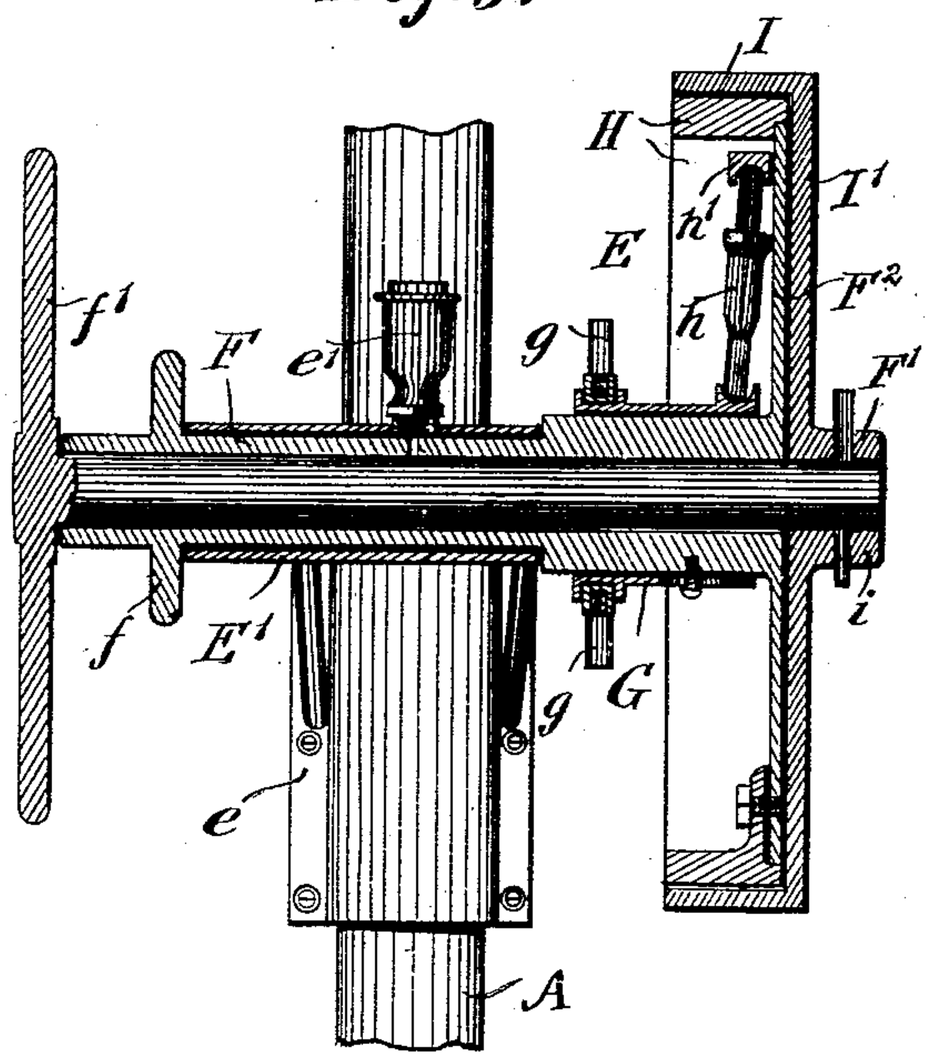


Fig. 5.



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UNITED STATES PATENT OFFICE.

FREDERICK THOUROT, OF NEW YORK, N. Y.

MOTOR-CYCLE.

SPECIFICATION forming part of Letters Patent No. 713,533, dated November 11, 1902.

Application filed August 22, 1902. Serial No. 120,646. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK THOUROT, a citizen of the United States, residing in New York, borough of Manhattan, and State of New York, have invented certain new and useful Improvements in Motor-Cycles, of which the following is a specification.

This invention relates to improvements in motor-cycles, and more especially to the employment of a clutch mechanism that is interposed between the motor and the axle of the hind wheel or attached to any suitable part of the bicycle-frame, so as to permit the stopping of the motor-cycle at any time by the action of the clutch without interrupting the motion of the motor.

My invention is designed to permit the easy stopping and starting of the motor-bicycle by means of a clutch mechanism interposed between the motor and the axle of the hind wheel while the motor is kept continually in motion; and for this purpose the invention consists of a motor-bicycle in which a clutch mechanism is supported on the main frame of the bicycle between and in connection with the motor and the axle of the rear wheel by means of a chain mechanism, said clutch mechanism being operated by suitable devices from a point near the handle-bars; and the invention consists, further, of certain details of construction and combinations of parts, which will be fully described hereinafter and finally pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation of my improved motor-bicycle, showing the relative position of the clutch to the motor and hind wheel. Fig. 2 is a rear view of the clutch device and its adjacent parts. Fig. 3 is a plan view drawn on a larger scale. Fig. 4 is a side elevation of the clutch on line 4 4, Fig. 3; and Fig. 5 is a vertical transverse section of the same on the line 5 5, Fig. 3.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the frame of my improved motor-bicycle, which frame is made of the usual diamond shape and of sufficient strength to support the motor, gasolene-receptacle, and other operative parts. The motor M is supported in the usual manner in inclined position on the front inclined tube of the frame A, the motor being of any approved kind and is started and stopped in the usual manner. The gasolene-receptacle C is supported on the upper tube of the frame A, so as to supply the explosive fluid by gravity. The axle of the hind wheel is connected with the pedal-shaft either by sprocket wheels and chains or by transmitting gear-wheels in the usual manner.

The parts so far described are well known and are in general use in different types of motor-bicycles. The new feature of my invention consists of a clutch mechanism E, which is supported by a clamping device *e* on the diagonal tube of the frame A, said clamp being cast integral with a stationary sleeve-shaped portion E′, which is provided with a lubricating device *e′*, as shown clearly in Fig. 5. In the stationary sleeve-shaped portion E′ is assembled a tubular shaft F, near one end of which is applied a sprocket-wheel *f*, that is connected by a sprocket-chain f^2 with the sprocket-wheel of the hind wheel of the bicycle, while on the opposite end of the tubular shaft is provided a shiftable sleeve G, which is provided at diametrically opposite points with pins *g*, that are engaged by the lower end of the fulcrumed lever G′. The lower end of said lever is forked, so as to span the shiftable sleeve G, and the extremities of this forked portion are bifurcated and engage the pins *g*. The upper end of the lever G′ is connected by a link *g′* with a rock-shaft g^2, suitably supported on the upper tube of the bicycle-frame and terminating in a hand-lever g^3 near the handle-bars of the bicycle, as shown in Figs. 1 and 2. The shiftable sleeve G is connected by a toggle-lever *h* with a fulcrumed lever *h′*, that operates the clutch-band H, which latter frictionally engages the circumferential flange I of the disk I′, as shown in Figs. 4 and 5. The disk I′ is keyed through its hub *i* to the shaft F′, which passes through the tubular shaft F and which carries at its opposite end a sprocket-wheel *f′*, larger than the sprocket-wheel *f*, that is connected by a chain f^3 with the sprocket of the motor. The clutch-band H is secured at H′ to a disk-flange F^2, formed at the end of the tubular shaft F opposite to the sprocket end *f*, said

flange F^2 being housed in the flanged member I'.

When the hand-lever g^3 and the intermediate members g^2, g', and G' are operated, they shift the sleeve G and the toggle-lever h. The movement of the toggle-lever causes the fulcrumed lever h' to engage or release the clutch-band H, which latter is adapted to bind upon the flange I of the disk I', so as to communicate motion from the motor to the rear wheel of the bicycle by reason of the shaft F' moving with the tubular shaft F, or by releasing the clutch-band from the flange I said shafts will rotate independently for the starting or stopping of the bicycle.

As soon as the motor-cycle is to be started again the hand-lever is operated, the clutch members placed in engagement with each other, and thereby motion imparted to the axle of the rear wheel, so that the motor-cycle is set immediately in motion without requiring the starting of the same by the pedals. In other words, by the interposition of the clutch members between the motor and the axle of the rear wheel the starting and stopping of the motor-bicycle by the starting and stopping of the motor is dispensed with and in place thereof the motion of the cycle is controlled by the operation of the clutch mechanism—that is to say, by the meshing or unmeshing of the clutch members. In this manner a better control of the bicycle is obtained and the starting and stopping of the same greatly facilitated without the use of the pedals and without the frequent annoying stopping and starting of the motor.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a motor-bicycle, the combination, with a bicycle-frame, of a motor supported thereon, a rear wheel, a clutch device arranged on the frame in gear with said motor and rear wheel, said clutch device being composed of a tubular shaft having a disk-flange at one end, a shaft mounted in said tubular shaft and provided with a circumferentially-flanged disk receiving said disk-flange, a clutch-band, a fulcrumed lever coöperating with said clutch-band, said band and lever being secured to and movable with said disk-flange, a shiftable sleeve on said tubular shaft adjacent the flanged end thereof, a toggle-lever connecting said clutch-band and shiftable sleeve, a lever fulcrumed on the seat-tube of the bicycle-frame engaging said shiftable sleeve, an operating-handle arranged near the handle-bar, and means connecting said handle with said last-mentioned lever, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FREDERICK THOUROT.

Witnesses:
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HENRY J. SUHRBIER.