No. 757,815. PATENTED APR. 19, 1904.

A. KREBS.

APPARATUS FOR CONTROLLING THE SPEED OF MOTOR CAR ENGINES.

APPLICATION FILED MAY 8, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

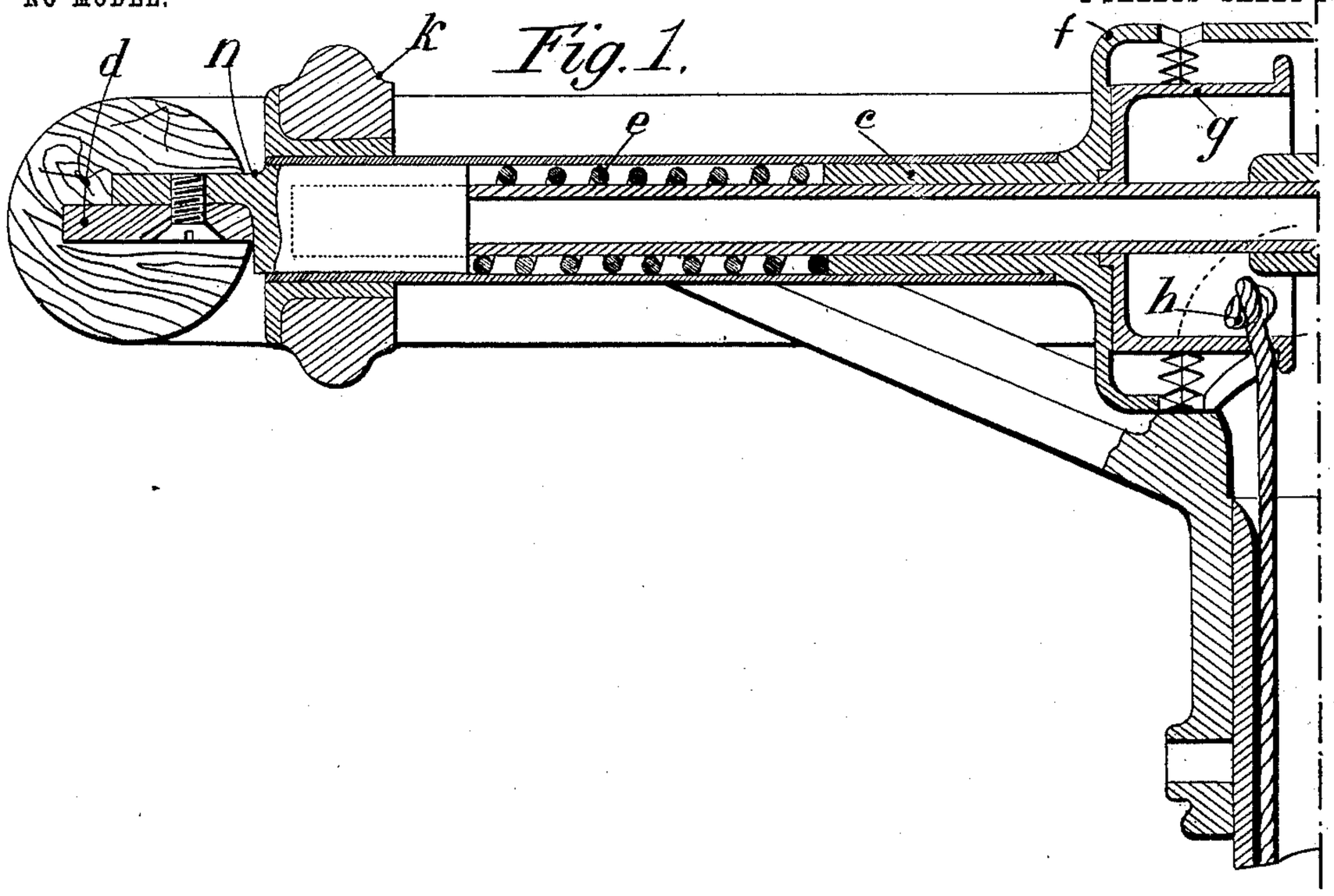
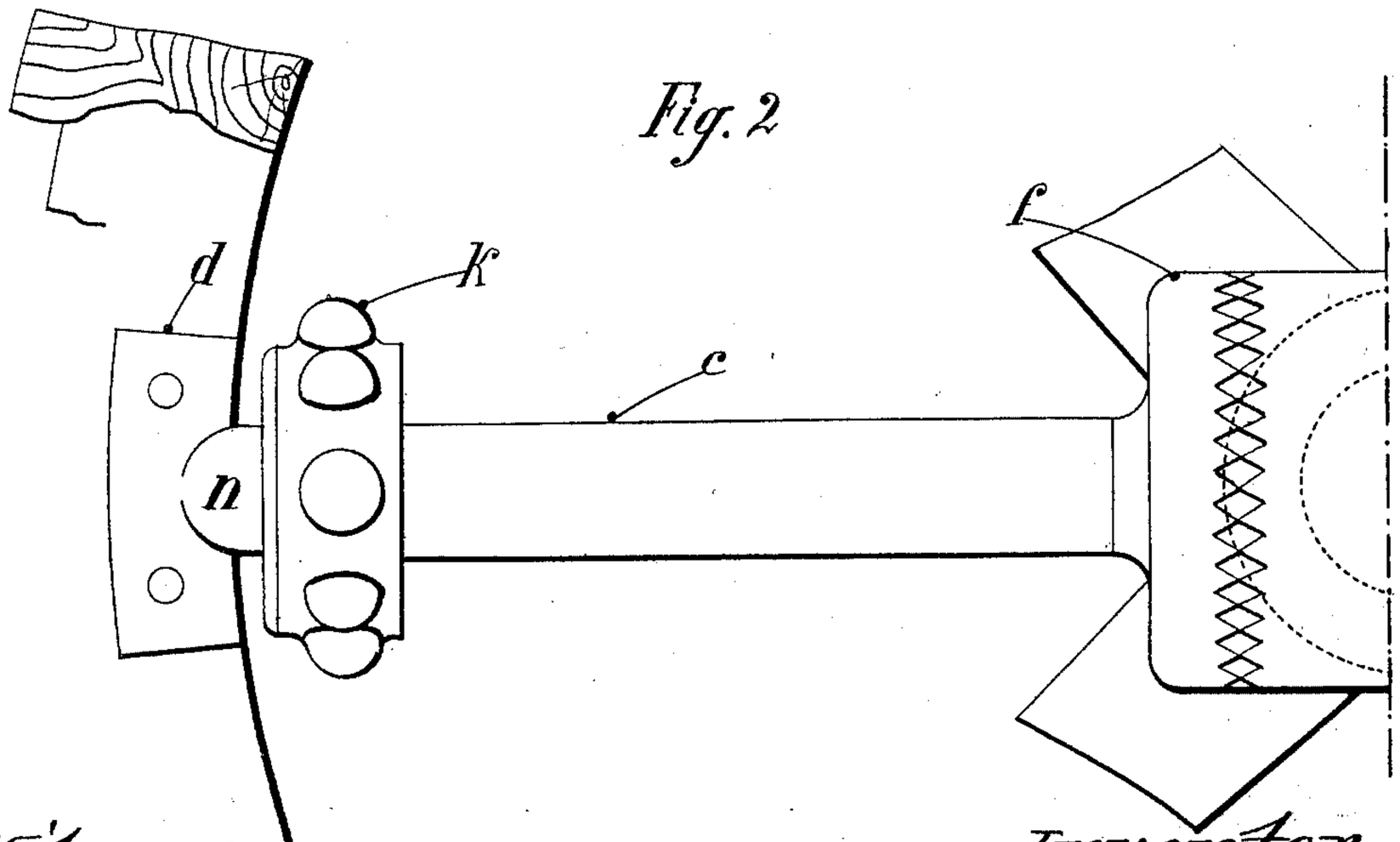


Fig. 2



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 1ª

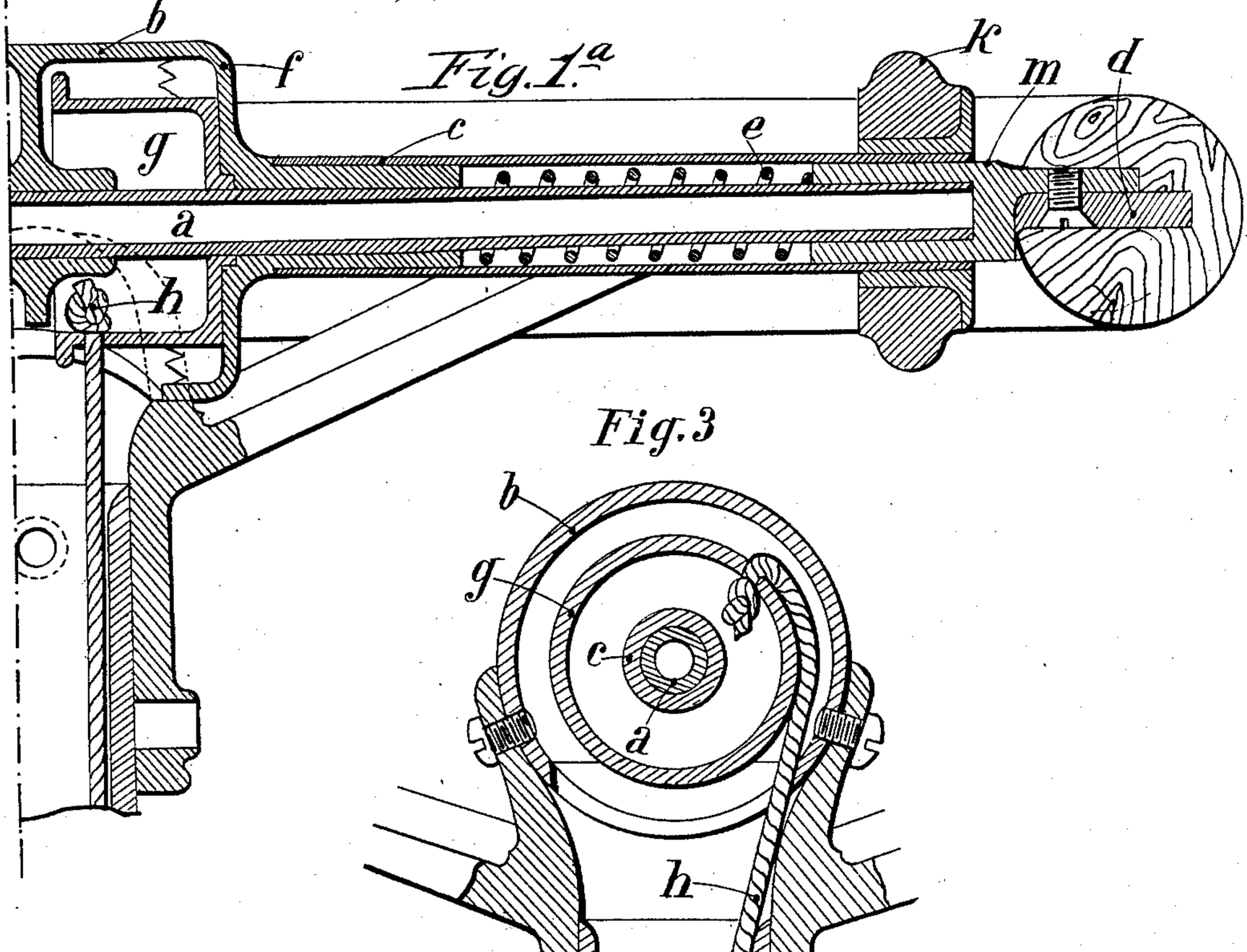
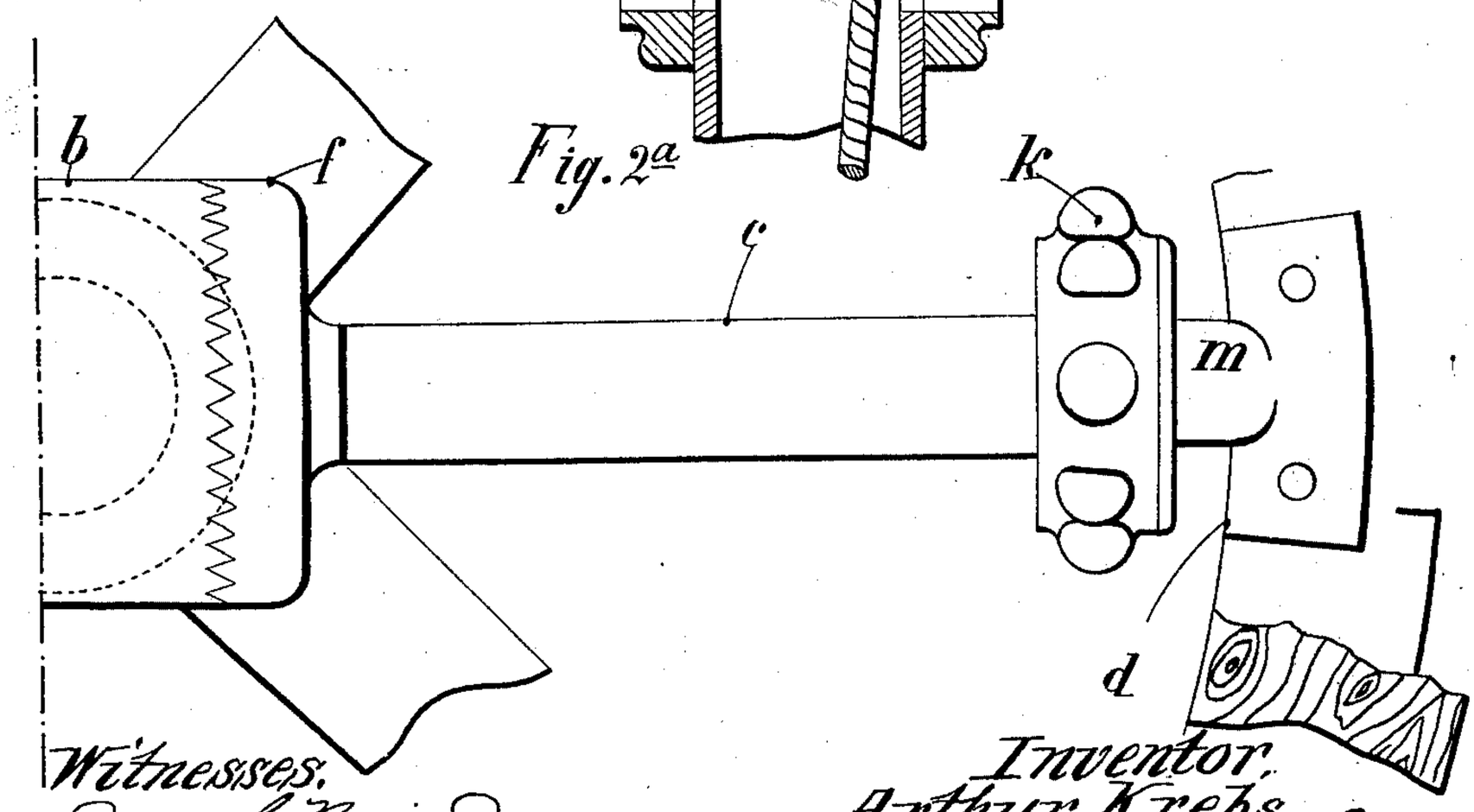


Fig. 3

Fig. 2ª



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James L. Norris, Jr.
Robt Ewett,

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UNITED STATES PATENT OFFICE.

ARTHUR KREBS, OF PARIS, FRANCE, ASSIGNOR TO SOCIÉTÉ ANONYME DES ANCIENS ETABLISSEMENTS PANHARD ET LEVASSOR, OF PARIS, FRANCE.

APPARATUS FOR CONTROLLING THE SPEED OF MOTOR-CAR ENGINES.

SPECIFICATION forming part of Letters Patent No. 757,815, dated April 19, 1904.

Application filed May 8, 1903. Serial No. 156,314. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR KREBS, engineer, a citizen of the French Republic, residing at Paris, department of the Seine, France, (having post-office address 19 Avenue d'Ivry, in said city,) have invented certain new and useful Improvements in Apparatus for Controlling the Speed of Motor-Car Engines, of which the following is a specification.

My invention relates to improvements in apparatus for controlling the speed of motor-car engines.

In order to control the speed of an internal-explosion motor, it is necessary to either regulate the admission of the explosive mixture to the cylinder or the exhaust or to regulate the time at which the explosion is to take place.

According to my invention I provide an apparatus by the use of which the admission, the exhaust, or the ignition, as the case may be, may be controlled by the turning of a thumb-screw or similar device mounted on the steering-wheel of the motor-car, thus obviating the necessity for the driver to take his attention from the road, as has heretofore been necessary when the means of manipulation of the apparatus for controlling the speed of the motor have been placed in other positions on the car.

In the accompanying drawings I have illustrated how my invention may be carried into practice.

Figures 1 and 1ª taken together show a longitudinal section of my apparatus applied to the steering-wheel of a motor-car. Figs. 2 and 2ª taken together show a part of the steering-wheel with my improved apparatus secured thereto; and Fig. 3 is a cross-section of the apparatus, showing the winding-drums *g* with the cords *h* attached thereto.

According to my invention I provide on the steering-wheel a fixed shaft *a*, arranged diametrically and secured thereto at its ends *m* and *n* in any convenient manner. The shaft *a* is also secured to the steering-pillar by means of a cylindrical cap *b*. This cylindrical cap *b* is provided on its ends with notches adapted to engage with similar notches in suitable cups *f*, one on either side of the aforesaid cylindrical cap *b*. These cups *f* are formed on a sleeve *c*, which is capable of sliding and revolving on the shaft *a*. On each of the sleeves *c* is mounted a hollow shaft capable of revolving and sliding with it, and at the end of each sleeve is a thumb-screw *k*, similarly secured. Each sleeve *c* also carries a revolving drum *g*, to which the ends of the chains, cords, or cables *h* are secured, the other ends of the said cables being connected with the inlet-valve or the apparatus for timing the ignition or other part of the apparatus used for regulating the speed of the engine. The cables preferably traverse the steering-pillar and from thence are conveyed in any convenient manner to the apparatus with which they are to be connected.

In the case where one cable is connected with the inlet-valve and the other with the apparatus for timing the ignition the driver is able to control either the admission of explosive mixture or the timing of the ignition by turning one or both of the thumb-screws *k*, as the case may be—that is to say, if he wishes to change the position of the admission-valve he turns one thumb-screw, and if he wishes to change the timing of the ignition he turns the other thumb-screw. The turning of either of the thumb-screws assures the turning of the drum it is connected with, as above described, and the maintenance of the entire apparatus in any determined position is assured by the engagement of the notches, which engagement is rendered positive by means of the spring *e*. The thumb-screws may be turned by the driver in either direction by first pressing them outward against the action of the spring.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said

wheel, means rotatably mounted on said shaft, and means connected with said rotatable means and with the speed-regulating means of the engine for controlling the speed of the engine when said first means is rotated.

2. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, means rotatably mounted on said shaft, and cables having one of their ends secured to said rotatable means and their other ends to the speed-regulating means of the engine for controlling the speed of the engine when said first means is rotated.

3. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, sleeves rotatably mounted on said shaft, and means connected with said sleeves and with the speed-regulating means of the engine for controlling the speed of the engine when said sleeves are rotated.

4. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, sleeves rotatably mounted on said shaft, and cables having one of their ends secured to said sleeves and their other ends secured to the speed-regulating means of the engine for controlling the speed of the engine when said sleeves are rotated.

5. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, means rotatably mounted on said shaft, means connected with said rotatable means and with the speed-regulating means of the engine for controlling the speed of the engine when said first means is rotated, and means for locking said rotatable means in its adjusted position.

6. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, sleeves rotatably and slidably mounted on said shaft, means connected with said sleeves and with the speed-regulating means of the engine and adapted when said sleeves are rotated to control the speed of the engine, and means for locking said sleeves in their adjusted position.

7. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, means rotatably mounted on said shaft and provided with winding-drums, and means connected with said drums and with the speed-regulating means of the engine and adapted to operate said latter means when said first means are rotated.

8. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, means rotatably mounted on said shaft and provided with winding-drums, means connected with said drums and with the speed-regulating means of the engine and adapted to operate said latter means when said first-mentioned means are rotated, and means for locking said rotatable means in their adjusted position.

9. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, a cap secured to said wheel, means rotatably mounted on said shaft, means connected with said rotatable means and with the speed-regulating means of the engine and adapted to operate the latter means when said first-mentioned means are rotated, and means for locking said rotatable means to said cap for securing said means in its adjusted position.

10. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, a cap secured to said wheel and provided with serrations, sleeves rotatably and slidably mounted on said shaft and provided with serrations, said serrations registering with and adapted to engage the serrations on said cap for locking said sleeves in their adjusted positions, means for normally retaining the serrations on the sleeves in close engagement with the serrations on said cap, and means connecting said sleeves to the speed-regulating means of the engine and adapted when said sleeves are rotated to operate said latter means.

11. An apparatus for controlling the speed of motor-cars, comprising a hollow steering-pillar, a steering-wheel mounted on said pillar, a shaft extending transversely of said wheel, means rotatably mounted on said shaft, and means traversing said hollow pillar and connected with said rotatable means and with the speed-regulating means of the engine for controlling the speed of the engine when said first means is rotated.

12. An apparatus for controlling the speed of motor-cars, comprising a hollow steering-pillar, a steering-wheel mounted on said pillar, a shaft extending transversely of said wheel, means rotatably mounted on said shaft, cables traversing said hollow pillar and having one of their ends secured to the speed-regulating means of the engine and adapted, when said rotatable means are operated, to operate said speed-regulating means.

13. An apparatus for controlling the speed of motor-car engines, comprising a hollow steering-pillar, a steering-wheel mounted on said pillar, a shaft extending transversely of said wheel, sleeves rotatably mounted on said shaft, cables traversing said hollow pillar and having one of their ends secured to said sleeves and their other ends secured to the speed-regulating means of the engine and adapted, when said rotatable means are operated, to operate said speed-regulating means.

14. An apparatus for controlling the speed

of motor-car engines, comprising a hollow steering-pillar, a steering-wheel mounted on said pillar, a shaft extending transversely of said wheel, sleeves mounted on said shaft and provided with winding-drums, cables having one of their ends secured to said drums and their other ends secured to said speed-regulating means and adapted when said sleeves are rotated to operate said speed-regulating means.

15. An apparatus for controlling the speed of motor-car engines, comprising a hollow steering-pillar, a steering-wheel mounted on said pillar, a shaft extending transversely of said wheel, a cylindrical cap secured to said wheel, sleeves rotatably and slidably mounted on said shaft, cables having one of their ends secured to said sleeves and their other ends secured to the speed-regulating means of the engine and adapted when said sleeves are rotated to operate said last-mentioned means, and means for locking said sleeves to the cylindrical cap for securing said sleeves in their adjusted position.

16. An apparatus for controlling the speed of motor-car engines, comprising a hollow steering-pillar, a steering-wheel mounted on said pillar, a shaft extending transversely of said wheel, a cylindrical cap secured to said wheel and provided on its ends with serrations, sleeves rotatably and slidably mounted on said shaft and provided with serrations registering with and adapted to engage the serrations on the ends of the cap for locking said sleeves in their adjusted position, means traversing said hollow pillar and connecting said sleeves and the speed-regulating means of the engine and adapted when said sleeves are rotated to operate said last-mentioned means, and means adapted to normally retain the serrations on said sleeves in engagement with the serrations on the ends of said cap.

17. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, a rotatable and slidable means mounted on said shaft, winding-drums attached to said rotatable means, a cylindrical cap mounted on said wheel, said drums rotating within said cap, and means connecting said drums and the speed-regulating means of the engine and adapted when said rotatable means are rotated to operate said speed-regulating means.

18. An apparatus for controlling the speed of motor-car engines, comprising a steering-wheel, a shaft extending transversely of said wheel, a cylindrical cap mounted on said wheel and provided on its ends with serrations, a rotatable and slidable means mounted on said shaft, winding-drums arranged within said cylindrical cap and secured to said rotatable means, said rotatable means further provided with serrations registering with and adapted to engage the serrations on the ends of the cylindrical cap, means for normally retaining the serrations on the rotatable means in engagement with the serrations on the ends of said cylindrical cap and thereby lock said rotatable means in its adjusted position, and means connected to said drums and to the speed-regulating means of the engine and adapted, when said drums are rotated, to operate said speed-regulating means.

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

ARTHUR KREBS.

Witnesses:
AUGUSTUS E. INGRAM,
EMILE KLOTZ.