

H. E. COFFIN.
CONTROLLING MECHANISM FOR AUTOMOBILES.
APPLICATION FILED AUG. 4, 1906.

1,007,673.

Patented Nov. 7, 1911.

3 SHEETS—SHEET 1.

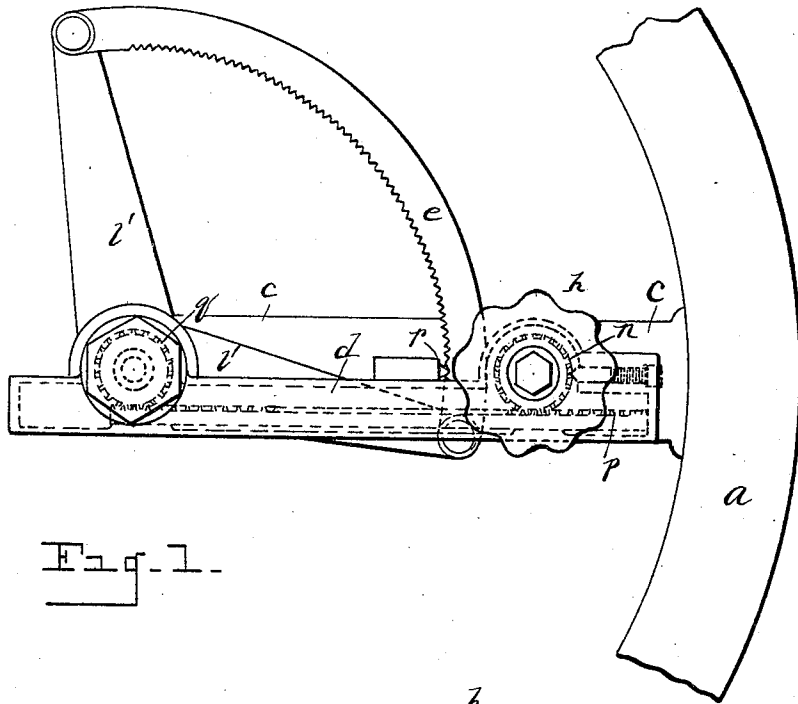


Fig. 1.

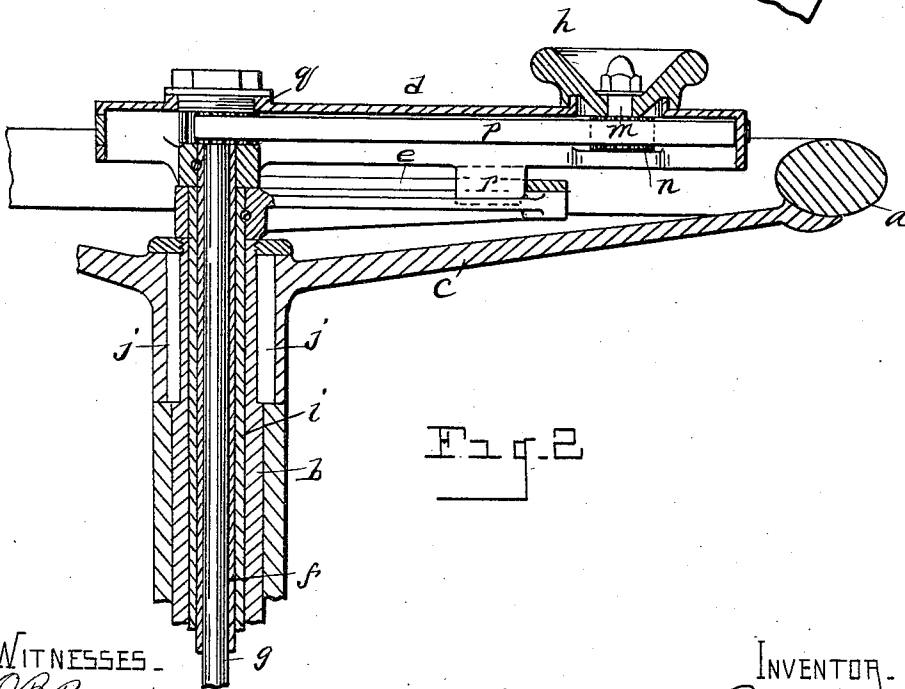


Fig. 2.

WITNESSES.
O. B. Baumiger,
E. M. Spielburg.

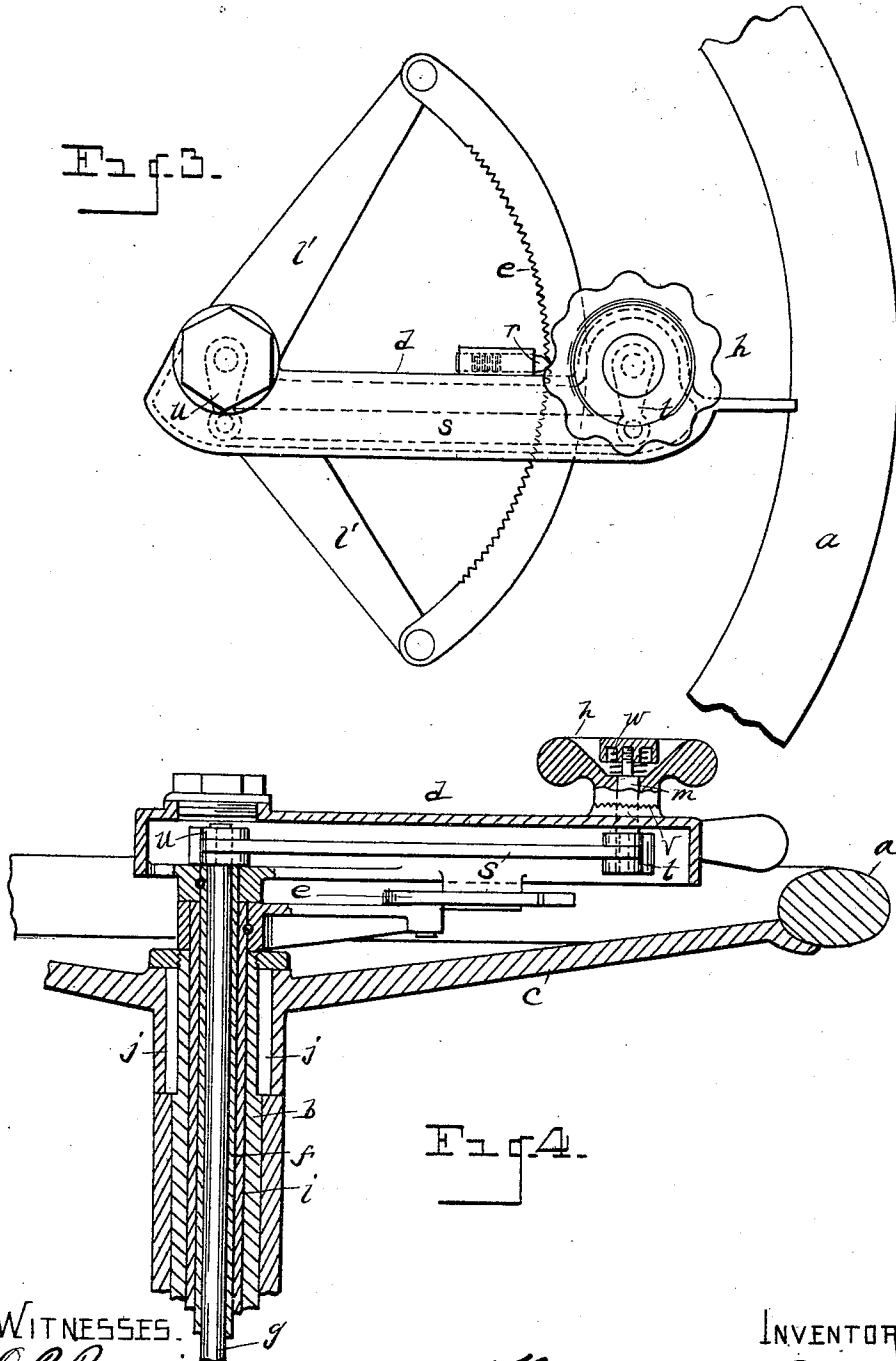
INVENTOR.
Howard E. Coffin
By Howell S. Wright
his Attorney.

H. E. COFFIN.
CONTROLLING MECHANISM FOR AUTOMOBILES.
APPLICATION FILED AUG. 4, 1906.

1,007,673.

Patented Nov. 7, 1911.

3 SHEETS—SHEET 2.



WITNESSES.
O. B. Brønner.
E. M. Spielberg.

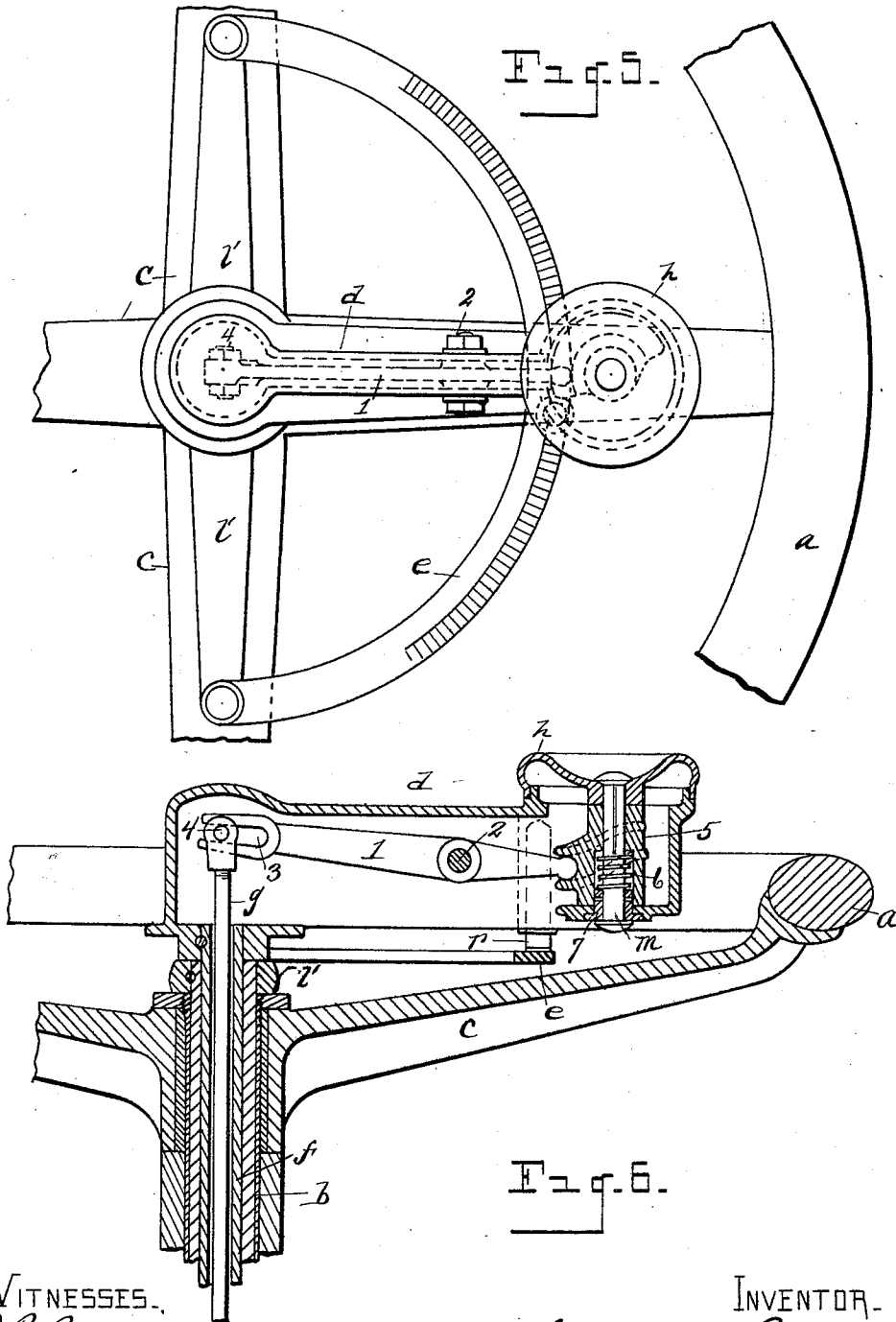
INVENTOR.
Howard E. Coffin
By Newell S. Wright.
His Attorney.

H. E. COFFIN.
CONTROLLING MECHANISM FOR AUTOMOBILES.
APPLICATION FILED AUG. 4, 1908.

1,007,673.

Patented Nov. 7, 1911.

3 SHEETS—SHEET 3.



WITNESSES.
O. B. Baenziger.
E. M. Spielburg.

INVENTOR.
Howard E. Coffin.
By Newell S. Wright.
his Attorney.

UNITED STATES PATENT OFFICE.

HOWARD E. COFFIN, OF DETROIT, MICHIGAN, ASSIGNOR TO E. R. THOMAS DETROIT CO.,
OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

CONTROLLING MECHANISM FOR AUTOMOBILES.

1,007,673.

Specification of Letters Patent.

Patented Nov. 7, 1911.

Application filed August 4, 1906. Serial No. 329,139.

To all whom it may concern:

Be it known that I, HOWARD E. COFFIN, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Controlling Mechanisms for Automobiles, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object certain new and useful improvements in controlling mechanism for automobiles, and it consists of the construction, combination and arrangement of devices and appliances herein-after described and claimed and illustrated in the accompanying drawings, in which,

Figure 1 is a view in plan showing features of my invention. Fig. 2 is a view in vertical section illustrative of the mechanism shown in Fig. 1. Fig. 3 is another plan view illustrating certain modifications of the invention. Fig. 4 is a vertical section further illustrating the modifications shown in Fig. 3. Fig. 5 is an additional plan view showing other modifications in the carrying out of my invention. Fig. 6 is a vertical section illustrating the modification disclosed in Fig. 5.

For the proper control of all combustion engines as employed in automobile construction, the opening and closing of the throttle and the advance and retardation of the timing of ignition are necessary. Without regarding the question as to whether or not an automatic governing device is fitted to the motor, it is of advantage, under all conditions, to have a hand control upon the carbureter and commutator which shall at all times be convenient for the operator. In the control of the motor itself it is ordinarily understood that the opening of the throttle should be attended by a corresponding advance in the timing of ignition. Two separate levers and two separate movements of the hand are ordinarily employed to accomplish a change in carbureter and ignition timing.

I have shown in the drawings submitted herewith various modifications by which my invention may be carried out and by which the desired results aimed at in my invention may be attained.

In the drawings *a* represents an ordinary steering rim engaged upon any suitable

steering post *b* to actuate said post, and *c* represents the spider carrying the rim, which may be of any desired construction.

A lever arm or casting is indicated at *d* so mounted at the axial center of the steering wheel or rim as to be rotatable about said center, its various positions being maintained by means of a segment *e*. The arm *d* is provided with a pawl indicated at *r* to engage the toothed segment *e* to hold the arm in any given location.

A tubular casing or shaft is indicated at *f* actuated by the lever arm *d* and connected by suitable mechanism at its lower end (not shown) to the throttle valve of the carbureter. An inner rod or staff is shown at *g* connected at its lower extremity by any suitable mechanism (not shown) with the ordinary commutator or spark controlling device. Upon the outer end of the arm or casting *d* I provide a rotatable portion serving as a hand grip indicated at *h*, the same being rotatable upon its axis to actuate said staff. Through any suitable connection a rotatory motion imparted to the hand grip causes a desired movement of said rod or staff *g*. The movement of the lever arm *d* about its mounting upon the center of the steering wheel, will clearly impart to the said tubular shaft a corresponding rotation, said lever arm being rigidly engaged with said shaft. As above observed, any suitable mechanism may be provided at the lower extremities of the shaft and staff for transferring the movements of the staff *g* and the tubular shaft *f* to the commutator and carbureter. The segment *e* is shown in Figs. 2 and 4 supported upon a stationary sleeve *i* as by means of connecting arms *l*. The spider *c* is shown keyed at *j* upon the steering post *b*. In Figs. 1 and 2 the hand grip *h* is shown provided with a post *m* upon which the hand grip is rigidly engaged, said post provided with a pinion *n* meshing with a rack bar *p*, said rack bar meshing with a pinion *q* upon the rod or staff *g*. It will be evident thus that when the hand grip *h* is partially rotated the staff *g* will be correspondingly rotated as already described. The pinion *n*, it will be evident may or may not be rotated when the operator grasps the hand grip *h* to move the lever arm *d*. Instead of the rack bar *t* being employed with the pinions *n* and *q* meshing therewith, I have shown in Figs. 3 and 4 a link *s* con-

nected with the post *m* of the hand grip and with the upper end of the staff *g*. In this case the post *m* is formed with an arm *t* and the staff *g* with an arm *u*, the link *s* being connected with said arms. In Fig. 4 I have also shown the hand grip *h* having a toothed engagement with the lever arm *d* as indicated at *v* so that the hand grip may be disengaged from the lever arm sufficiently to be partially rotated, a spring *w* normally holding the hand grip in engagement with the lever arm.

In Figs. 5 and 6 I have shown the generic principle of my invention carried out, as regards the operation of the staff *g* by means of the hand grip *h*, but in this modification of my invention instead of rotating the rod or staff *g*, I have shown mechanism whereby said rod or staff may be moved vertically. Accordingly in this modification, I have shown a lever indicated by the numeral 1 fulcrumed as at 2 to the lever arm *d*, the inner end of said lever having a movable engagement with the staff *g* as by means of an elongated slot 3 engaging a pin 4 upon the staff *g*. The opposite end of the lever 1 may be actuated in various ways within the scope of my invention. In Fig. 6 the post *m* is shown provided with a cam indicated at 5, with which the adjacent end of the lever 1 is in engagement. By this construction it will be evident that when the post *m* is partially rotated the lever 1 will be actuated. The hand grip *h* in this instance is shown also held in normal position by the tension of a spring indicated at 6 bearing upon a collar 7 contacting with an adjacent portion of the lever arm *d*. It is evident that the hand grip may be rotated independently of the movement of the lever arm. Obviously, also, the hand grip can be rotated simultaneously with the lever arm *d* by a single hand of the operator.

It will be noted that with the construction described, either, or both, of the separate controlling devices can be actuated by a movement in a single plane; that is, the operator, by grasping the rotatable handle, can swing the arm simultaneously, rotating the handle upon its axis, both movements being in the same plane. This greatly facilitates the control, as the relative proper adjustment of the two separate controlling devices may be produced with greater ease than where said devices are actuated by separate members, or by the same member where the respective movements are in different planes.

What I claim as my invention is:

1. In a controlling mechanism for automobiles the combination of a steering post and its rim, a shaft to control the throttle valve of the carbureter, an oscillatory lever arm to actuate said shaft, a staff to actuate the spark controlling device, and a hand grip carried on said lever rotatable upon

an upwardly extended axis to actuate said staff, said lever arm adapted to be actuated by the hand grip.

2. In a controlling mechanism for automobiles the combination of a steering post and its rim, a shaft to control the throttle valve of the carbureter, an oscillatory lever arm to actuate said shaft, a staff to actuate the spark controlling device, and a hand grip carried upon said lever rotatable upon an upwardly extended axis to actuate said staff, said lever arm adapted to be actuated by the hand grip, and means to hold the lever in a given position.

3. In a controlling mechanism for automobiles the combination of a steering post and its rim, a rotatable shaft to control the throttle valve of the carbureter, an oscillatory lever arm to actuate said shaft, a staff to actuate the spark controlling device, a hand grip carried upon said lever rotatable upon an upwardly extended axis to actuate said staff, said lever arm adapted to be actuated by the hand grip, a toothed segment traversed by the lever arm, and means to engage the arm with the toothed segment.

4. In a controlling mechanism for automobiles the combination of a steering post and its rim, a device to control the throttle valve of the carbureter, a device to actuate the spark controlling device, an oscillatory lever to actuate one of said controlling devices, and a hand grip carried upon said lever rotatable upon an upwardly extended axis to actuate the other of said controlling devices.

5. In a controlling mechanism for automobiles the combination of a steering post, a rotatable shaft to control the throttle valve of the carbureter, an oscillatory lever arm to rotate said shaft, a rotatable staff to actuate the spark controlling device, and a hand grip carried upon said lever rotatable upon an upwardly extended axis to rotate said staff, said lever arm adapted to be actuated by the hand grip and movable simultaneously therewith, and said hand grip rotatable upon its axis independently of the movement of the lever arm.

6. In a controlling mechanism for automobiles the combination of a steering post, a rotatable shaft to control the throttle valve of the carbureter, a staff to actuate the spark controlling device, an oscillatory lever arm to actuate said shaft, and a hand grip rotatable upon an upwardly extended axis carried by the lever arm to actuate said staff, said lever arm and said hand grip movable simultaneously, and the hand grip being rotatable also independently of the lever arm at the will of the operator.

7. The combination with two distinct controlling devices, of two independent devices respectively actuated by said controlling devices, a rotatable steering stem, a member ro-

tatable about the axis of said stem, and also about a horizontal eccentric axis, and mechanism operated by said rotations passing through said steering stem and respectively
5 operatively connected with said controlling devices.

8. The combination with a steering stem, of two separately movable members passing through said stem, a common actuating
10 member rotatable about the axis of the stem and about its own axis in the same plane, and connections operated by said respective rotations for operating said movable members in the stem.

15 9. The combination with a steering stem,

of two separately movable members passing through said stem a common actuating member rotatable about the axis of the stem and about its own axis in the same plane, and connections operated by said respective ro- 20
tations for operating said movable members in the stem.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HOWARD E. COFFIN.

Witnesses:

N. S. WRIGHT,

CHARLES F. HEYERMAN.

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