

H. N. EDENS.
INTERNAL COMBUSTION ENGINE.
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903,182.

Patented Nov. 10, 1908.

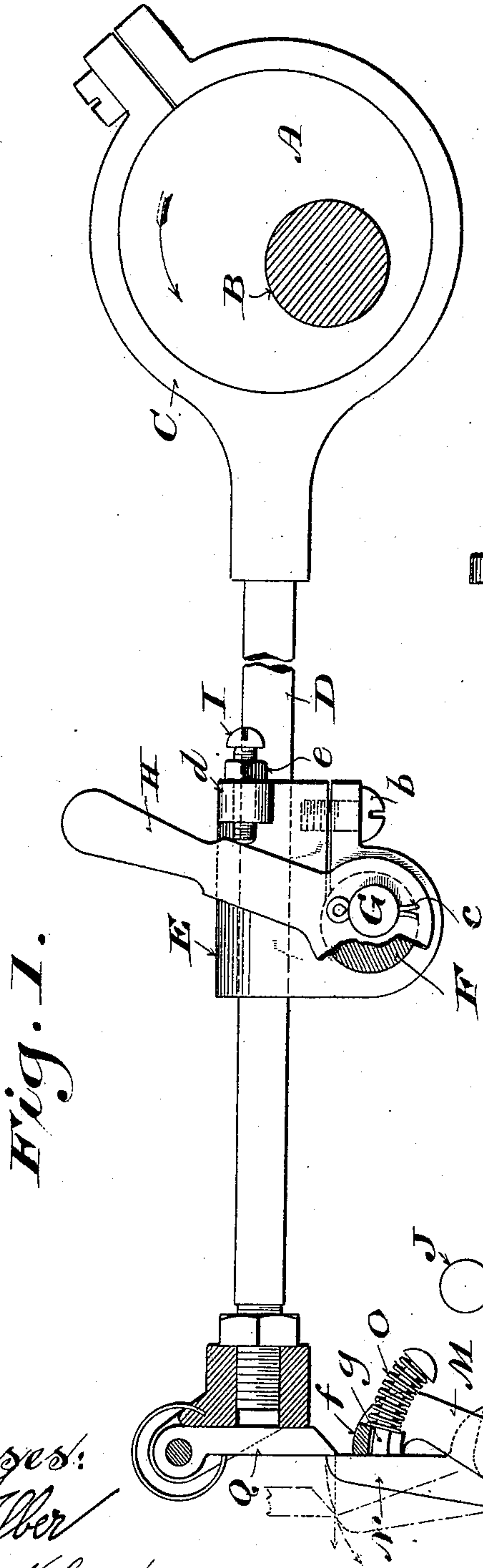


Fig. 1.

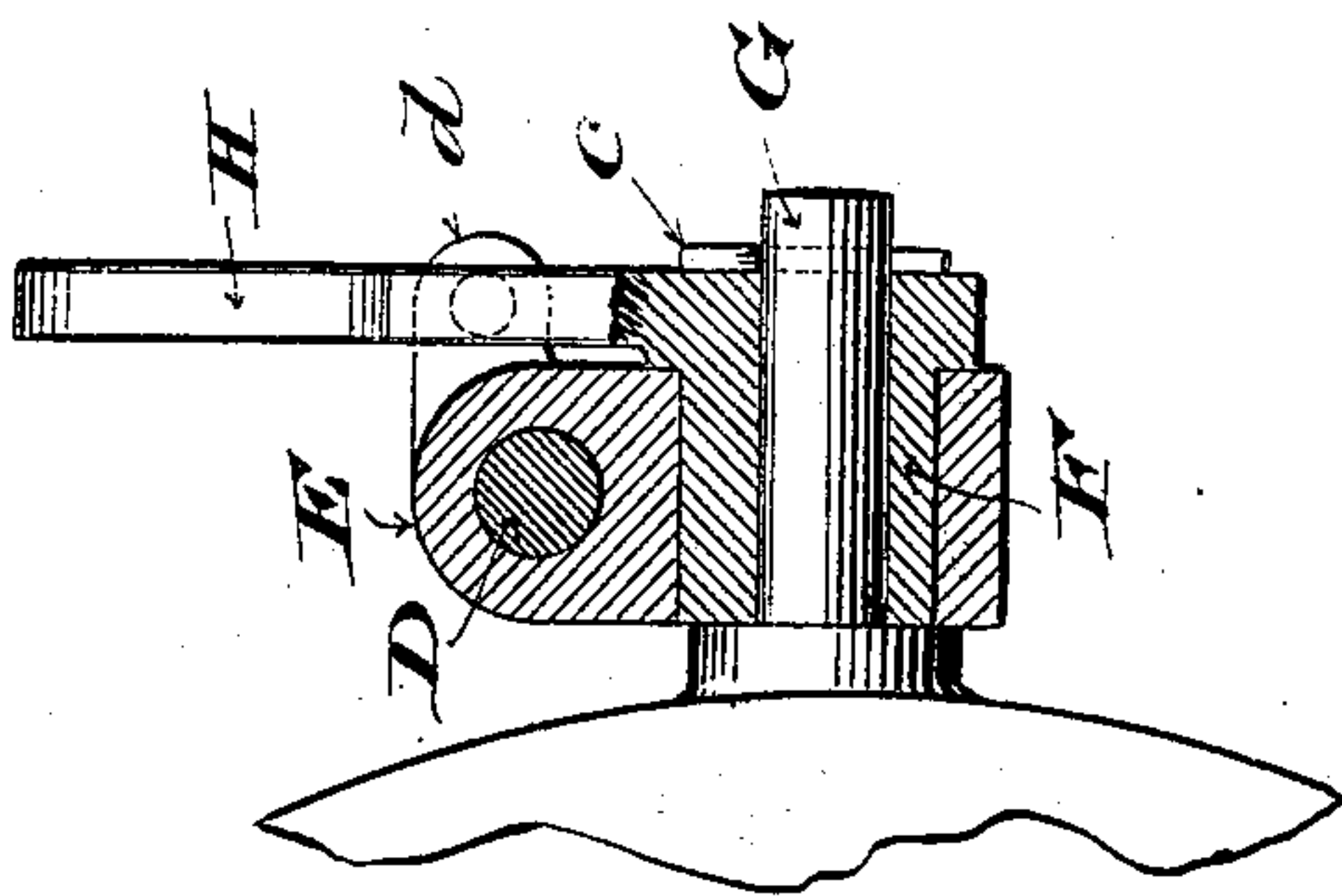


Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY N. EDENS, OF NEW HOLSTEIN, WISCONSIN, ASSIGNOR TO THE JOHN LAUSON MANUFACTURING COMPANY, OF NEW HOLSTEIN, WISCONSIN.

INTERNAL-COMBUSTION ENGINE.

No. 903,182.

Specification of Letters Patent.

Patented Nov. 10, 1908.

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To all whom it may concern:

Be it known that I, HENRY N. EDENS, a citizen of the United States, and resident of New Holstein, in the county of Calumet and State of Wisconsin, have invented certain new and useful Improvements in Internal-Combustion Engines, and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in what is herein-after particularly set forth with reference to the accompanying drawings and pointed out in the claims, its object being to facilitate starting of internal combustion engines and to regulate the time of ignition in such an engine while the same is running.

Figure 1 of the drawings is in part a diagram of ignition mechanism in an internal combustion engine, and it illustrates means in conjunction with a pitman-guide for adjusting the same with reference to variable time of recoil of the movable electrode of a well known type of igniter, parts in the illustration being broken away and in section. Fig. 2 of said drawings is a partly sectional view of the pitman-guide and means for regulation of same in connection with the engine-cylinder.

Referring by letter to the drawings, A indicates the ignition-eccentric of an ordinary internal combustion engine, B the eccentric-shaft, C the eccentric-ring and D the pitman in connection with said ring, this pitman being guided in a block E having a split-sleeve portion engaging an eccentric-collar F loose on a shouldered outer stud G of the engine-cylinder, a screw *b* being employed to bind said sleeve in frictional contact with said collar. The eccentric-collar is held on its bearing-stud by a split-key *c* or other suitable means and provided with a handle H, the guide-block E being provided with a bearing-lug *d* for a screw I adjustable in opposition to said handle, a set-nut *e* being employed on said screw to maintain its adjustment.

The igniter-mechanism-herein shown is usual in the art and comprises a stationary electrode J, a movable electrode K fast on a

spindle L having a crank M provided with an eye-lug *f* engaged by an arc-shaped headed pin *g* of an arm N loose on said spindle, a spiral-spring O being under compression on the pin between its head and the eye-lug of said crank, this spring being of greater tension than the one P employed to control the aforesaid spindle, and a stop *h* is arranged to limit recoil of said movable electrode.

The arm N is in the path of a pivotal spring-controlled striker Q carried in connection with the pitman D, and the time of clearance of said arm by the striker is determined by the adjustment of the guide-block E for said pitman, this adjustment of said block being in a direction at a right-angle to the line of movement of the aforesaid pitman.

In starting the engine, the eccentric-collar is moved from the position shown to depress the pitman guide-block and thus lower the striker Q as far as the spindle-crank M will permit, thereby deferring sparking of the igniter until such time as the engine-crank has passed dead center on compression-stroke thus preventing back-stroke, and thereafter said collar is adjusted to lessen the period of intermittent contact of said striker with said arm when it is desirable to speed up the engine. This adjustment may be gradual or otherwise to the limit for which the stop-screw I is set, and a reverse adjustment serves to slow the engine, any of these adjustments being possible while said engine is running.

I claim:

1. In an internal combustion engine, an eccentric adjusting-collar, a bearing-stud for the collar, and an igniter-pitman guide sleeved on said collar.

2. In an internal combustion engine, an eccentric adjusting-collar provided with a handle, a bearing-stud for the collar, an igniter-pitman guide sleeved on said collar, and a handle-stop in adjustable connection with said guide.

3. In an internal combustion engine, an eccentric adjusting-collar, a bearing-stud

for the collar, an igniter-pitman guide-block having a split-sleeve portion engaged by said collar, and a screw in connection with said split-sleeve portion of the block for
5 binding same on the aforesaid collar.

In testimony that I claim the foregoing I have hereunto set my hand at New Holstein

in the county of Calumet and State of Wisconsin in the presence of two witnesses.

H. N. EDENS.

Witnesses:

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