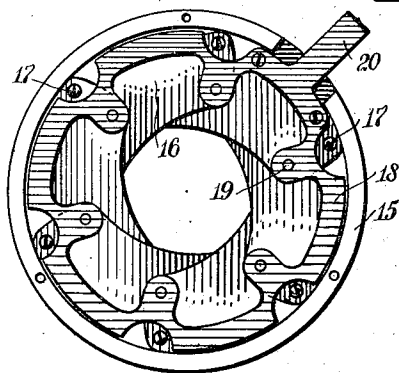
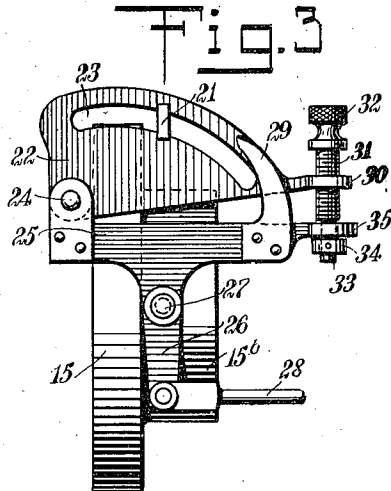
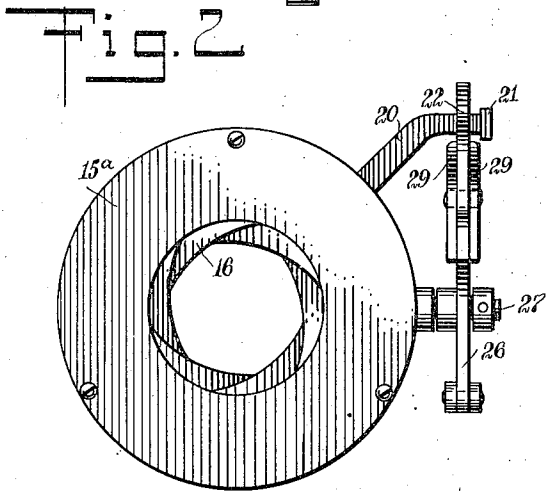
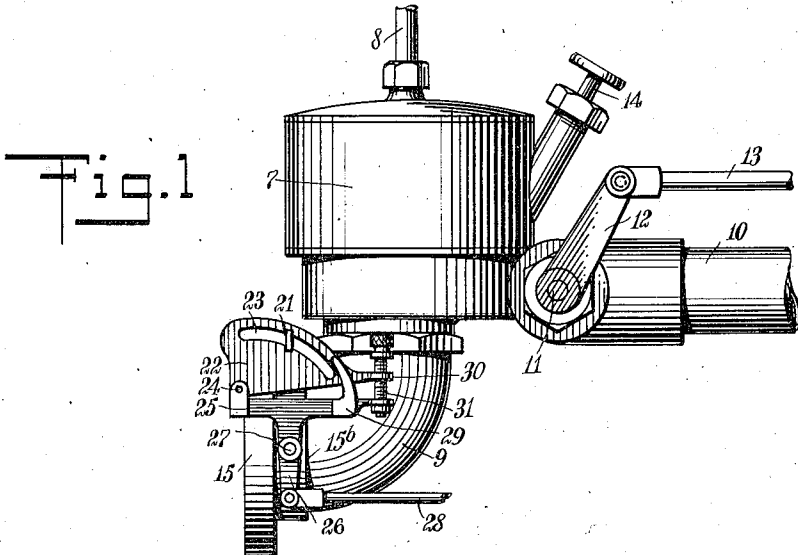


L. SLIGER.
DAMPER.

APPLICATION FILED MAR. 1, 1910.

1,000,304.

Patented Aug. 8, 1911.



WITNESSES:
John Bergstrom
Walton Harrison

INVENTOR
Leonard Sliger
BY *Mumfles*
ATTORNEYS

UNITED STATES PATENT OFFICE.

LEONARD SLIGER, OF INDIANAPOLIS, INDIANA.

DAMPER.

1,000,304.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Application filed March 1, 1910. Serial No. 546,711.

To all whom it may concern:

Be it known that I, LEONARD SLIGER, a citizen of the United States, and a resident of Indianapolis, in the county of Marion and State of Indiana, have invented a new and Improved Damper, of which the following is a full, clear, and exact description.

My invention relates to dampers, my more particular purpose being to provide a type of damper suitable for admitting air to a carbureter or the like, and adapted to be connected with the throttle of the carbureter so as to be actuated by movements of the latter, and to this extent rendered automatic.

More particularly stated, I provide an air inlet made somewhat upon the principle of an iris diaphragm, and so arranged as to be easily connected with the throttle and actuated by movements thereof, the iris diaphragm being also adjustable at the will of the operator for the purpose of varying its capacity.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the carbureter provided with my improved mechanism; Fig. 2 is a side elevation showing the lower part of the mechanism in Fig. 1, but viewed as from a point to the left of Fig. 1; Fig. 3 is a front elevation, somewhat similar to the lower portion of Fig. 1, but showing the parts upon a larger scale than said Fig. 1; Fig. 4 is a detail showing the mechanism of the iris diaphragm.

A carbureter 7 is provided with a pipe 8 for admitting hydrocarbon fuel. Connected with the carbureter is a quarter-turn pipe section 9 and also a delivery pipe 10 which leads from the carbureter to the engine. The delivery pipe 10 is provided with a valve 11 and connected with the latter is an arm 12, this arm being journaled to a valve stem 13 which is connected with the throttle (not shown) and whereby the valve 11 may be actuated at will.

At 14 is a hand valve for regulating the inflow of the hydrocarbon fuel. Mounted upon the lower end of the pipe section 9 is a diaphragm casing 15 containing diaphragm leaves 16, the latter being mounted upon bolts 17 and connected with a spider 18 by aid of pivot pins 19. The spider 18 is pro-

vided with an arm 20, movements of which control movements of the diaphragm leaves. The latter are so arranged as to form collectively an iris, which is contracted or dilated in accordance with movements of the arm 20. The outer end of this arm terminates in a head 21. A sector 22 is provided with a slot 23 of arcuate form and the arm 20 extends through this slot. The sector 22 is mounted upon a pivot 24, the latter being carried by a T lever 25. This T lever is provided with a downwardly extending portion 26 and is mounted to rock upon a pivot 27. A rod 28 is pivotally connected with the lower portion of the T lever and is used for actuating said lever. The diaphragm casing 15 is provided with an annular face 15^a, as indicated in Fig. 2. Mounted upon opposite sides of the T lever 25 are spring guides 29 which engage opposite sides of the sector 22, and in this manner hold the sector with a fair degree of firmness but without undue rigidity. The outer or free end of the sector 22 carries an eye 30 which is threaded externally. Extending through this eye is a screw 31 provided with a milled head 32 which may be turned by hand. The screw 31 is provided with a reduced portion 33, upon which is fitted a set collar 34. The reduced portion 33 extends through an eye 35 carried by the T lever 25. By turning the milled head 32, the screw 31 forces the eye 30 up or down and thus inclines the sector 22 to a greater or lesser extent, depending upon the degree of rotation of the screw. As the sector 22 is thus inclined to different degrees, the arm 20 extending through the slot 23 is adjusted correspondingly. Since the adjustment of the iris diaphragm depends upon the position of the arm 20, it follows that as the screw 31 is turned by hand, the opening in the iris diaphragm is varied—this variation, however, being principally in the nature of an adjustment. Then, as the arm 20 is reciprocated in its vertical plane, the opening through the iris diaphragm is alternately expanded and contracted.

The lever 28 is connected with the throttle controlling the carbureter. The casing 15 is mounted directly upon the lower end of the pipe section 9.

The operation of my device is as follows: The parts being connected up as above described and the general capacity of the iris diaphragm being adjusted by aid of the

arm 20, and this arm being adjusted by manipulating the screw 31, the variable inlet is ready for use. Liquid hydrocarbon being drawn in through the pipe 8 and air being drawn in through the iris diaphragm, the air is mixed with the vapor and is delivered through the pipe 10 to the engine. Each time the valve 11 is turned, so as to vary the delivery of the carbureted air, the iris diaphragm is actuated by aid of the T-lever 25, sector 22 and arm 20. Consequently, when the delivery of the engine is rapid, the inlet of air is also rapid; and vice versa, when the delivery is slow the volume of air admitted is correspondingly slow. Notwithstanding this, the capacity of the iris diaphragm being adjustable, the volume of air admitted, whether great or small, is adjustable within certain limits at the will of the operator.

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

1. A device of the character described, comprising an inlet, an iris diaphragm connected therewith for practically varying the size of said inlet, a T-lever adjacent to said inlet, means for rocking said T-lever, a sector mounted upon said T-lever, means controllable at will for adjusting said sector to different positions, and mechanism connected with said T-lever, and with said iris diaphragm for varying the flow of air through said inlet.

2. A device of the character described, comprising an inlet, a member mounted therein for opening and closing said inlet, a T-lever disposed adjacent to said inlet, means for rocking said T-lever, a sector mounted upon said T-lever, a screw connected with said T-lever, and with said sector for tilting said sector relatively to said T-lever, said sector being provided with a slot, and an arm extending through said slot and movable into different positions as the position of said sector is shifted relatively to said T-lever, said arm being connected with said member for opening and closing said inlet.

3. A device of the character described, comprising an inlet, an iris diaphragm mounted therein for opening and closing said inlet, a lever disposed adjacent to said inlet, means for rocking said lever, a sector supported upon said lever and provided with a slot, means for adjusting said sector relatively to said lever, and an arm connected with said iris diaphragm for actuating the same, said arm extending through said slot and being movable by said sector as said lever is rocked.

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

LEONARD SLIGER.

Witnesses:

E. C. ILL,
ANDREW J. CARBINN.