

A. F. W. SCHLUETER.
MOTOR STOPPING DEVICE.
APPLICATION FILED AUG. 30, 1912.

1,074,385.

Patented Sept. 30, 1913.

2 SHEETS—SHEET 1.

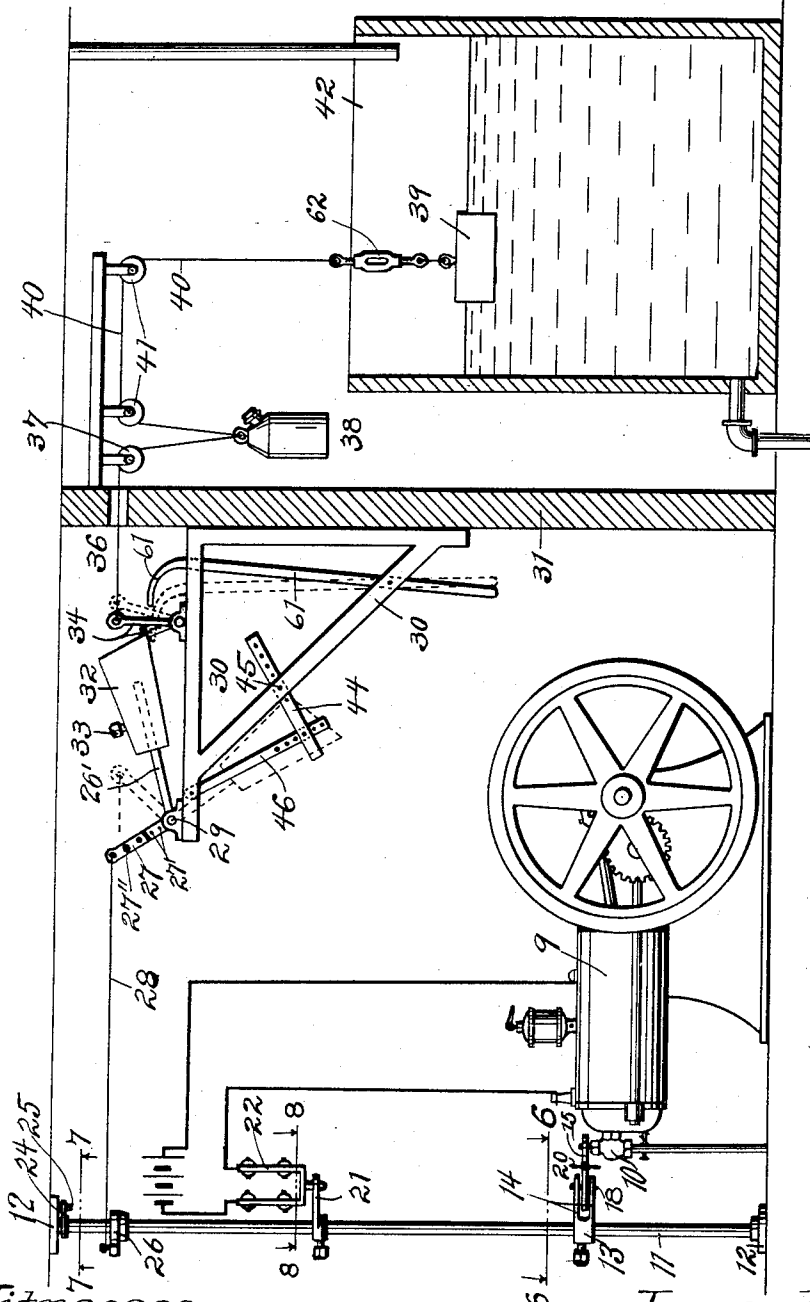


Fig. 1.

Witnesses:

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Inventor:

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By *Joshua K. Horn*
his Attorney.

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2 SHEETS—SHEET 2.

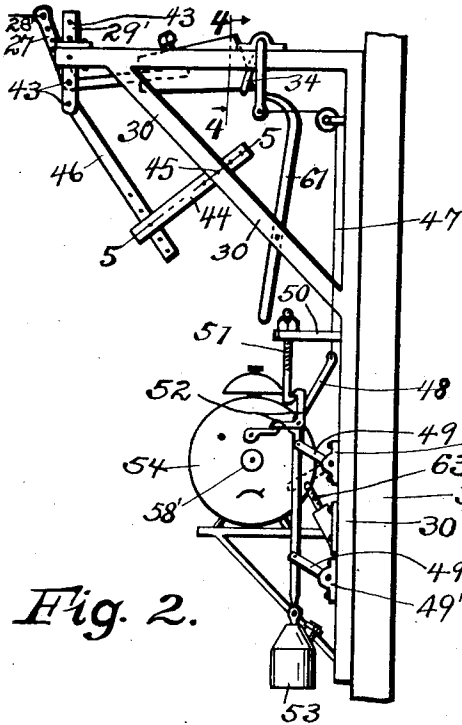


Fig. 2.

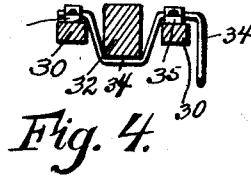


Fig. 4.

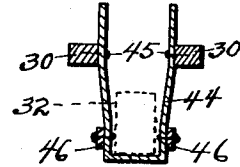


Fig. 5.

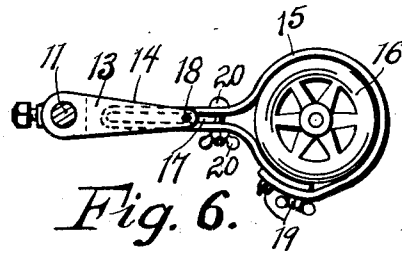


Fig. 6.

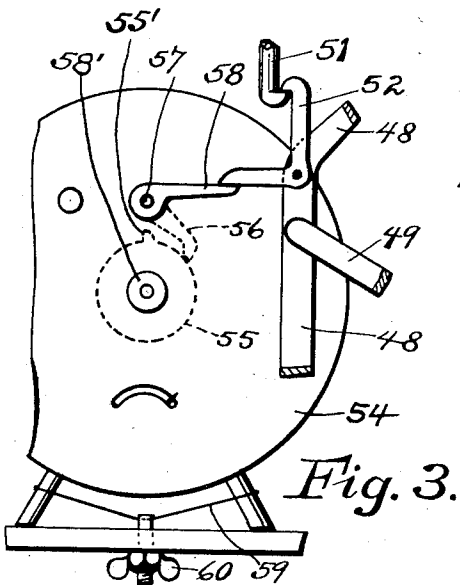


Fig. 3.

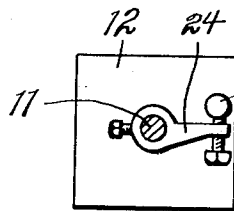


Fig. 7.

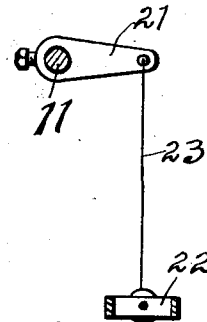


Fig. 8.

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UNITED STATES PATENT OFFICE.

ARTHUR F. W. SCHLUETER, OF BARTLETT, ILLINOIS.

MOTOR-STOPPING DEVICE.

1,074,385.

Specification of Letters Patent.

Patented Sept. 30, 1913.

Application filed August 30, 1912. Serial No. 717,834.

To all whom it may concern:

Be it known that I, ARTHUR F. W. SCHLUETER, a citizen of the United States, and a resident of the city of Bartlett, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Motor-Stopping Devices, of which the following is a specification.

My invention relates to automatic devices for stopping internal combustion engines and the like.

The object of this improvement is to provide a simple and effective device which will automatically cut off the supply of fuel and open the ignition circuit switch to stop said engine at a predetermined time.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a part elevation and part section of a device embodying my invention, Fig. 2 is an elevation showing a slight modification of the device, Fig. 3 is a fragmental enlarged view showing the means for automatically tripping the stopping mechanism at a predetermined time, Fig. 4 is a section taken on line 4—4 in Fig. 2, Fig. 5 is a section taken on line 5—5 in Fig. 2, Fig. 6 is a section taken on line 6—6 in Fig. 1, Fig. 7 is a section taken on line 7—7 in Fig. 1, and Fig. 8 is a section taken on line 8—8 in Fig. 1.

The preferred form of construction as illustrated in the accompanying drawings comprises an internal combustion engine 9 of conventional design provided with a throttle valve 10 also of ordinary construction. A shaft 11 is rotatably mounted in suitable bearings 12 in a convenient position to the throttle valve 10. A lever 13 having a bifurcated free end 14 is secured on the shaft 11 and operatively connected with a clamping member 15, which is secured to the wheel 16 of the throttle valve 10. Such clamping member 15 is provided with an elongated slot 17 and connected with the lever 14 by means of a pin 18 so that movement of the lever 14 will cause simultaneous movement of the clamping member 15 and hence operation of the throttle valve 10. The clamping member 15 is provided with

an adjustment 19 by which it may be adjusted to a different sized throttle valve wheel 16 and such clamping member is maintained rigidly on the wheel 16 by bolt and thumb nut 20. Also secured on the shaft 11 is a lever 21 which is secured to the ignition circuit switch 22 by means of a cord 23 in a manner to automatically open the ignition circuit switch simultaneously with the closing of the throttle valve 10.

The shaft 11 is provided with an automatic adjustable stopping arm 24 to vary its rotative movement. The arm 24 is provided with an adjusting screw 24' which engages a stationary stop 25, and by adjusting the screw 24' in the arm 24 different lengths of strokes of the levers 21 and 14 are obtained. Said shaft 11 is also provided with a lever 26 which is connected to the arm 27 of a bell-crank lever by means of a cord 28. Such bell-crank lever is pivoted as at 29 to a bracket 30 and such bracket 30 is secured to a convenient wall or post 31. On the other arm 26' of the bell-crank lever is adjustably secured a weight 32 by means of a set screw 33. The arm 27 of such bell-crank lever is extensible as clearly illustrated in Fig. 1 being provided with a plurality of perforations 27' and securing means 27'' in such perforations.

A trigger 34 preferably composed of a bent rod, as clearly illustrated in the drawings, is mounted in journals 35 on the bracket 30, in a manner to engage the weight 32 to prevent its falling downwardly to its dotted line position shown in Fig. 1. Such trigger 34 is connected by a cord 36 and pulley 37 to a weight 38 and such weight 38 is also connected to a float 39 by means of a cord 40 and pulleys 41. Such float 39 is mounted in the liquid of tank 42 in a manner to allow the weight 38 to fall downwardly when the water in tank 42 rises to a certain height and such weight 38 withdraws the trigger 34 to its dotted line position, in Fig. 1, to allow the weight 32 to fall to its dotted line position to automatically close the throttle valve 10 and open the ignition circuit switch 22.

A slight variation of the weights and trigger mechanism is shown in Fig. 2 in which the bearing 29' is provided with a plurality of perforations 43 in which the bell-crank lever 27 is removably secured to such bearing. The trigger 34 is also slightly varied to accommodate the different

mountings for the bell-crank lever 27 as clearly illustrated in this figure. A U-shaped stop 44 is adjustably secured to the bracket 30 as at 45 for limiting the downward movement of the weight 32 and such stop is provided with supports 46 to hold it in rigid position as clearly shown.

When so desired a clock mechanism may be used to automatically operate my device.

The trigger 34 is connected, by means of the cord 47, to a member 48 which is connected by means of links 49 to bearings 49' on bracket 30 for vertical movement. An arm 50 is secured to the bracket 30 and an adjustably supporting hook 51 secured to such arm. A bell-crank trigger 52 engages the hook member 51 to support the member 48 and its weight 53. At a predetermined time the clock 54 automatically trips the trigger 52 to allow the weight 53 and member 48 to fall, thereby tripping the trigger 34. The clock 54 is provided with a cam disk 55 on a suitable shaft therein and engaged by a dog 56 which is secured on a shaft 57 carrying an arm 58 which engages the bell-crank trigger 52. The cam disk 55 is manually set in a predetermined position by means of a hand wheel 58'. The clock 54 is preferably secured to its bracket by means of a cord 59 and adjusting thumb screw 60 to firmly secure it thereon, as clearly shown.

In operation the cam 55' on the cam disk 55 is set to engage the dog 56 at a predetermined time and upon engaging the dog 56, automatically trips the trigger 52 allowing the weight 53 to trip the trigger 34, which in turn permits the weight 32 to drop to its dotted line position, indicated in Fig. 1, to rotate the shaft 11 by means of its connecting mechanism and the rotation of such shaft causes the opening of the ignition circuit switch 22 and the closing of the throttle valve 10 to stop the engine. When the engine is used for pumping purposes and it is desired to stop it when the tank is filled, the float 39 upon being raised by the water in tank 42 will allow the weight 32 to fall to its dotted line position, as illustrated in Fig. 1, to effect opening of the switch 22 and closing of the throttle valve 10 as already described. A lock 61 is provided to engage the weight 32 to prevent the falling of such weight, and the consequent opening of switch 22 and closing of the throttle valve 10 upon its movement to its dotted line position indicated in Fig. 1 when it is so desired. A turnbuckle 62 may be provided in the cord 40 to vary the distance between the float 39 and pulley 41 when so desired, and an adjustable stop 63 secured to the bracket 30 provided to vary the length of downward movement of the members 48 and 53.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable

of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the exact details of construction as set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. The combination with an internal combustion engine, a throttle valve; an ignition circuit switch; means connecting said throttle valve and said ignition circuit switch for simultaneous opening of such switch and closing of such valve; a bell-crank lever having one leg connected with said means; a weight adjustably mounted on the other leg of said bell-crank lever; a trigger engaging said weight and arresting the movement of said bell-crank; a second weight connected with said trigger; and means for moving said second weight at a predetermined time, substantially as described.

2. The combination with an internal combustion engine, a throttle valve; an ignition circuit switch; means connecting said throttle valve and said ignition circuit switch for simultaneous opening of such switch and closing of such valve; a bell-crank lever having one leg connected with said means; a weight adjustably mounted on the other leg of said bell-crank lever; means for varying the movement of said bell-crank lever; a trigger engaging said weight arresting the movement of said bell-crank; a second weight connected with said trigger; and means for moving said second weight at a predetermined time, substantially as described.

3. The combination with an internal combustion engine, a throttle valve; an ignition circuit switch; means connecting said throttle valve and said ignition circuit switch for simultaneous opening of such switch and closing of such valve; a bell-crank lever having one leg connected with said means; a weight adjustably mounted on the other leg of said bell-crank lever; a trigger engaging said weight and arresting the movement of said bell-crank; a second weight connected with said trigger; means for moving said second weight at a predetermined time, and a lock adapted to engage said first weight to prevent downward movement of such weight, substantially as described.

4. The combination with an internal combustion engine, a throttle valve; an ignition circuit switch; a rotative shaft; levers on said shaft operatively connected with said throttle valve and said ignition circuit switch; a bell-crank lever; a lever on said shaft connected with one arm of said bell-

crank lever; a weight on the other arm of said bell-crank lever; a trigger arresting the downward movement of said weight; and means for automatically tripping said trigger to allow such weight to fall at a predetermined time, substantially as described.

5 5. The combination with an internal combustion engine, a throttle valve; an ignition circuit switch; means connecting said throttle valve and said ignition circuit switch for simultaneous opening of such switch and closing of such valve; a bell-crank lever having one leg connected with said means; a weight adjustably mounted on the other leg of said bell-crank lever; means for varying the movement of said bell-crank lever; a trigger engaging said weight and arresting the movement of said bell-crank; and a second weight connected with said trigger to trip the latter at a predetermined time, substantially as described.

10 6. The combination with an internal combustion engine, a throttle valve; an ignition circuit switch; a rotative shaft; levers on said shaft operatively connected with said throttle valve and said ignition circuit switch; a bell-crank lever; a lever on said shaft connected with one arm of said bell-crank lever, a weight on the other arm of said bell-crank lever; a trigger arresting the downward movement of said weight; a second weight connected with said trigger and

normally supported by a second trigger; and a clock connected with said second trigger to automatically trip such second trigger at a predetermined time, substantially as described. 35

7. The combination with an internal combustion engine, a throttle valve; an ignition circuit switch; a rotative shaft; a means for limiting the rotation of such shaft; levers on said shaft connected with said throttle valve and said ignition circuit switch for simultaneous operation thereof; a third lever on said shaft; a bell-crank lever having one of its arms connected with said third lever; a weight adjustably mounted on the other arm of said bell-crank lever; a trigger mechanism arresting the downward movement of said weight; a second trigger mechanism; a second weight normally supported by said second trigger mechanism and operatively connected with said first trigger mechanism; and a clock connected with said second trigger mechanism for tripping thereof at a predetermined time, substantially as described. 40 45 50 55

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

ARTHUR F. W. SCHLUETER.

Witnesses:

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CHARLES PIERCE.

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