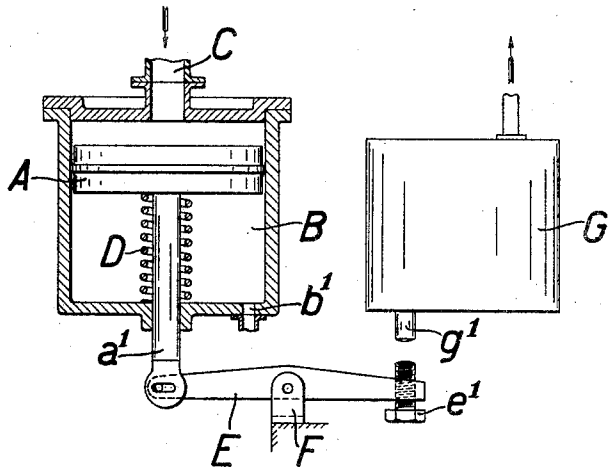
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SAFETY GOVERNOR FOR TWO-STROKE ENGINES DESIGNED FOR THE PROPULSION OF VEHICLES

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SAFETY GOVERNOR FOR TWO-STROKE ENGINES DESIGNED FOR THE PROPULSION OF VEHICLES.

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In engines used for the propulsion of vehicles, such as in ship engines, the number of revolutions of which is regulated by hand, it is customary to provide a safety governor for preventing the admissible maximum speed from being exceeded, this governor entering into action and automatically stopping the engine only upon a certain speed being exceeded.

The invention has for its object to provide a safety governor of the kind stated which is adapted to be used for two-stroke internal combustion engines.

In two-stroke internal combustion engines comprising a scavenging pump which is driven by the engine itself, the pressure of the scavenging air rises in accordance with the increase of the speed of the engine. This inter-dependence of the pressure of the scavenging air and the speed of the engine is made use of by the invention, according to which there is used as a safety governor a piston which is spring-loaded on one side and placed under the action of the scavenging air on the other side.

The spring used in the governor is dimensioned so that at a certain maximum number of revolutions of the engine the piston is moved in a cylinder by the scavenging air contrary to the action of this spring. This movement of the piston is utilized for stopping the engine in the usual way by cutting off the fuel. To this end, there is provided between the piston and the fuel pump a mechanical connection such as is also the case in the ordinary centrifugal governors.

In order that the invention may be more readily understood, it will now be described with reference to the accompanying drawing which illustrates an embodiment of the invention in section.

A designates a controlling piston movable in a cylinder B and having its piston rod a^1 encircled by a compression spring D. C is the scavenging air conduit which opens into the cylinder B at the top end thereof. The lower portion of the cylinder is in communication with the atmosphere through an opening b^1. Connected with the piston rod a^1 is one arm of an equal-armed lever E which is mounted for rocking motion in a bearing F. The other arm of the lever E carries a set screw e^1. G is a diagrammatically illustrated fuel pump and g^1 is the associated tappet designed to open the suction valve.

When the engine is running at normal speed and the pressure of the scavenging air is consequently normal too, the pressure of the scavenging air acting on the upper surface of the piston A and the tensional force of the spring D acting on the lower surface of the piston balance each other. If the speed of the engine increases, the pressure of the scavenging air is likewise increased as mentioned already in the introductory part of this specification. The increase of the pressure of the scavenging air produces a downward movement of the piston A so that the piston rod a^1 imparts to the lever E a rotation in counter-clockwise direction. The right hand arm of the lever with the set screw e^1 is thereby caused to approach the suction valve tappet g^1 of the fuel pump. The set screw e^1 is adjusted in such a manner that, upon the admissible maximum speed of the engine being exceeded, the screw strikes against the suction valve tappet g^1, thereby pushing the valve open and interrupting the feed of the fuel pump. When the engine reduces its speed again to the normal number of revolutions, the scavenging air also re-assumes its normal pressure. The piston A thus relieved moves upwardly under the action of the spring D and withdraws the set screw e^1 from the valve tappet g^1 so that the normal fuel feed is again started.

If the engine comprises already a controlling piston influenced by the pressure of the scavenging air, such as for regulating the blowing-in pressure, it will of course be preferable to pivotally connect the rods for actuating the above-described safety governor with this controlling piston.

Claims:

1. A safety governor for two-stroke internal combustion engines, comprising a cylinder, a piston movable in the cylinder, said piston being spring-loaded on one side and placed under the action of the scavenging air on the other side, and a two-armed lever connected by one arm with the piston and having its other arm arranged to actuate the suction valve of the fuel pump so as to open it upon the admissible number of revolutions being exceeded.

2. In a two-stroke internal combustion engine having a compressor for scavenging air and a fuel pump, a safety governor compris-

ing pneumatic means under the control of the scavenging air pressure and directly connected to said fuel pump for controlling the fuel supply to the engine.

3. A safety governor for two-stroke internal combustion engines, comprising a cylinder, a piston movable in the cylinder, said piston being spring loaded on one side and placed under the action of the scavenging air on the other side, and means for directly connecting said piston to the fuel feeding means for controlling the same.

The foregoing specification signed at Hamburg, Germany, this 21st day of June, 1926.

HEINRICH BECKER.