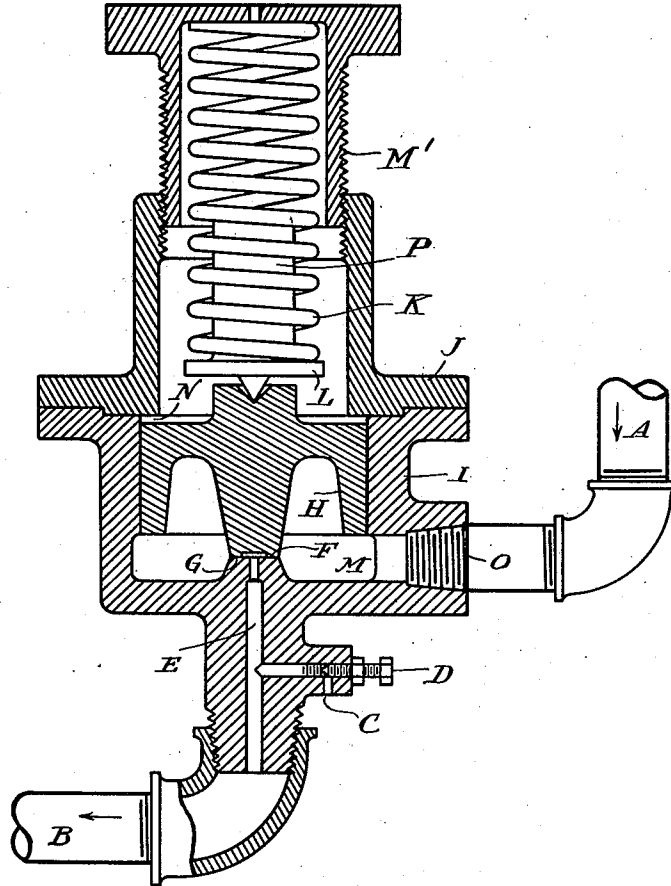


C. WAINWRIGHT.
 REGULATOR FOR AIR COMPRESSORS.
 APPLICATION FILED APR. 13, 1918.

1,353,098.

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WITNESSES:

Charles Wainwright

INVENTOR.

BY *Victor J. Evans*

ATTORNEY.

UNITED STATES PATENT OFFICE.

CHARLES WAINWRIGHT, OF ERIE, PENNSYLVANIA.

REGULATOR FOR AIR-COMPRESSORS.

1,353,098.

Specification of Letters Patent. Patented Sept. 14, 1920.

Application filed April 13, 1918. Serial No. 228,424.

To all whom it may concern:

Be it known that I, CHARLES WAINWRIGHT, a citizen of the United States of America, residing at Erie, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Regulators for Air-Compressors, of which the following is a specification.

This invention relates to regulators or unloaders especially adapted to be used in conjunction with air compressing machines and it consists in the novel features herein-after described and claimed.

An object of the invention is to provide a regulator or unloader of the character stated which is of simple and durable structure and which is dependable in its operation to regulate the air passing through the same and to perform its function without fluttering and in a noiseless manner.

With this object in view the regulator or unloader comprises a body provided with a chamber and having a channel leading therefrom. The body is provided with a seat which surrounds the channel and a solid piston is slidably mounted in the body and provided with a seat adapted to normally engage the seat of the body whereby the channel leading from the chamber is normally closed. Spring and weight means operate upon the piston to retain the same toward the seat of the body. A bonnet and a cap are located upon the body and house the spring and the weight, a vent is connected with the channel and a screw is adjustably mounted with relation to the vent whereby the transverse sectional area of the passageway through the vent may be increased or diminished as desired or the vent may be completely closed.

In the accompanying drawing:—

The figure is a vertical sectional view of the regulator.

The regulator is of the unloading type, and comprises a body I, provided with an internal chamber (M). A nipple (O) is connected with the body I, and communicates with the lower portion of the chamber M. A supply pipe (A) is connected with the nipple O and is designed to lead from the discharge chamber of an air compressor. A seat F, is provided in the body I, at the bottom of the chamber M and centrally thereof. A channel E, passes through the seat and communicates at its lower edge with a pipe B designed to be connected with the

apparatus to be controlled. A vent C, leads laterally from the channel E and connects with the atmosphere and a screw valve D is adjustably mounted in the body I and may be moved across the vent C. A bonnet J, is mounted upon the body I, and is provided with an annular shoulder N which extends within the upper portion of the chamber M. A cap M' is adjustably mounted in top of the bonnet J. A piston H, is slidably mounted in the chamber M and is provided at its center with a seat G adapted to normally engage the seat F hereinbefore described. A spring K is housed within the bonnet J and cap M' and its lower end bears against an annular flange L, of a weight P and its upper end bears against the top of the cap M'. The lower end of the weight P bears against the upper side of the piston H at the center thereof.

The operation of this device is as follows, the air from the tank or receiver or discharge line of the compressor is conveyed through the pipe A at a predetermined pressure determined by the adjustment of the spring K. The piston H moves upward, which lets compressed air which is in the chamber M, into the channels E, whence it is conducted by the pipe B, to those parts of the compressor which are to be operated by compressed air for the control and regulation of the compressor. When the predetermined pressure within chamber M, falls below a certain pressure, the piston H, is returned to its normal position, that is to say, that the seats F and G, come in contact with each other which means that the channel E is no longer in communication with the chamber M, and all air within the pipe B or those parts connected with the same is allowed to escape through the vent C controlled by the adjustable screw D. This of course renders all those parts connected with the source of supply inoperative.

The solid piston H constitutes an important feature of my invention, inasmuch as its movements are positively limited and hence positive regulation may be had.

Having thus described the invention what is claimed is:—

An unloader having a chamber, means extending laterally from the chamber to connect said chamber with a source of compressed air supply, a flat valve seat on the inner end wall of the chamber, a conduit of considerably less area than the flat valve

seat leading through said seat and adapted
to be connected with apparatus to be controlled, a spring-pressed piston having a flat
surface opposed to the valve seat and arranged to permit compressed air from the
5 source of supply to act against said surface, and a stop at the opposite side of the

piston to said flat surface, whereby when the piston lifts the additional pressure in the chamber will cause the piston to jump 10 to its limit stop.

In testimony whereof I affix my signature.

CHARLES WAINWRIGHT.