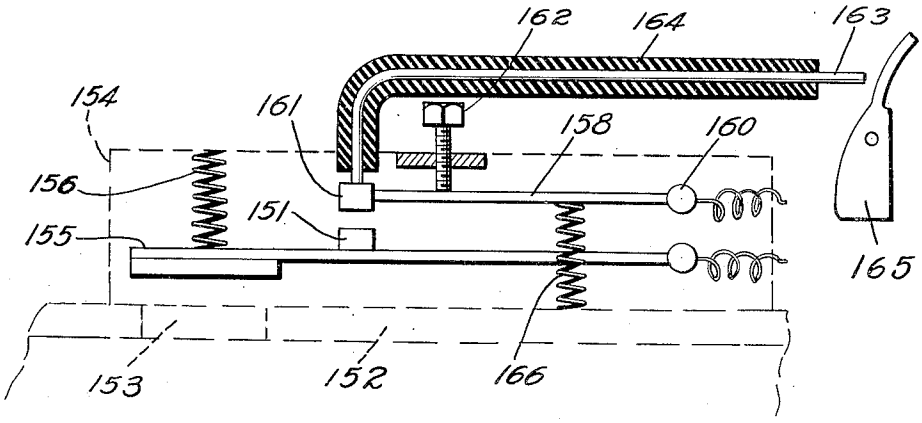
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MOTOR REGULATOR

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MOTOR REGULATOR

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4 Claims. (Cl. 200—81)

This invention relates to motor regulators, and more particularly to pneumatic regulators for electric motors.

In a patent issued May 13, 1924 to E. B. Wilford and P. Russell, No. 1,494,189, there was a disclosure of the broad feature of a pneumatic motor regulator, and the invention herein, in certain regards, may be construed as an improvement thereon.

It is among the objects of this invention; to improve pneumatic motor regulator switches; to provide a pneumatic electric motor regulator as an attachable unit for association with independently assembled motors; to provide a motor regulator switch with control means to vary the regulated speed in accordance with variation in contact setting; to provide an electric motor regulator switch to start and stop the motor as well as to regulate it during rotation; to improve the details of construction of pneumatic motor regulator switches; and many other objects and advantages as will become more apparent as the description proceeds.

In the accompanying drawing:

The figure represents a form of the invention for motor regulation in elevation, diagrammatically, of general utility in which control is secured by changing the position of a contact.

It is contemplated that regulation may be accomplished expeditiously by providing a permanent spring setting, if a spring be used, in the motor regulator switch, with a variable contact so adjusted as to vary the distance through which the vane must travel, as is disclosed in the drawing.

Referring now to the figure, there is disclosed a diagrammatic fragment of a motor housing **152**, having an air port **153** communicating at one end with a blower or fan (not shown) and at the other with the interior of a regulator switch housing **154** within which there is pivoted in any preferred manner, a vane **155** held toward the mouth **153** by a spring **156**, against the compression of which the vane moves as the force of the air stream in opening **153** increases. The vane carries the contact element **151**. A rod **158**, suitably pivoted, as at **160** carries the contact **161** which is adjustable relative to the contact **151** either by the mechanical adjustment afforded by the set screw **162**, or by the Bowden control wire **163** guided in the cable **164**, and controlled by the trigger **165**, by which the contact **161** can be pushed into engagement with the contact **151** against the resistance of spring **166** urging the rod **158** against the stop **162**, to start the motor, and also can be used by trigger adjustments to regulate the motor speed. It will be clear that any other desired sort of actuator for the contact control can be used as desired. Any desired actuator using springs is available for adjusting the relatively fixed contact in place of the unit or set screw as will be obvious.

It will be understood that the armature within the motor housing **152** drives a fan or blower (not shown) delivering a variable air stream through aperture **153** against vane **155** pushing the latter against the resistance of spring **156**. It will be clear that the greater the degree of compression of spring **156** the greater the force necessary to compress it further, so that in moving the vane from the open circuit position shown to that in which the set screw **162** and wire **163** are further retracted under the influence of spring **166**, the loading of the spring **156** is consequently augmented or increased in moving contact **151** on vane **155** the increased distance necessary to make contact with relatively fixed contact **161** consequently requiring a stronger air column and consequently increased fan speed. Conversely moving contact **161** toward contact **151** decreases the distance of vane travel and therefore the spring loading necessary to be overcome by the air column and therefore reduces the fan speed necessary to actuate same.

The make and break of the circuit through contacts **151** and **161** controls the motor circuit and is a control of the motor speed, as will be readily understood.

It will be understood that the disclosure herein is purely illustrative and represents but one of the many modifications and changes that can be made in this invention without departing from the spirit thereof, and such are to be construed as within the scope of this invention unless otherwise positively limited in the appended claims.

I claim:

1. In a switch for motor regulation, a vane, means resiliently supporting the vane, a contact on the vane, a relatively fixed contact, said resilient means urging the vane toward contact opening position, and means for adjusting the relatively fixed contact to vary the tension of the resilient means at which the respective contacts engage.

2. In switches for motor regulation, a pneumatic regulator comprising contacts controlling a circuit arranged to be automatically made and broken, a trigger-like control, and means connecting the trigger and a contact in said regu-

lator for moving said contact manually to make and break the circuit.

3. In a switch for motor regulation, a vane, means supporting the vane, a contact on the vane, a relatively fixed contact, resilient means urging the vane toward contact opening position, means for adjusting the relatively fixed contact in two stages the first of which, closes the circuit and the second of which, varies the setting of the relatively fixed contact to vary the tension of the resilient means at which engagement of the respective contacts takes place.

4. In a switch for motor regulation, a pair of relatively movable contacts, means for manually moving the contacts together to close the circuit, said means arranged to move the contacts apart for opening the circuit, means for resiliently urging one contact from the other, said manual means arranged to vary the position of said other contact to vary the resilient tension with which said separating urge is manifest.

PERCY RUSSELL.