To all whom it may concern:

Be it known that I, Spencer Otis, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fluid-Pressure Motors, of which the following is a specification.

My invention relates to fluid pressure motors; and has for its object to provide a motor in which motive fluid is supplied to the motor from independent sources at different pressures. To this end my invention comprises the details and combinations hereinafter described.

In the accompanying drawing I show a fluid pressure motor and generators connected in accordance with my invention.

Referring to the drawing, a, b and c indicate fluid pressure generators which may be of any desired type. In the specific form shown they are indicated as being boilers of the "flasher" type. These generators are connected to a fluid pressure motor by independent connections a', b' and c', the connection a' being from the generator a, the connection b' from the generator b and the connection c' from the generator c.

d indicates a motor, shown in the drawing as a steam turbine of any well-known construction.

Controlling the admission of steam to the axes of the turbine are the nozzles a'', b'' and c'', having valves a', b' and c'- the nozzles and valves being of any approved type. To these nozzles are attached the connections a', b' and c'.

It will of course be understood that my invention is not limited to a motor such as shown. For example, I may connect the generators independently to independent cylinders of a reciprocating engine, such cylinders being attached to the shaft of the engine independently.

By the construction above described I am enabled to supply motive fluid under pressure from any one or from all of the generators or from any desired combination of the generators, to the motor, thus furnishing motive fluid under different pressures to the motor at the same time. For example, when it is desired to run the motor with steam from the generator a having a pressure say of 250 pounds, this may be done by admitting steam from the generator through the connection a' and the nozzle a'. Now, if it is desired to admit steam from the generator b, having say a pressure of 500 pounds, it may be done through the connection b' and the nozzle b'. If it further be desired to admit steam from the generator c, having a pressure say of 750 pounds, it may be done through the connection c' and the nozzle c'. The pressure, therefore, from each of the generators is effectively utilized. By connecting the generators, as above described, I do away with the equalizing drum commonly employed and with reducing valves or throttles. If steam from a high pressure generator is being admitted to the motor, it does not prevent the effective use of steam from a low pressure generator, as will be readily understood.

In the embodiment of my invention shown, I have used flash boilers because, as will be readily appreciated, my invention is of great advantage in boilers of this type, flasher generators being adapted for the economical production of small amounts of steam at high pressures. By connecting a number of such generators independently to the motor, I can provide for variable pressure in the motor with generators of this type.

I claim:

1. In combination with a fluid pressure motor, a series of independent generators each generator being independently directly connected to the motor to supply motive fluid thereto, substantially as described.

2. In combination with a fluid pressure motor, a series of independent generators, the fluid in the generators being at different pressures each generator being independently directly connected to the motor to supply motive fluid thereto.

3. In combination with a fluid pressure motor, a series of generators of the flasher type, each generator being independently directly connected to the motor.

4. In combination with a fluid pressure turbine, a series of generators of the flasher type, each generator being independently directly connected to the turbine.

5. In combination with a fluid pressure turbine, a series of generators of the flasher type, each generator being independently directly connected to the turbine, substantially as described.

Witnesses:

Anna L. Adams
W. P. Jones