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APPARATUS FOR PRODUCING FLUID PRESSURE.

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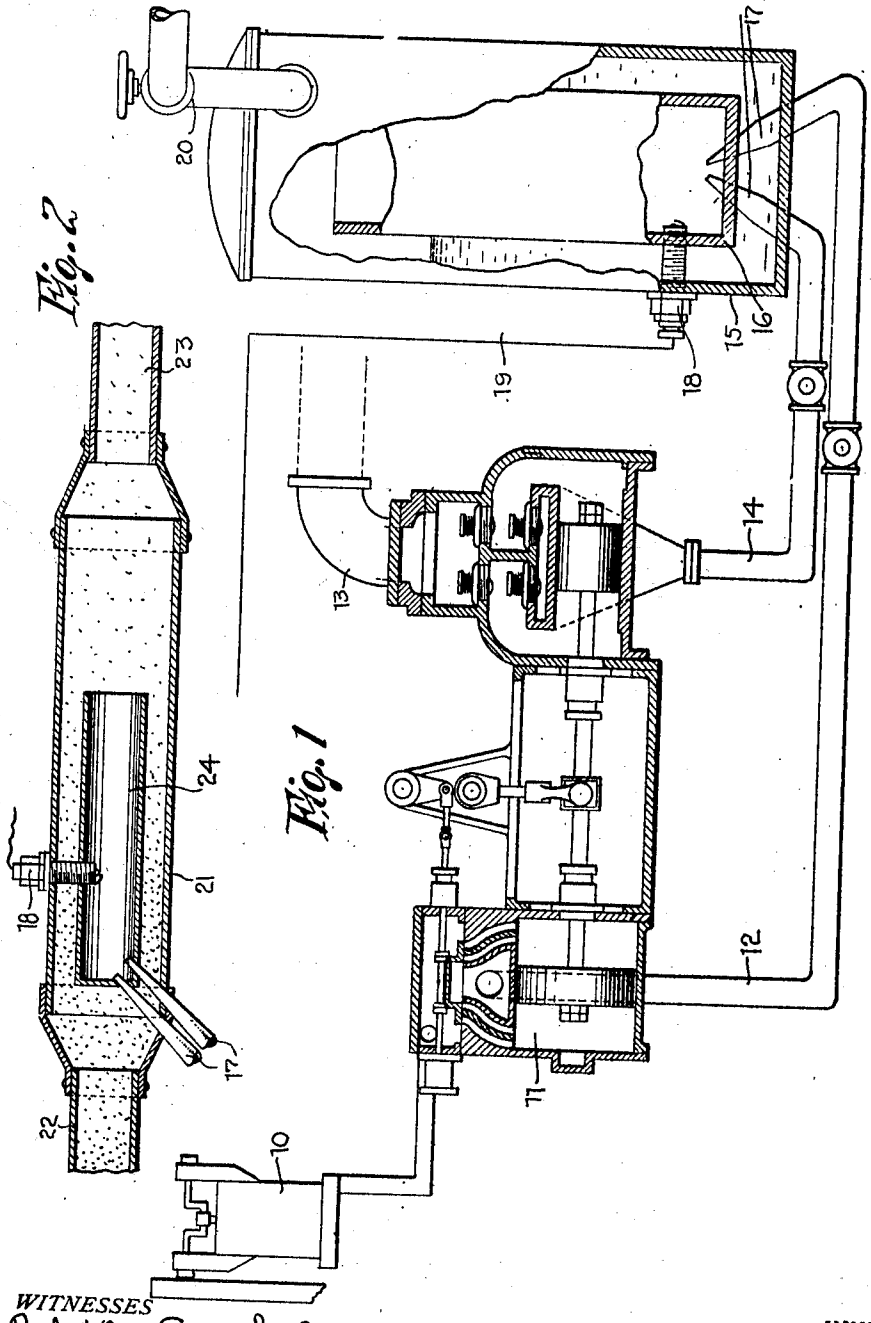

WITNESSES

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APPARATUS FOR PRODUCING FLUID-PRESSURE.

1,040,350. Specification of Letters Patent. Patented Oct. 8, 1912.

Application filed October 25, 1911. Serial No. 656,593.

To all whom it may concern:

Be it known that I, JOSEPH F. KEYS, a citizen of the United States, residing at Gypsum, county of Saline, and State of Kansas, have invented certain new and useful Improvements in Apparatus for Producing Fluid-Pressure, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to processes of producing fluid pressure and has special reference to an apparatus for producing a combined gas and steam pressure for use in operating prime-motors.

The principal object of the invention is to provide an improved apparatus for producing fluid pressure.

With the above and other objects in view as will be hereinafter apparent the invention consists in general of an improved apparatus for producing fluid pressure to be utilized in operating prime-motors, and also has for its object the production of an apparatus capable of being utilized for the production of a fluid pressure in accordance with the apparatus forming the subject matter of this application.

In the accompanying drawings like characters of reference indicate like parts in the several views, and: Figure 1 is a general diagrammatic view of an apparatus adapted for use in connection with this process. Fig. 2 is a similar view of a portion of such an apparatus especially designed for the superheating of a fluid medium such as steam or the like.

In Fig. 1 there is disclosed an air compressor 10 which provided air to operate the cylinder 11 of a pump, the exhaust from which passes out through a pipe 12. This pump is in communication with a suitable source of supply for a hydro-carbon, either gaseous or liquid, and is connected to this supply by means of a pipe 13. From the pump extends a pipe 14. At 15 is indicated a boiler wherein is located a cylinder 16 and the pipes 12 and 14 extending upward in juxta-positions and terminate in nozzles 17. A spark plug 18 is provided which is in communication with a suitable source of electrical supply by means of a wire 19. The cylinder 16 has its upper end open and both the cylinder and boiler are in communication with a pipe 20 which leads to any form of prime-motor which it may be desired to operate.

In the operation of the device air is compressed by means of the compressor 10 and passes into the cylinder 11 to operate the pump. The exhaust air passes out through the pipe 12 through its nozzle 17, while, at the same time, the hydro-carbon is drawn in through the pipe 13 and passes out through the pipe 14 and its nozzle 17. As the air in the hydro-carbon mingles adjacent the nozzles the spark plug, actuated by any desired interrupter, causes a spark to pass and ignites the combustible mixture. This combustion heats the cylinder 16 so that the water in the boiler 15 boils and mingling with the gases of combustion passes out of the pipe 20.

When it is desired to super-heat the steam or the like the boiler 15 is replaced by an enlarged drum 21, which is connected at one end to a steam supply pipe 22 and at the other end to a pipe 23 leading therefrom. The usual nozzle 17 and spark plug 18 are employed and in the interior of the drum is a combustion chamber 24 which corresponds to the combustion chamber 16. It will be obvious that the combustion of the mixture of gas and air in this chamber will super-heat any steam which may flow past the interior chamber and out through the pipe 23.

There has thus been provided a simple and efficient process of the class described and for the purpose specified.

Having thus described the invention, what is claimed as new, is:—

An apparatus for producing fluid pressure comprising in combination an air compressor, a hydro-carbon pump provided with a power cylinder and compressor cylinder, a pipe connecting said pump and air compressor, an exhaust pipe leading from the power cylinder of said pump, a delivery pipe leading from the compressor cylinder of said pump, adjacently located nozzles at the extremities of said pipes, an outer cylinder closed at both ends and provided with an outlet pipe adjacent its upper end, an inner cylinder having an open upper end in spaced

relation to the walls of the outer cylinder whereby a fluid medium may surround said inner cylinder and be held by the outer cylinder, and a spark plug extending into the inner cylinder, said nozzles also extending through both cylinders and terminating adjacent the closed end of the inner cylinder.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOSEPH F. KEYS.

Witnesses:
RALPH O. KEYS,
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