

F. A. PREUSS.
AIR COMPRESSOR.
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939,314.

Patented Nov. 9, 1909.

Fig. 1.

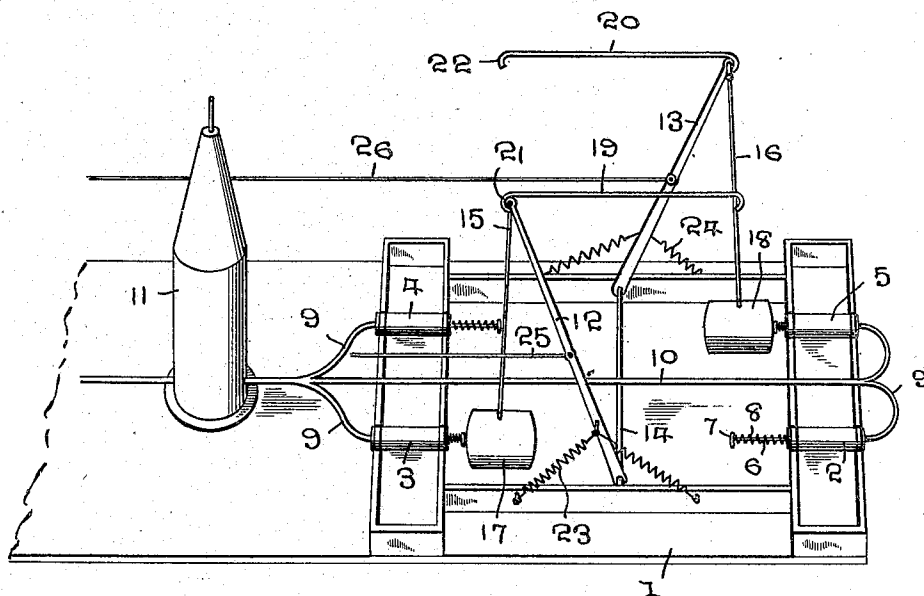
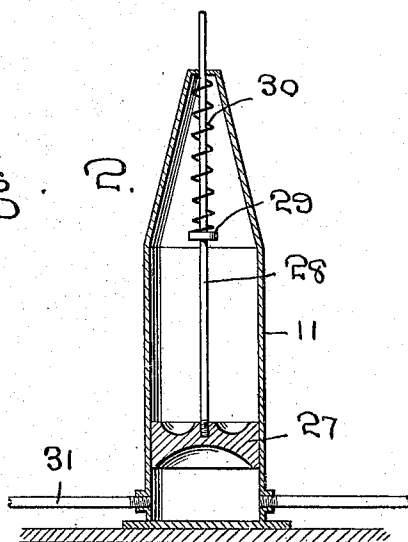


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FREDERICK A. PREUSS, OF GREEN GARDEN PRECINCT, MADISON COUNTY, NEBRASKA.

AIR-COMPRESSOR.

939,314.

Specification of Letters Patent.

Patented Nov. 9, 1909.

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To all whom it may concern:

Be it known that I, FREDERICK A. PREUSS, a citizen of the United States, residing at Green Garden precinct, in the county of Madison and State of Nebraska, have invented certain new and useful Improvements in Air-Compressors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in air compressors and my object is to provide means for automatically operating air pumps to force the air into a storage tank.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claim.

Referring to the drawings forming part of this application, Figure 1 is a perspective view showing my improved air compressor in operation, and, Fig. 2 is a sectional view through the storage tank.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout both views, 1 indicates a platform, upon which are located pumps 2, 3, 4 and 5, such as are commonly used in pumping air, said pumps being preferably arranged in pairs and spaced apart, said pumps having piston rods 6 employed for operating the valves (not shown) of the pumps, extending from one end thereof and being provided with heads 7, while a spring 8 is placed around each piston rod and between the ends of the pumps and the heads 7, thereby normally holding said rods in their extended positions. At the ends of the pumps opposite the piston rods 6 are pipe sections 9, which communicate with a main pipe 10, said pipe extending into a storage tank 11, into which the air is discharged from the pumps.

It is my object to operate the pumps by delivering blows on the heads 7 and to this end I provide a pair of standards 12 and 13, which are pivotally mounted on a shaft 14 carried by parts of the platform 1 and to the upper ends of the standards are pivotally secured rods 15 and 16, respectively, to the lower ends of which are attached weights 17 and 18, respectively, said weights

being adapted to strike the heads 7 and force the piston rods into the pumps, thereby compressing a quantity of air into the tank 11.

The standards 12 and 13 are limited in their swinging movement by means of stops 19 and 20, each of said stops having curved terminals 21 and 22, respectively at their opposite ends, with which engage the upper ends of the standards 12 and 13, thereby giving the weights a pendulum action when the standards are swung back and forth.

In starting the operating parts of the compressor, the standards are swung on their pivots manually and the weights brought into engagement with one of the heads of the piston rods, the force of the weight against the head, forcing the piston rods into the pump and compressing the spring surrounding the piston rods, the recoil of said spring being such as to swing the weight in the opposite direction, which will result in swinging the standard beyond its center of gravity and into engagement with the terminal at the opposite end of the stop, this resulting in bringing the weight into engagement with the head on the opposite side of the pivotal point of the standards, the standards being assisted in their swinging movement by means of springs 23 and 24, which springs are arranged in pairs and extended on opposite sides of the pivotal points of the standards, the upper ends of the springs being secured to the standards, while the lower ends thereof are secured to parts of the platform 1.

The standards are preferably operated in opposition to each other, that is to say, when one of the weights is being moved forwardly the opposite weight is being moved rearwardly, and to more readily start the standards on their swinging movements, rods 25 and 26 are attached to the standards 12 and 13, respectively, said rods extending to a suitable point to be operated manually or otherwise and when the standards are positioned as shown in Fig. 1, a pull is given to the rod 26 and a thrust given to the rod 25. This respective pulling and thrusting action is obtained by suitably actuating said rods 25 and 26, which, however, may be intermittently effected, the momentum obtained by the spring connections with the members 12 and 13 having the effect to alternately actu-

ate said rods after the pulling and thrusting action delivered upon said rods has been removed therefrom.

5 The tank 11 is provided with a piston 27, which is adapted to arise in the tank as the air is forced therein and to increase the pressure of the piston on the air, so as to expel the same from the tank with great force, a
10 shaft 28 is attached to the upper face of the piston and extended through the upper end of the tank 11, the shaft 28 having a collar 29 fixed thereto, between which and the upper end of the tank 11 is a spring 30, the tension of said spring being exerted against
15 the piston to force the same against the air in the tank.

The usual form of check valves (not shown), are provided for the pumps and the pipes entering the tank 11 and said tank is
20 also provided with a discharge pipe 31, through which the air from the tank may be conveyed to any suitable point and in view of the pressure on the air in the tank,

said air will be discharged through the pipe 31 with considerable force.

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What I claim is:

An air compressor, comprising the combination with air pumps having piston rods extending therefrom, heads at the outer ends of said piston rods, springs surrounding said
30 rods, a tank and pipes extending from said pumps to said tank; of standards pivotally mounted between the pumps, means for actuating said standards, weights carried by said standards and adapted to be swung into
35 engagement with the ends of the piston rods, means to limit the swinging movement of said standards and springs adapted to cause said standards to swing back and forth.

In testimony whereof I have signed my
40 name to this specification in the presence of two subscribing witnesses.

FREDERICK A. PREUSS.

Witnesses:

CHAS. FEILING,
AUG. BEUTTNER.