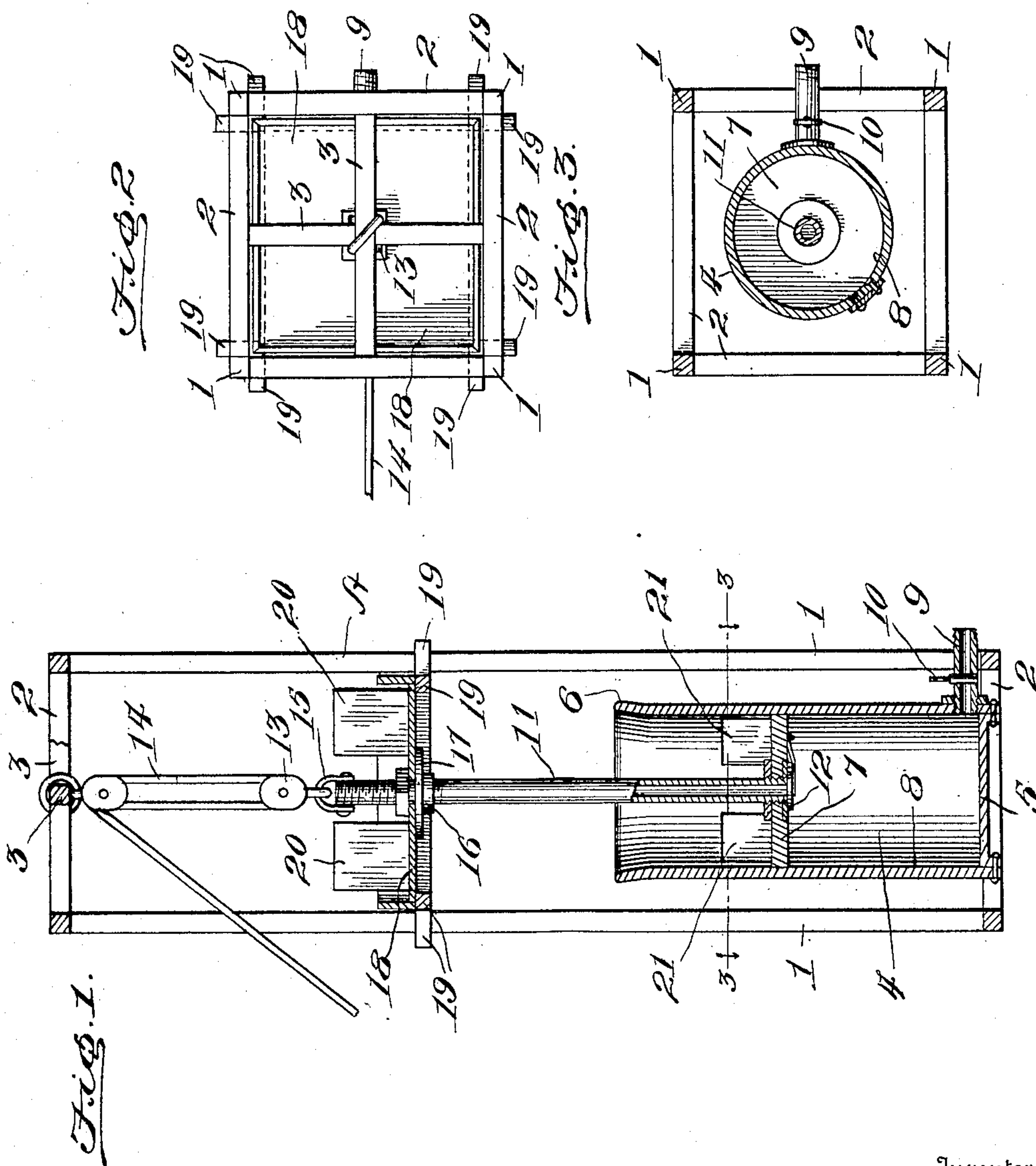


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F. B. BABBE.
AIR COMPRESSOR.
APPLICATION FILED OCT. 30, 1907.



Witnesses

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FREDERICH B. BABBE, OF SAN JOSE, CALIFORNIA.

AIR-COMPRESSOR.

No. 887,571.

Specification of Letters Patent.

Patented May 12, 1908.

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To all whom it may concern:

Be it known that I, FREDERICH B. BABBE, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented new and useful Improvements in Air-Compressors, of which the following is a specification.

This invention relates to an improved device for compressing air to be utilized for various purposes such as the driving of light machinery through the medium of a suitable motor; and it has for its object to provide a device of this class which shall be simple in construction and efficient in operation; and which may be operated at small expense; a further object of the invention being to provide a storage tank or reservoir in which air may be maintained under pressure so as to be readily available for use, whenever desired.

With these and other ends in view, which will appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter described and particularly pointed out in the claims.

In the accompanying drawing has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawing:—Figure 1 is a sectional elevation of an air compressor constructed in accordance with the invention. Fig. 2 is a top plan view of the same. Fig. 3 is a horizontal sectional view taken on the plane indicated by the line 3—3 in Fig. 1.

Corresponding parts in the several figures are denoted by like characters of reference.

The improved device comprises a framework A including four vertically disposed corner posts 1—1 which are suitably connected by means of cross pieces or braces 2—2 near their upper and lower ends; said braces at the upper end of the frame being connected by means of transverse bars 3—3, intersecting each other, as will be clearly seen in Fig. 2 of the drawings, in the form of a cross to provide means for the attachment of hoisting tackle as will be presently described.

In the lower end of the frame is arranged a vertically disposed cylindrical tank 4 which may be of any suitable construction that will

insure the requisite degree of strength and ability to resist strain and to avoid leakage of air; said tank or cylinder being provided at its lower end with a bottom 5 affording a terminal closure while the upper end of the tank is open and slightly expanded as will be seen at 6 to facilitate the insertion into the tank of a piston or follower 7 which should fit perfectly tight and true in the bore 8 of the cylinder which is perfectly smooth and polished so as to enable the piston to operate freely therein without danger of the leakage of air. An outlet pipe 9 having a controlling valve cock 10 extends laterally from the lower end of the cylinder; said outlet being adapted to be connected, by means of a suitable pipe or duct with a motor of any description adapted to be driven by compressed air.

The piston 7 is provided with a tubular stem 11 that extends upwardly and is securely connected with the piston by means of screw threads or in any other convenient manner. The lower end of the tubular stem 11, which latter constitutes a duct for the admission of air into the cylinder, is normally closed by a downward opening valve 12 which is suitably mounted upon the under side of the piston; said valve being adapted to open under the pressure of intruding air, while when the piston descends into the cylinder, the air contained in the latter will exert pressure against the valve whereby the latter will be kept tightly closed. Suitable hoisting mechanism, including blocks 13 and rope tackle 14, is suspended from the cross bars 3 at the top of the frame and is connected with a clevis 15 at the upper end of the tubular piston rod; said tackle being utilized for the purpose of lifting or elevating the piston and the parts connected therewith as will be hereinafter described; it will be understood that the hoisting tackle may be operated directly by hand, or through the medium of intermediate mechanism, such as a winch or capstan.

The tubular piston rod 11 is provided with an annular flange or collar 16 and a washer 17 supporting a strongly constructed rectangular platform 18 which is provided upon its under side, along its side edges, with reinforcing bars 19 the ends of which are extended to engage the corner posts 1 of the frame, thus affording guides which not only serve to steady the vertical movement of the platform 18 in the frame, but which also maintain the piston rod in true vertical posi-

tion, preventing the wobbling which might result in the piston binding in the cylinder. By this simple construction the piston will be accurately guided, and the operation of the invention facilitated. Upon the platform 18 there are placed heavy weights 20 which, if desired, may be supplemented by auxiliary weights 21 supported directly upon the upper side of the piston as will be seen in Fig. 1 of the drawing.

In the operation of this invention the piston is raised to the upper end of the cylinder by power applied to the piston rod through the medium of the blocks and tackle; the weighted platform being simultaneously elevated as will be readily understood. When the piston is elevated, air will enter the cylinder through the tubular piston rod and the valve 12. When the piston reaches the upward limit of its movement, the draft is relaxed, and the piston will now be forced in a downward direction by the weights 20 and 21, thus compressing the air contained in the cylinder. The latter will thus constitute a storage tank for compressed air which, by manipulating the valve 10, may be permitted to escape and be utilized for the purpose of driving a motor, as hereinbefore described.

By using a battery of two or more cylinders, compressed air may be taken from one of said cylinders while the pistons of the re-

maining cylinders are being elevated, and a continuous supply of compressed air may thus be secured.

This device, as will be seen, is simple in construction, and by use thereof a continuous supply of compressed air may be secured for the purpose of driving a suitably constructed motor whereby machinery of various kinds may be operated.

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

In an air compressor, a frame having vertical corner posts, a vertically disposed cylindrical tank at the lower end of the frame, a piston movable in the cylinder and having a tubular stem or rod open at each end and provided at its lower end with a check valve opening into the cylinder, a weighted platform supported upon the piston rod, flange bars upon said platform provided with crossed terminal extensions constituting guides engaging the corner posts of the frame, and means connected with the piston rod for elevating the piston.

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

FREDERICH B. BABBE.

Witnesses:

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