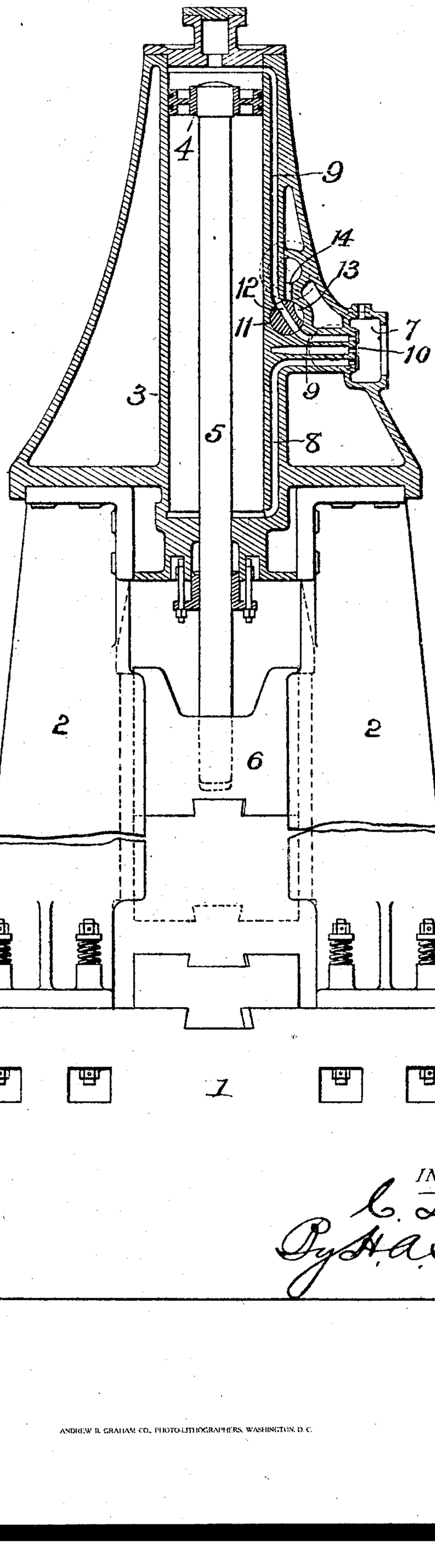
No. 795,663. PATENTED JULY 25, 1905.

C. L. TAYLOR.

STEAM HAMMER.

APPLICATION FILED FEB. 16, 1904.



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STEAM-HAMMER.

No. 795,663. Specification of Letters Patent. Patented July 25, 1905.

Application filed February 16, 1904. Serial No. 193,894.

To all whom it may concern:

Be it known that I, CLARENCE L. TAYLOR, of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Steam-Hammers; 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 an improvement in steam-hammers, the object being to provide means whereby the hammer may be operated as a single or double acting drop-hammer at the will of the operator; and it consists in a two-way valve located within the port leading to the upper end of the cylinder, whereby said upper end can be opened to the atmosphere or put into communication with the main valve or steam-chest of the apparatus.

My invention further consists in the details of construction and in the combination and arrangement of parts, as will be more fully explained, and pointed out in the claims.

The accompanying drawing is a view in side elevation, partly in vertical section, of a steam-hammer embodying my invention.

1 represents the base or bed, carrying the side frames 2 of any suitable size, shape, and construction. Secured to the upper ends of the side frames 2 is the cylinder 3, in which is mounted the piston 4, carrying the piston-rod 5, to the lower end of which is secured the hammer-head 6. This hammer-head is guided in the frames and operates in connection with the anvil, which latter may be seated on the base or on a foundation below or within the base in any of the well-known manners.

The cylinder 3 is provided at a point midway its ends with a valve-chest 7, in which a balanced slide-valve rests and moves. Any approved form of valve may be employed; but I prefer the construction disclosed in Patent No. 85,105, granted to Joah Lawson, December 22, 1868. Communicating with the valve-chest 7 and with the valve therein are the ports 8 and 9 and exhaust-port 10. Ports 8 and 9 lead, respectively, to the lower and upper ends of the cylinder for conveying steam to and permitting it to exhaust from both ends, and mounted in a seat bisecting port 9 is the two-way valve 11. This valve may be manipulated by levers under the control of the operator and is provided with a port or way 12, adapted to connect the two sections of bisected port 9 and form a continuous passage-way from the steam-chest to the upper end of cylinder, and with a port or way 13, adapted to connect the upper section or that part of port 9 above valve 11 with port 14, which latter leads to the atmosphere, thus opening that part of the cylinder above the piston 4 to the outer air. By this arrangement of parts the hammer can be worked at pleasure as double acting, wherein the falling weight of the hammer-head and its attached part are impelled by the top steam, or single acting, wherein steam is admitted only to raise the hammer-head or cushion or control the downward stroke. To adjust it for double acting, the two-way valve should be turned to bring its passage or way 12 therein in line with the two sections of the port 9, while for single acting the valve should be turned until its way or port 13 connects that portion of port 9 with port 14, thus cutting out all communication between the top of cylinder and the live-steam chest and opening said portion of the cylinder above the piston to the atmosphere.

It is evident that many slight changes might be resorted to in the relative arrangement of the parts herein shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself to the exact construction of parts herein shown and described; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a steam-hammer or like device, the combination with a vertical cylinder, a piston therein, a steam-chest and ports leading from the steam-chest to the cylinder on opposite sides of the piston, of a valve separate and distinct from the main valve in the chest and located within the port leading to the upper end of the cylinder for closing communication between the steam-chest and the upper end of the cylinder, and for opening communication between the end of the cylinder so closed and the atmosphere.

2. In a steam-hammer or like device the combination with a vertical cylinder and piston, a steam-chest and ports leading from the steam-chest to the cylinder on opposite sides of the cylinder, and a port leading from the

upper port to the outer air, of a valve located at the juncture of the outer air-port and upper port and adapted to open communication between the outer air and upper end of the cylinder or close said outer air-port and open communication between the steam-chest and top of cylinder.

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

CLARENCE L. TAYLOR.

Witnesses:

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