

L. C. BAYLES.
PERCUSSIVE TOOL.
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1,060,225.

Patented Apr. 29, 1913.

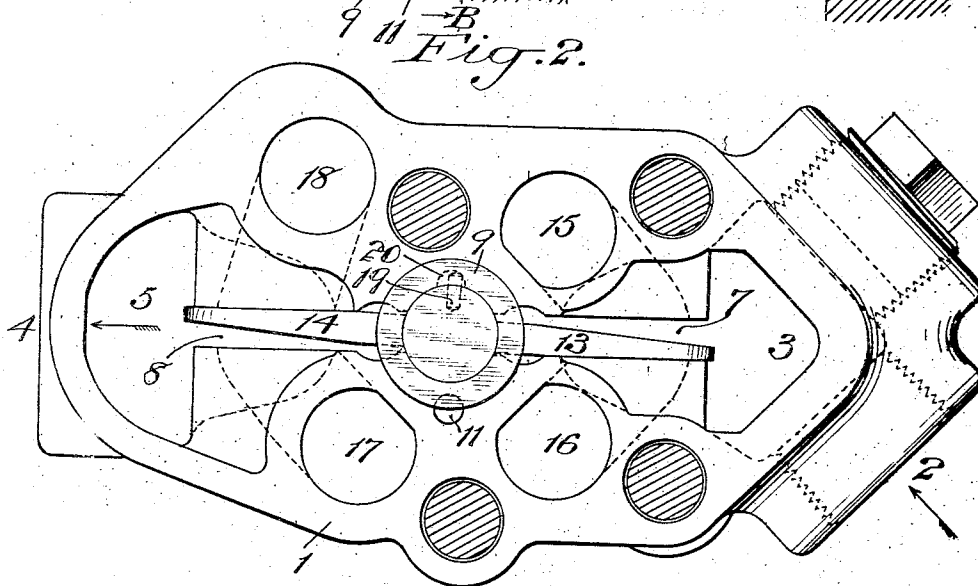
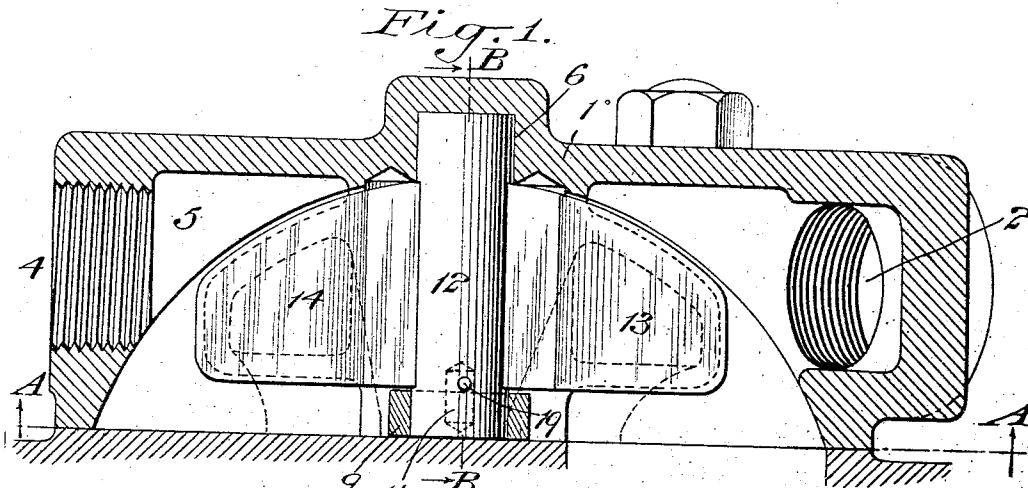
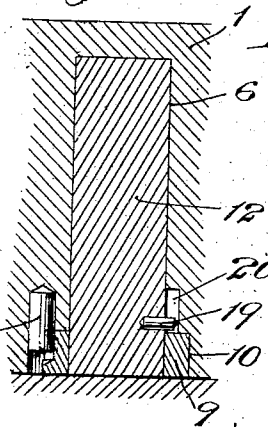
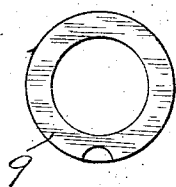


Fig. 3.



Witnesses:
J. George Barry
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Inventor:
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UNITED STATES PATENT OFFICE.

LEWIS C. BAYLES, OF EASTON, PENNSYLVANIA, ASSIGNOR TO INGERSOLL-RAND COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

PERCUSSIVE TOOL.

1,060,225.

Specification of Letters Patent.

Patented Apr. 29, 1913.

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To all whom it may concern:

Be it known that I, LEWIS C. BAYLES, a citizen of the United States, and resident of Easton, in the county of Northampton and State of Pennsylvania, have invented a new and useful Improvement in Percussive Tools, of which the following is a specification.

This invention has for its object to provide certain improvements in percussive tools, and particularly in valve mechanism therefor.

My invention relates to that type of valve mechanism in which a winged oscillating valve is employed for controlling the admission and exhaust of the motive fluid which operates the work piston of the tool, a novel mounting being provided for the valve whereby its operation is facilitated and its life prolonged.

In the accompanying drawings, Figure 1 is a longitudinal section through the valve chest and seat, the valve being shown in side elevation and its end bushing in section. Fig. 2 is a section taken in the plane of the line A—A of Fig. 1, looking in the direction of the arrows. Fig. 3 is a detail transverse section taken in the plane of the line B—B of Fig. 1, looking in the direction of the arrows. Fig. 4 is a plan view of the end bushing, and Fig. 5 is a side view of the same.

The valve chest is denoted by 1, which chest is provided with a motive fluid inlet 2 leading to an inlet chamber 3, and a motive fluid outlet 4 leading from an outlet chamber 5. Intermediate the inlet and outlet chambers 3 and 5, is located a cylindrical chamber 6, from which cylindrical chamber slots 7 and 8 lead to the inlet and outlet chambers 3 and 5 respectively. These slots 7 and 8 and the intermediate cylindrical chamber 6, all open through the inner face of the valve chest 1, for permitting the ready assembly and removal of the parts as will hereinafter appear.

An end bushing 9 is seated in the enlargement 10 of the cylindrical chamber 6, at the mouth of said chamber. This end bushing 9 is removable from the valve chest and is locked against rotative movement by means of a pin 11, inserted into a recess formed partly in the outer wall of the end bushing and partly in the walls of the enlargement 10 of the cylindrical chamber 6.

A double-winged oscillating valve is located in the valve chest, the cylindrical body

portion 12 of which valve is fitted to the cylindrical chamber 6 in the valve chest, the inner end of said cylindrical body portion being journaled in the bushing 9. The wing 13 of the valve is located within the slot 7 and the wing 14 of the valve is located within the slot 8. The slots 7 and 8 and the wings 13 and 14 are so shaped with respect to each other that the valve is permitted a slight oscillatory movement for alternately opening and closing communication between the inlet chamber 3 and the inlet passages 15, 16, and for alternately opening and closing communication between the outlet passages 17, 18, and the outlet chamber 5.

A positioning means may be employed for insuring the replacing of the valve in the proper position within the valve chest when removed therefrom for any purpose, which positioning means is herein shown as a pin 19 projecting outwardly from the body portion 12 of the valve into a recess 20 in the wall of the cylindrical chamber 6, which recess is of sufficient width to permit the oscillatory movement of the valve. The valve and end bushing may be removed from and inserted into the valve chest through the inner face of the chest.

What I claim is:

1. A valve mechanism including a valve chest, an end bushing and an oscillating winged valve located in said chest and having its body portion provided with an end journaled in said bushing.

2. A valve mechanism including a valve chest, a removable end bushing and an oscillating winged valve located in the valve chest and having its body portion provided with an end journaled in said bushing.

3. A valve mechanism including a valve chest, an end bushing, means for locking the end bushing to the chest against rotative movement and an oscillating winged valve located in the valve chest and having its body portion provided with an end journaled in said bushing.

4. A valve mechanism including a valve chest, a removable end bushing, a removable oscillating winged valve located in the valve chest and having its body portion provided with an end journaled in said bushing, and positioning means for insuring the proper replacement of the valve.

5. A valve mechanism including a valve chest, having a cylindrical chamber, an end

bushing at the mouth of said chamber, an oscillating winged valve located in the valve chest and having its body portion seated in said chamber, said body portion being provided with an end journaled in said bushing.

6. A valve mechanism including a valve chest having a cylindrical chamber provided with an enlargement at its mouth, an end bushing seated in said enlargement and an oscillating winged valve having its body portion seated in said chamber, said body por-

tion having an end journaled in said bushing.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this twenty-sixth day of March 1912.

LEWIS C. BAYLES.

Witnesses:

F. GEORGE BARRY,
HENRY C. THIEME.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."