A. W. WILKEY.

VALVE MECHANISM.

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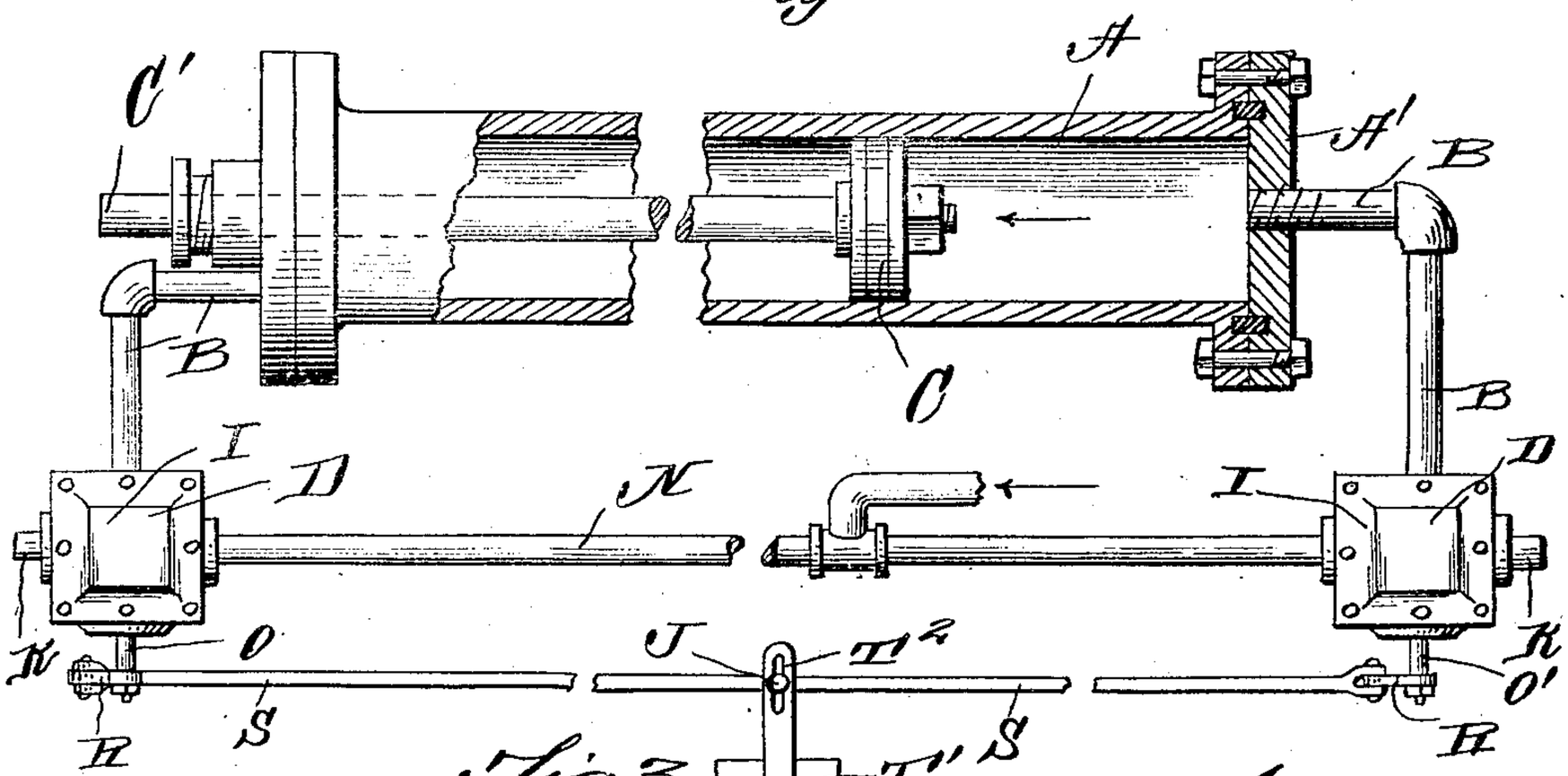
Fig. 1.



Witnesses

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VALVE MECHANISM.

No. 914,771. Specification of Letters Patent. Patented March 9, 1909.

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To all whom it may concern:

Be it known that I, ARCHEY W. WILKEY, a citizen of the United States, residing at Gideon, in the county of New Madrid and State of Missouri, have invented a certain new and useful Improvement in Valve Mechanism; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in steam valve apparatus and comprises various details of construction, combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claim.

My invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of my improved apparatus, parts being shown in section. Fig. 2 is a detail perspective view of one of the valve casings. Fig. 3 is a detail view of a valve casing with two of the sides removed. Fig. 4 is a cross sectional view on line 4—4 of Fig. 2. Fig. 5 is a section on line 5—5 of Fig. 4. Fig. 6 is an enlarged detail perspective view of the rock valve, and Fig. 7 is a cross sectional view on line 7—7 of Fig. 6.

Reference now being had to the details of the drawings by letter, A designates a cylinder which may be of any length and provided with cylinder heads A′ and pipes B leading through each cylinder head, through which steam is allowed to enter or exhaust from the cylinder.

C designates a piston mounted within the cylinder and C′ is a piston rod connected thereto.

Two valve chamber boxings D—D are provided which are of similar construction, enlarged detail views of which are shown in Figs. 2 to 5 inclusive. Said valve casing is chambered, as at D′, the bottom of said chambered portion being concaved, and E designates a rock valve of cylindrical shape conforming to and resting upon the bottom of said chamber, as shown clearly in Figs. 3 and 4 of the drawings. The under portion of the valve casing has two chambers, F and F′, with an intermediate recess F^2, shown clearly in Fig. 4 of the drawings, and said rock valve has a longitudinally disposed recess G formed in its circumference, as shown clearly in Fig. 6 of the drawings. A port F^2 is formed in the concaved end wall of said chamber, communicates with the pipe B and ports I—I lead through into the chambers F and F′. Leading from the chamber F is a pipe K through which steam exhausts from the valve boxing, and N designates a steam-supply pipe which leads through the pipe from any source of supply to the chamber F, whereby steam may be supplied for driving the piston C.

One end of the valve E has transverse slot E′ formed therein, which is preferably dove-tailed and is adapted to receive the head O of a valve stem O′, said head having a sliding dove-tailed connection in the slot E′ for the purpose of allowing the valve to settle slightly to compensate for wear and still form means to enable the valve to be rocked upon its bearing. The outer end of the valve stem O′ is threaded as at O^2 and is adapted to hold a link R connected to said stem, while the other end of the link is pivotally connected to the bifurcated end of a bar S. Said bar S is connected to the valve in the two boxings, as shown in Fig. 1 of the drawings, and T is an operating lever mounted upon a pivot T′, said lever having a slot T^2 to receive a pin J upon the bar S, thereby allowing a slight play as the lever is tilted upon its pivot. Said valve boxings are provided with the removable sides, designated in the drawings by letters I′ and I^2, which are held to the boxing by means of screws, as shown in Fig. 2 of the drawings.

From the foregoing, it will be noted that, by the provision of the apparatus shown and described, a simple and efficient means is afforded for giving a piston stem in the cylinder a reciprocating movement designed especially for operating saw-mill carriages and the like. By rocking the lever upon its pivot, the valves within said boxings may be rocked in such a manner that steam may be alternately admitted to the opposite ends of the cylinder, one valve being so positioned that exhaust will take place at one end of the cylinder while live steam is admitted at the other and vice versa as the lever is rocked in the other direction. By the provision of the rock valve having the connection as set forth

with the stem, means is afforded for taking up any wear which might take place intermediate the valve and its seat.

What I claim to be new is:—

In combination with a valve casing having a chambered portion, the bottom of which is concaved and provided with ports therein, a cylinder, a piston therein, pipe connections between the cylinder and casing, a valve within said casing, the end of said valve being provided with a transverse recess, a stem having a head with adjustable dove-tail connections with the recessed end of said valve, closure plates fitted over the open faces of the casing and in one of which plates said stem has a bearing, as set forth.

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

ARCH. WILLIAM WILKEY.

Witnesses:

WM. P. ANDERSON,

A. R. ZIMMERMAN.