

(No Model.)

2 Sheets—Sheet 1.

A. J. EMLAW,  
STEAM SAW MILL.

No. 246,380.

Patented Aug. 30, 1881.

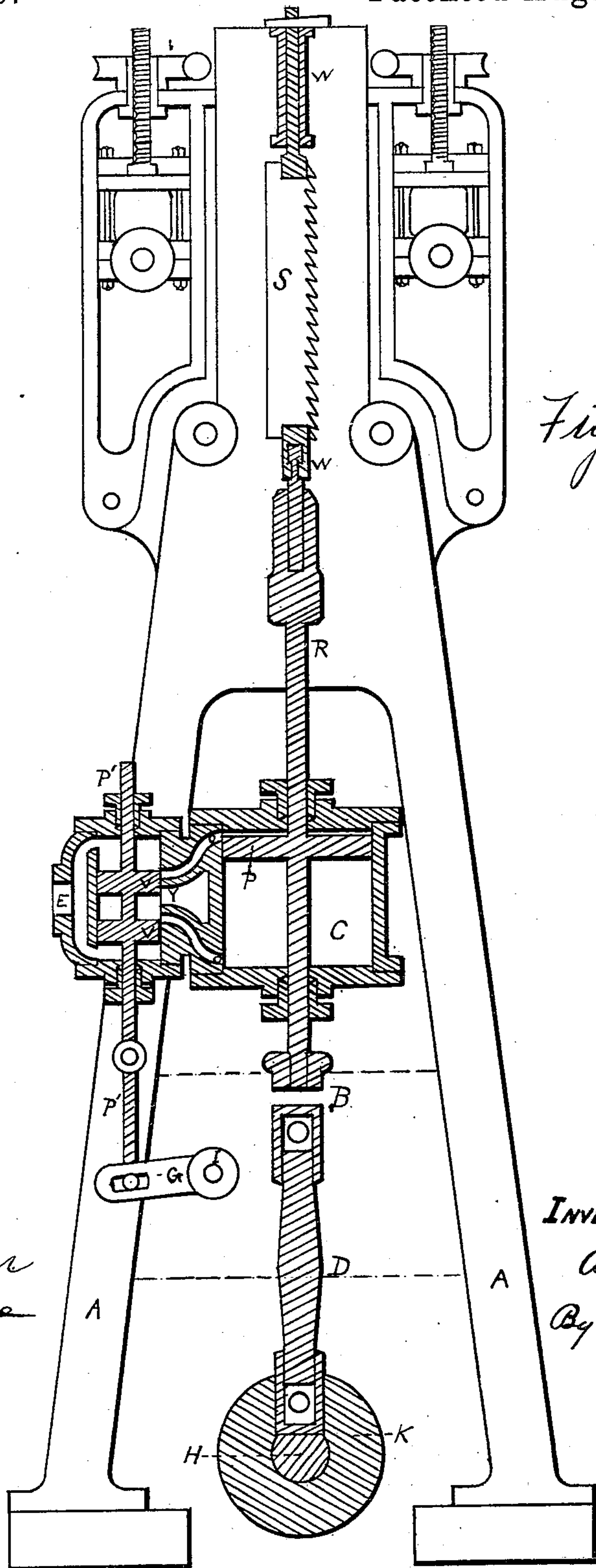


Figure 1.

WITNESSES.

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N. A. Earle

INVENTOR.

Andrew J. Emlaw  
By Edward Taggart,  
attorney.

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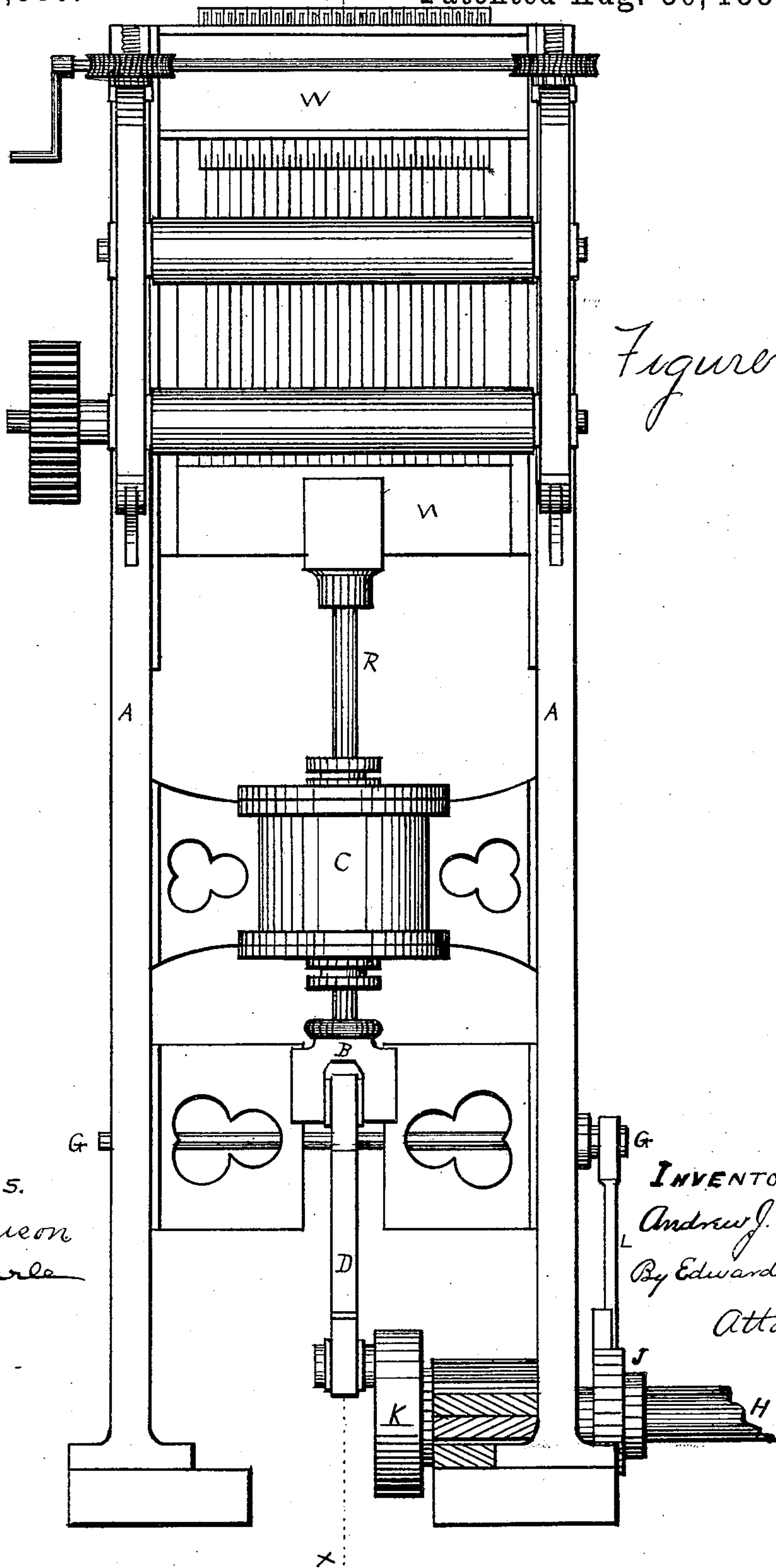


Figure 2.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

ANDREW J. EMLAW, OF GRAND HAVEN, MICHIGAN.

## STEAM SAW-MILL.

SPECIFICATION forming part of Letters Patent No. 246,380, dated August 30, 1881.

Application filed September 24, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW J. EMLAW, of the city of Grand Haven, in the county of Ottawa and State of Michigan, have invented certain new and useful Improvements in Steam Saw-Mills, of which the following is a specification.

My invention relates to a steam saw-mill in which the saw-frame is attached directly to and is operated by the piston-rod of the steam-cylinder, the attachment being made at the center of the lower side of the saw-frame, as shown, and having no other attachment or connection with the piston-rod or machinery; and the objects of my invention are, first, to render unnecessary the machinery usually employed in connecting the saw-frame with the piston-rod; second, to give a straight up-and-down stroke or movement to the saw-frame, preventing the tendency to a reciprocating horizontal motion, which is caused where the sides of the frame are attached by pitmen to the machinery of the engine; and, third, to give a straight elastic stroke to the saw. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of a steam saw-mill through the line *xx*, showing the flat side of the upright saw; and Fig. 2 is a sectional view of the same on the same vertical line, but having its plane at right angles to the plane shown in Fig. 1.

Similar letters refer to similar parts throughout the several views.

In the drawings, A A represents the frame supporting the several parts of the machine.

S is a saw or a gang of saws, supported by the saw frame or sash W W in the usual manner. The saw-frame W W is attached from a point at the center of its lower side in any suitable manner to the piston-rod R.

To the piston-rod R is attached the piston-

head P, which is moved by the steam-pressure in the upright cylinder C. The piston-rod R extends below the cylinder, and is connected by suitable machinery to the valves in the steam-chest, thereby operating the piston in the steam-cylinder C. By this arrangement the upper end of the piston-rod only is attached to the saw-frame.

The saw-frame is not connected with any other machinery, and is not veered or drawn from a straight up-and-down stroke, and the lower end of the piston-rod, which projects below the lower end of the upright cylinder C, is connected with and operates the several parts of the engine.

I am aware that other steam saw-mills have the saw-frame worked by the piston-rod, and I do not broadly claim such device; but I know of no mill in which the saw-frame is operated from the upper end of the piston-rod, and the valve machinery of the engine is operated by the lower end of the piston-rod, projecting through and below the cylinder, and none in which the saw-frame is not connected by means of cranks and pitmen to the machinery operating the valves of the steam-chest.

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

The combination herein set forth of the saw-frame W W, piston-rod R, to the upper end of which said saw-frame is attached, upright cylinder C, crank K, and shaft H, arranged as described, without other intervening mechanism between the valve machinery and the saw-frame.

ANDREW J. EMLAW.

Witnesses:

ARTHUR C. DENISON,  
EDWARD TAGGART.