J. D. WILSON.

Buffers for Reciprocating Saw-Mills.

No. 221,379. Patented Nov. 4, 1879.

Fig. 1

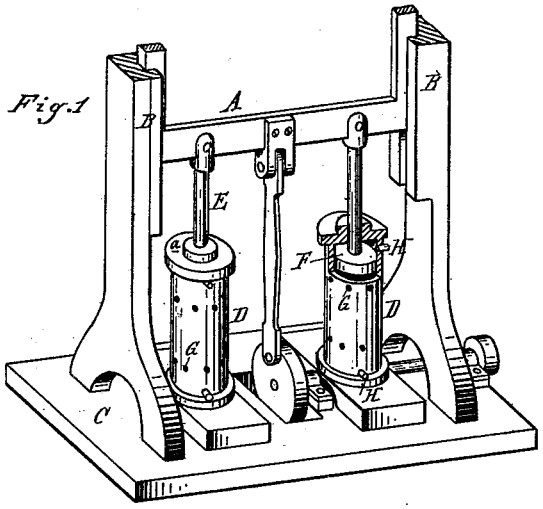
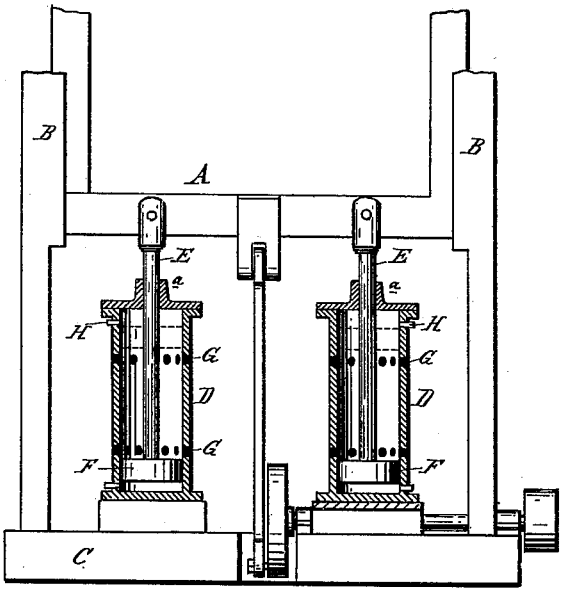


Fig. 2



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UNITED STATES PATENT OFFICE.

JAMES D. WILSON, OF MONTAGUE, MICHIGAN.

IMPROVEMENT IN BUFFERS FOR RECIPROCATING-SAW MILLS.

Specification forming part of Letters Patent No. **221,379**, dated November 4, 1879; application filed May 15, 1879.

To all whom it may concern:

Be it known that I, JAMES D. WILSON, of Montague, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Attachments to Gang-Saw Mills; and I do declare that the following is a full, clear, and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention relates to new and useful improvements in the construction of buffer attachments to gang-saw mills, by means of which the pounding or jar or concussion produced by the rapid motion of those ponderous machines is avoided.

The invention consists in the construction and operation of the devices and their combination with a gang-saw frame or gate, as more fully hereinafter described.

Figure 1 is an elevation, in perspective, of a gang-saw gate with my improved attachments. Fig. 2 is a central vertical section through the air-cylinders.

Like letters refer to like parts in each figure.

In the accompanying drawings, which form a part of this specification, A represents the frame or gate of a gang-saw mill, having a vertical reciprocating motion between the guides B, and constructed in the usual manner. C represents the bed-plate or foundation upon which the machine rests. Immediately below, and in vertical line with, the reciprocating gate there are placed two vertical cylinders, D, each provided with a solid lower head, while the upper head of each is provided with an aperture and stuffing-box, *a*, through which the piston-rods E travel. To the lower ends of these piston-rods there are secured piston-heads F. The upper or outer ends of these piston-rods are secured to the bottom rail of the frame or gate A, care being taken that the parts are in line and that the piston-rods should be firmly secured.

G represents a series of perforations through the walls of the cylinders for the ingress and egress of air to the interior thereof. There are two series of these perforations, each being a few inches from the ends of the cylinder. H are safety-valves, one being attached to each end of the cylinders, near the heads thereof. In practice, these cylinders being in place and attached as described, and the frame at the upper end of its stroke, the piston-heads are above the plane of the upper series of perforations, when the cylinders are filled with air through the perforations. In the downward stroke of the piston the air is partially expelled through the lower series of perforations until the piston-head passes or covers them up, when, in the completion of the stroke, the air below said perforations will be compressed, thereby forming a cushion to prevent concussion at the termination of the stroke. The reverse movement of the piston produces a like result at the opposite end of the cylinders. Should such compression of air require, it will open the safety-valves, which should be properly gaged to open under the desired pressure and discharge so much of the air as may be necessary.

What I desire to secure by Letters Patent is—

1. The means described for cushioning gang-saw-mill gates, consisting of perforated cylinders and pistons attached to said gates, substantially as set forth.

2. In combination, a gang-saw gate or frame with a perforated cylinder and piston rod and head, said cylinder being provided with safety-valves, substantially as and for the purposes described.

JAMES D. WILSON.

Witnesses:
A. BEALS,
HENRY DONVILLE.