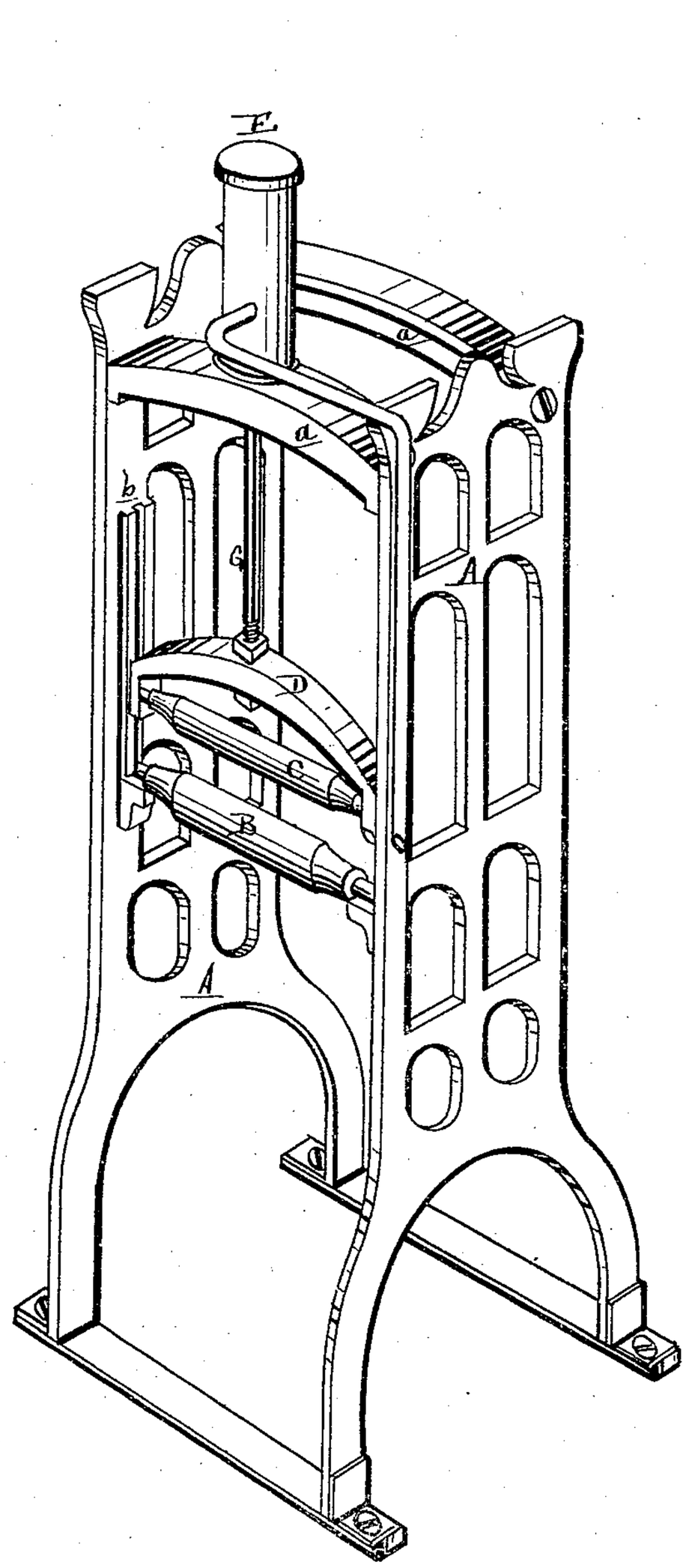
J. BROWN.

Saw-Mills.

No. 153,313. Patented July 21, 1874.



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UNITED STATES PATENT OFFICE.

JOSHUA BROWN, OF AU SABLE, MICHIGAN.

IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. **153,313**, dated July 21, 1874; application filed May 14, 1874.

To all whom it may concern:

Be it known that I, JOSHUA BROWN, of Au Sable, in the county of Iosco and State of Michigan, have invented a new and useful Improvement in Saw-Mills, of which the following is a specification:

In operating gang-mills, it is customary to use heavy iron rolls, so arranged as to ride on top of the cant to keep it from being lifted in the upstroke of the sash. To lift these rolls various modifications and combinations of the screw and lever are employed, some of which are actuated by hand, and others by the machinery of the mill; but all of them are expensive in construction and slow in operation.

My invention has for its object to provide a simple, cheap, and effective means to raise and lower the press-rolls quickly; and to this end I place on the top girts of the gang-frame a pair of vertical cylinders, connected by a pipe at the bottom of each with the boilers of the mill below the water-line, or with the heater or feed-pipe between the boiler or source of supply (under pressure) and the cylinder. The piston of each cylinder has attached to the lower end of its rod the yoke of a press-roll, so that, if water under boiler-pressure be admitted to the cylinder, the piston will be forced to the top, and thus raise the press-roll, which may be kept there. To lower it, the cock is arranged to discharge the water from the cylinder and shut off communication with the source of supply.

In the drawing, A represents the frame of an iron-frame gang-mill, the sides of which are connected at the top by the girts *a a*. B is one of the feed-rolls, and C a press-roll, journaled at each end in a yoke, D, which slides in the vertical guides *b* in the sides of the frame. E is a cylinder, mounted on each girt *a*, and fitted with a piston, to which is attached the upper end of the piston-rod G, from whose lower end the yoke D is suspended. A pipe connects each cylinder with the feed-pipe, heater, or boilers of the mill—below the water-line of the latter, however—with an ordinary three-way cock in the pipe within easy reach of the sawyer, who can turn its plug so as to admit water under boiler-pressure to raise the piston and its pendent press-roll, or to so turn it as to shut off communication with the source of supply and discharge the water, when the press-roll and its attachments will descend of their own weight.

Steam might be used in place of water under pressure, as I am well aware; but, owing to condensation, which must necessarily result in the connecting-pipes, and for other obvious reasons, water under pressure is preferable.

The pipes and cocks may be arranged to exert the pressure of the water on the upper sides of the pistons, if the weight of the press-rolls be insufficient for the purpose.

What I claim as my invention, and desire to secure by Letters Patent, is—

The cylinder E, mounted on a gang-frame, and having the yoke D of the press-roll C suspended from the rod G of its piston, the same being arranged to raise its attachments by steam or water entering said cylinder under pressure, substantially as described.

JOSHUA BROWN.

Witnesses:
JOHN HURST,
HUGH BUYERS.