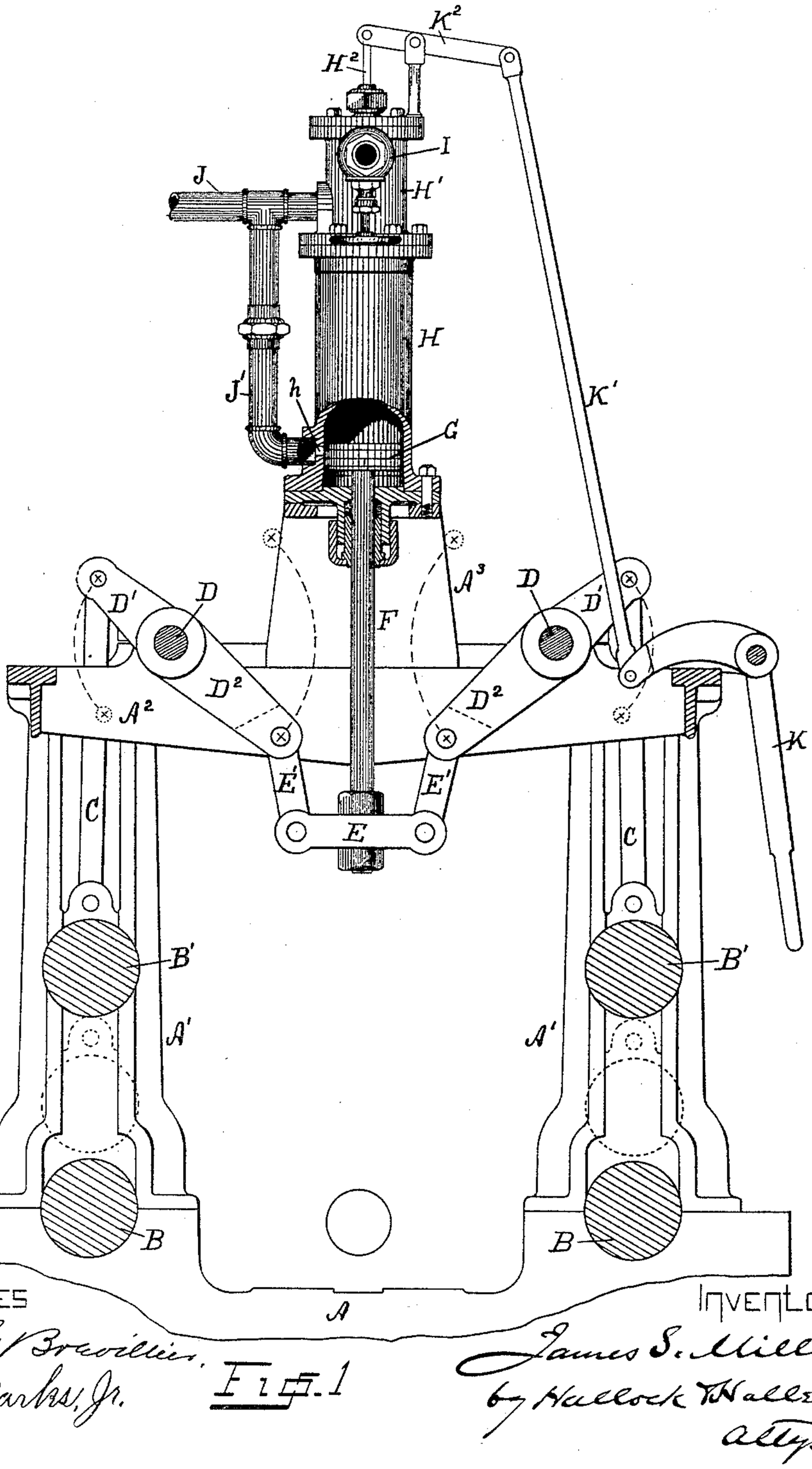
(No Model.)

J. S. MILLER.

LUMBER EDGING MACHINE.

No. 462,213. Patented Oct. 27, 1891.



Witnesses
Chas. G. Brouillet.
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Fig. 1

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UNITED STATES PATENT OFFICE.

JAMES S. MILLER, OF ERIE, PENNSYLVANIA, ASSIGNOR TO THE STEARNS MANUFACTURING COMPANY, OF SAME PLACE.

LUMBER-EDGING MACHINE.

SPECIFICATION forming part of Letters Patent No. 462,213, dated October 27, 1891.

Application filed April 7, 1891. Serial No. 387,927. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. MILLER, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Lumber-Edging Machines; 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.

This invention relates to lumber-edging machines; and it consists in certain improvements in the construction of the same, as will be fully hereinafter set forth and explained, and pointed out in the claims.

The object of the invention is to provide improved means for raising and lowering the upper feed-rolls, which are often called the "press-rolls."

Heretofore the press-rolls of edger-machines have been raised and lowered by hand-worked levers or by various forms of mechanism driven by belts from the adjoining shafting; and in one instance to my knowledge a direct-acting steam-engine has been applied to the machine to operate the rolls vertically. My invention may be considered as an improvement upon the latter type of machine.

My invention is illustrated in the accompanying drawing, which is a vertical longitudinal section of a lumber-edging machine, with my improvement shown thereon, in elevation with the parts broken away to show internal construction.

A A′ A^2 is the frame-work of the machine.

B B are the lower feed-rolls; B′ B′, the upper feed-rolls; C C, the lifting-bars connected with said feed-rolls B′; D D, the rock-shafts, and D′ D′ the crank-arms on said rock-shafts, which connect with said lifting-bars. These parts are all substantially the same as are now often used.

My improvements relate to the means for actuating the rock-shafts D, as follows: At the central part of the machine, preferably, I mount on the top piece A^2 of the frame-work a pedestal A^3, on which is mounted in a vertical position a steam-engine cylinder H, in which is a piston G, whose stem F extends downward. On the lower end of the piston-stem is a cross-tail E, which is connected by links E′ E′ with crank-arms D^2 D^2 on the rock-shafts D. The valve of the engine is in the steam-chest H′, and is operated by its stem H^2 through the levers K and K^2 and rod K′ by the operator, who stands at one side of the machine.

I is the steam-supply pipe, and J J′ the exhaust-pipes. The engine is single-acting, the downward movement of the piston being effected by steam-pressure, the upward movement being effected by the weight of the rollers B′ and atmospheric pressure. The port or passage *h* from the lower end of the cylinder to the branch exhaust-pipe J′ is quite contracted, the object of which is to choke the escape of air from the cylinder when the piston is coming down, so as to prevent a too rapid ascent of the rolls, and I employ a like contracted opening for the exhaust-steam to enter the pipe J to prevent a too rapid descent of the rolls.

The advantages of my construction are numerous and arise from the position of the steam-cylinder. By placing the cylinder vertically midway between the rock-shafts and above the same I am able to connect both of the rock-shafts with the piston-stem directly, while in constructions wherein the cylinder is placed horizontally the piston-stem can be connected with only one rock-shaft, and there must be provided a connection from that rock-shaft to the other. My form is much simpler and cheaper, and in case of lost motion in the connection the effect will be the same on both the pressure-rolls, and they will be moved in perfect parallelism and kept in the same horizontal plane. Another advantage is that the steam-pipes and connections are kept at much higher elevation and do not interfere with the operator.

What I claim as new is—

1. In a lumber-edger, the combination, with the feed-rolls B B and B′ B′, the rock-shafts D D, the crank-arms D′, and connecting-rods or lifting-bars C C for moving said rolls B′ B′

vertically, of a vertically-acting steam-engine placed midway between and above said rock-shafts and connected therewith through the cross-tail E, links E′ E′, and crank-arms D^2 D^2.

2. In a lumber-edger, the combination, with the feed-rolls B B and B′ B′ and the rock-shafts D D, and means for moving said rolls B′ from said rock-shafts, of a single-acting steam-engine placed vertically with its steam end up and its piston-stem down and midway between said rock-shafts and connected therewith through the cross-tail E, links E′ E′, and crank-arms D^2 D^2.

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

JAS. S. MILLER.

Witnesses:
JNO. K. HALLOCK,
WM. MARKS, Jr.