

No. 780,921.

PATENTED JAN. 24, 1905.

W. H. TROUT.  
ADJUSTMENT FOR EDGER PRESS ROLLS.  
APPLICATION FILED FEB. 23, 1904.

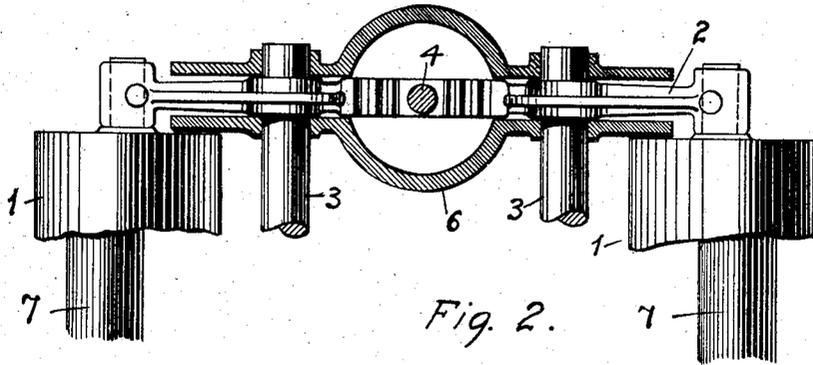


Fig. 2.

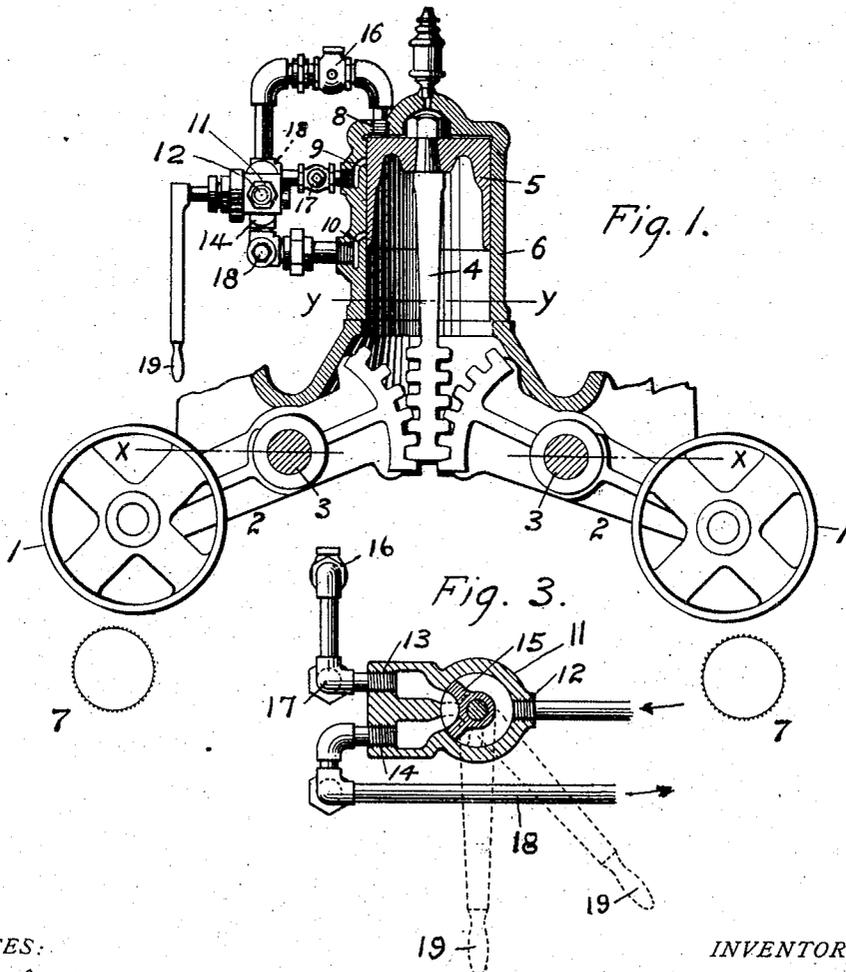


Fig. 1.

Fig. 3.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM H. TROUT, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO ALLIS-CHALMERS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

## ADJUSTMENT FOR EDGER PRESS-ROLLS.

SPECIFICATION forming part of Letters Patent No 780,921, dated January 24, 1905.

Application filed February 23, 1904. Serial No. 194,970.

*To all whom it may concern:*

Be it known that I, WILLIAM H. TROUT, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Adjustments for Edger Press-Rolls, of which the following is a specification.

My invention relates to an adjustment for edger press-rolls; and its object is to provide a steam-power adjustment for lifting the rolls for various thicknesses of lumber.

The construction is described in the following specification and illustrated by the accompanying drawings, in which—

Figure 1 is a sectional end view of the device. Fig. 2 is a sectional plan view on the lines *xxyy*, Fig. 1. Fig. 3 is an enlarged vertical sectional view of the valve and pipe connections.

The press-rolls 1 1 are rotatably mounted in rock-arms 2 2, keyed to shafts 3 3, mounted in the frame. These rock-arms are provided with toothed segments, as best shown in Fig. 1. A double rack upon the free end of the piston-rod 4, attached to the trunk-piston 5 in the cylinder 6, simultaneously engages both segments. The other ends of the press-rolls 1 1 are rotatably mounted in rock-arms (not shown) which are keyed to the shaft 3 3 and are not provided with toothed segments. The vertical reciprocation of the piston and rack simultaneously and equally varies the space between the press-rolls 1 1 and the feed-rolls 7 7. (Shown diagrammatically.) The cylinder is provided with a steam-admission port 8 at the top, an exhaust-port 9, and a release-port 10 at the side, the last being located to release effective pressure from the cylinder at the end of the power-stroke and being also open to the atmosphere through the pipe 18. All these ports are provided with pipe connections leading to a controlling-valve 11. This valve has an inlet-port 12, (see Fig. 3,) connected with the source of steam-supply, a port 13, connecting with admission-port 8 and exhaust-port 9, and a port 14 always open to the atmosphere by a connection with pipe 18. The

valve-block 15 is operated by hand-lever 19 and is constructed to effect connection of ports 13 and 14, and thereby closing off these ports from steam-inlet port 12, (see full line position, Fig. 3,) or the valve-block 15 may be turned by the hand-lever 19 to the position shown in dotted lines, Fig. 3, with the hand-lever in the right-hand position, thus connecting inlet-port 12 with port 13, effecting steam-passage to the cylinder through admission-port 8 and exhaust-port 9 and also closing off the port 14 from exhausting steam.

In the pipe connection, between port 13 and admission-port 8, is located check-valve 16, permitting flow of steam to the cylinder, but preventing flow from it. In the pipe connection, between port 13 and the exhaust-port 9, is located a manually-adjustable throttle-valve 17.

The operation of the device is as follows: When the valve-block 15 is in the full-line position of Fig. 3, the exhaust-port 9 is connected to atmosphere through ports 13 and 14 and pipe 18, and live steam is prevented from passing to the cylinder. Exhaust from the cylinder through admission-port 8 is prevented by the check-valve 16. The piston is therefore forced to its upper position by the weight of the press-rolls 1 1. When the valve-block 15 is moved into the dotted-line position of Fig. 3, the port 13 is in communication with the steam-inlet port 12, and the steam will flow freely past the check-valve 16 and admission-port 8 into the cylinder. The piston will therefore move downward, carrying with it the rack and lifting the press-rolls. When exhaust-port 9 is uncovered by the piston, steam will additionally flow to the cylinder by means of the connection between port 13 and exhaust-port 9; but such flow is necessarily restricted by the throttle-valve 17. When release-port 10 is uncovered by the piston, steam-pressure in the cylinder is partially released therethrough to atmosphere through pipe 18, and sufficient throttling between the end of the piston and the release-port 10 will take place to balance the parts and hold the piston stationary at

the lower end of its stroke. When the valve-block 15 is again returned to its original position, the piston will rise, as above described, and before reaching the exhaust-port 9 the steam above it flows to exhaust, but is being throttled by valve 17, so that a cushioning effect is produced. After the piston cuts off port 9 it will be cushioned by the steam confined in the upper part of the cylinder up to the check-valve 16. This steam will gradually leak out and the press-rolls will rest upon the lumber with the pressure due to their weight only. It will thus be seen that the press-rolls are lifted smoothly and rapidly to allow feeding of lumber of different thickness and are then gently lowered back upon the boards. Moreover, by the release of steam through the release-port 10 the height to which the press-rolls are lifted is automatically limited without shock or jar.

In accordance with the provisions of the patent statutes I have described the principle of operation of my invention, together with the apparatus which I now consider to represent the best improvement thereof; but I desire it to be understood that the apparatus shown is merely illustrative and that the invention can be carried out by other means.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In an edger, adjustable press-rolls, means for adjusting the rolls including a cylinder and piston, means for automatically arresting the piston at the end of the working stroke by releasing effective fluid-pressure from the cylinder independent of the admission of fluid-pressure to the cylinder.

2. In an edger, adjustable press-rolls, means for adjusting the rolls including a cylinder and piston, means for automatically releasing effective fluid-pressure from the cylinder independent of the admission of fluid-pressure to the cylinder.

3. In an edger, adjustable press-rolls, means for adjusting the rolls, including a cylinder and piston, piston-operated means applied to the cylinder for limiting the piston-stroke by releasing effective fluid-pressure from the cylinder.

4. In an edger, press-rolls, means for lifting the press-rolls, including an open-ended cylinder, a trunk-piston therefor, a piston-rod having a double rack, and rock-arms having gear-segments in mesh with the rack.

5. In an edger, a frame, rock-arms on the frame, two opposite press-rolls carried by the rock-arms, gear-segments on the rock-arms, a

piston-rod having a double rack meshing with the gear-segments, a piston for the rod, and a cylinder for the piston mounted on the frame.

6. In an edger, a frame, rock-arms on the frame, two opposite press-rolls carried by the rock-arms, gear-segments on the rock-arms, a piston-rod having a double rack meshing with the gear-segments, a trunk-piston for the rod, and a cylinder for the piston mounted on the frame.

7. In an edger, adjustable press-rolls, a cylinder, a piston therein, connections between the piston and press-rolls for adjusting the said rolls, an admission-port for the cylinder, and a piston-controlled release-port.

8. In an edger, a frame, a cylinder on the frame, a piston in the cylinder, two opposite press-rolls movably mounted on the frame, connections between the piston and press-rolls for simultaneously moving the rolls, an admission-port, a release-port, an exhaust-port intermediate the admission and release ports, both the exhaust and release ports being controlled by the piston, a manually-controlled valve, a steam-inlet therefor, connections between the valve and the admission and exhaust ports to admit steam to the admission and exhaust ports in one position of the valve, and to exhaust steam from the exhaust-port in another position of the valve, and a check-valve in the connections closing against the controlled valve and opening toward the admission-port.

9. In an edger, a frame, a cylinder on the frame, a piston in the cylinder, two opposite press-rolls movably mounted on the frame, connections between the piston and press-rolls for simultaneously moving the rolls, an admission-port, a release-port, an exhaust-port intermediate the admission and release ports, both the exhaust and release ports being controlled by the piston, a manually-controlled valve, a steam-inlet therefor, connections between the valve and the admission and exhaust ports to admit steam to the admission and exhaust ports in one position of the valve, and to exhaust steam from the exhaust-port in another position of the valve, a check-valve in the connections closing against the controlled valve and opening toward the admission-port, and a throttle-valve in the connections for the exhaust.

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

WILLIAM H. TROUT.

Witnesses:

JOHN LUND,  
PETER J. SCHLOEMER.