No. 775,576. PATENTED NOV. 22, 1904.

R. L. NEUBERT.

SAWMILL.

APPLICATION FILED JUNE 5, 1903.

NO MODEL. 4 SHEETS—SHEET 1.

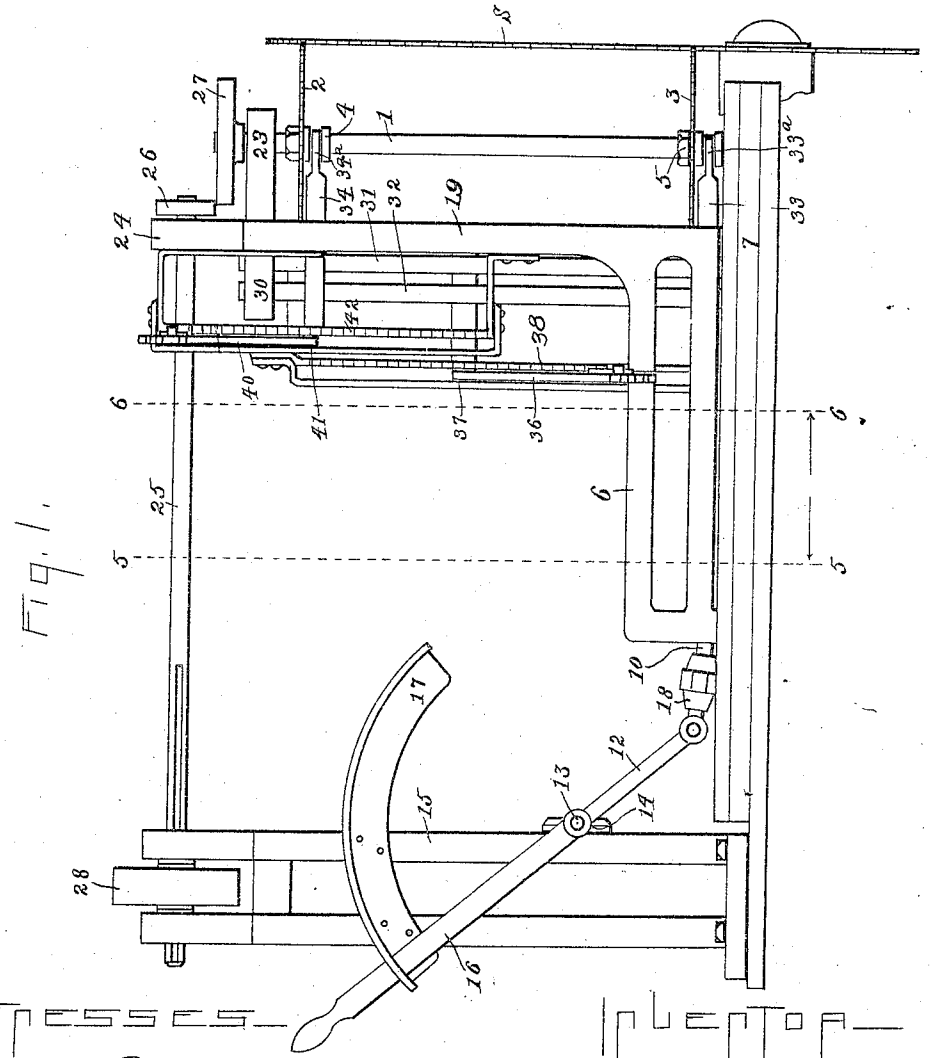


Fig. 1.

Witnesses—
Carrie R. Ivy.
J. B. James

Inventor—
Richard L. Neubert
By Cyrus Kehr
Atty.

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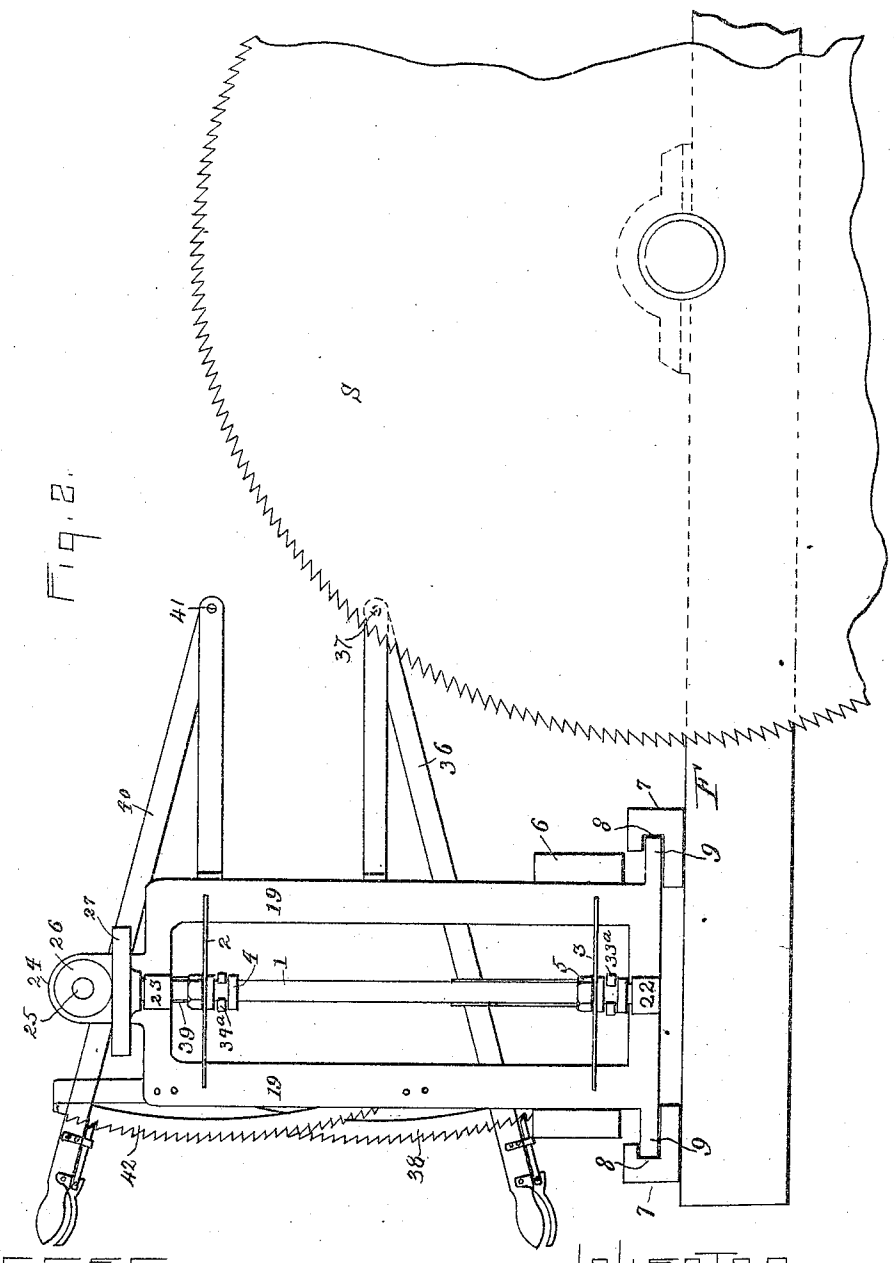
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APPLICATION FILED JUNE 5, 1903.

NO MODEL. 4 SHEETS—SHEET 2.

Fig. 2.



Witnesses—

Carrie R. Ivy

J. B. Jones

Inventor—

Richard L. Neubert

By Cyrus Keller

Atty.

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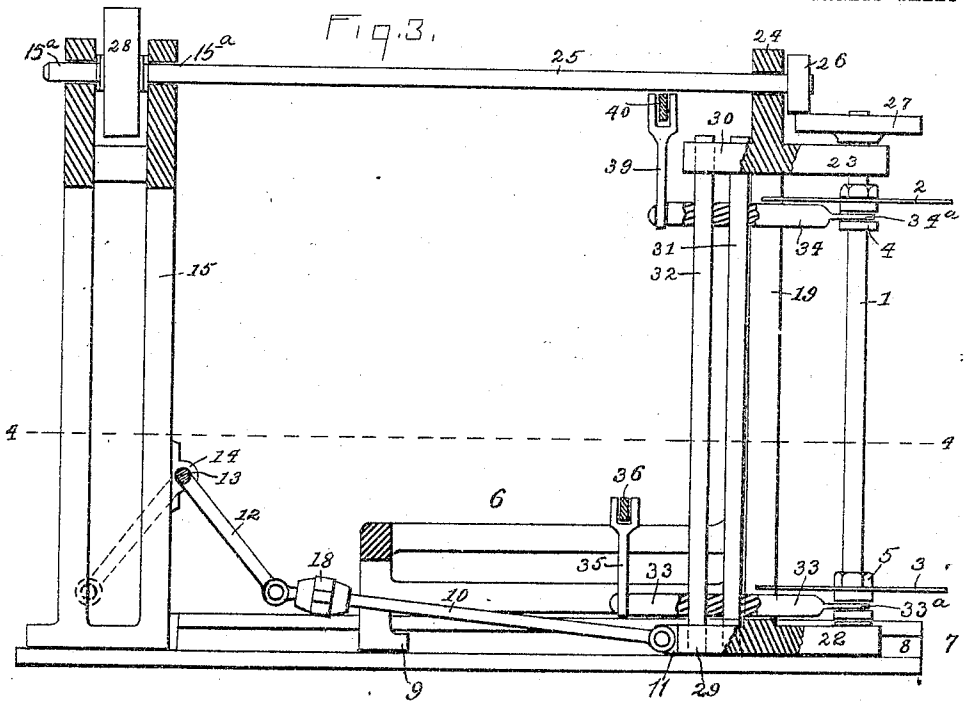
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NO MODEL. 4 SHEETS—SHEET 3.

Fig. 3.



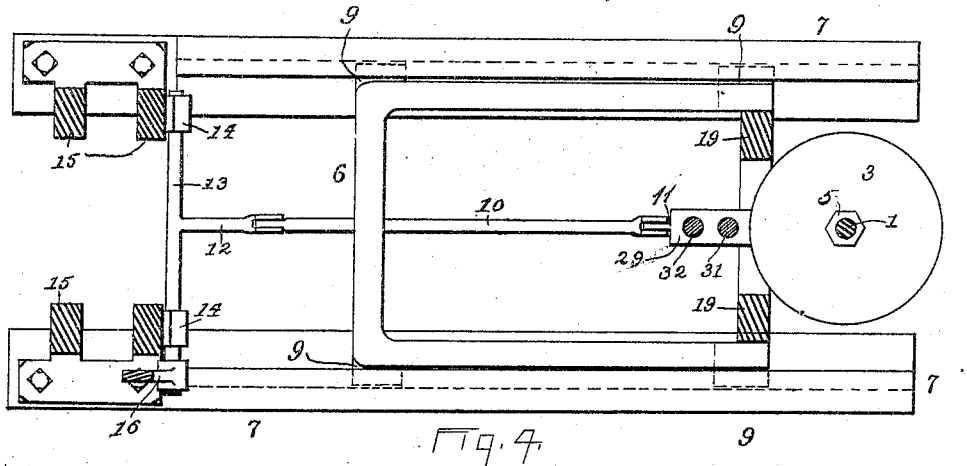


Fig. 4.

Witnesses—

Carrie R. Ivy

J. B. James

Inventor—

Richard L. Neubert

By Cyrus Keller

Atty.

No. 775,576. PATENTED NOV. 22, 1904.

R. L. NEUBERT.

SAWMILL.

APPLICATION FILED JUNE 5, 1903.

NO MODEL. 4 SHEETS—SHEET 4.

Fig. 4.

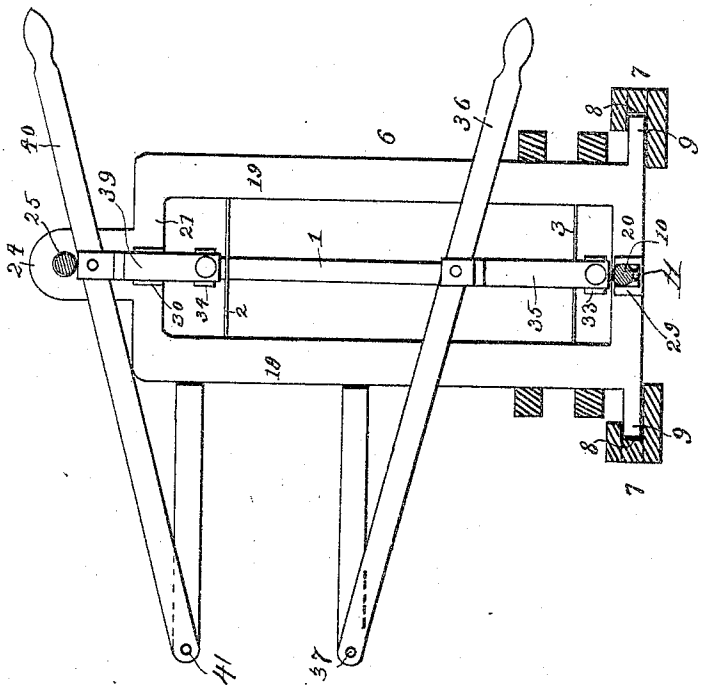
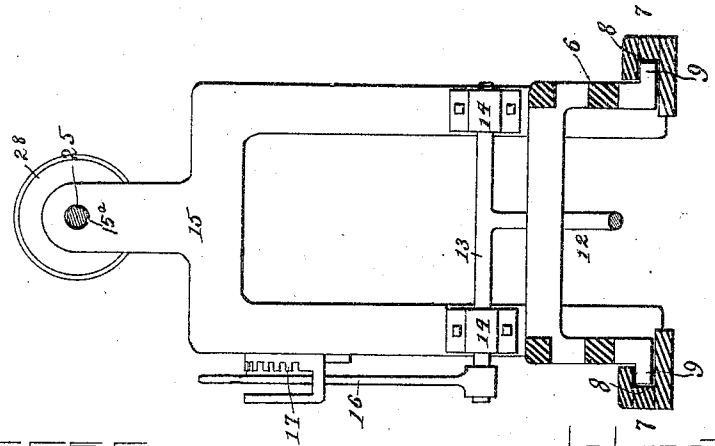


Fig. 5.



Witnesses—

Carrie R. Ivy.

J. B. Evans

Inventor—

Richard L. Neubert

By Cyrus Keller

Atty.

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No. 775,576. Patented November 22, 1904.

UNITED STATES PATENT OFFICE.

RICHARD L. NEUBERT, OF KNOXVILLE, TENNESSEE.

SAWMILL.

SPECIFICATION forming part of Letters Patent No. 775,576, dated November 22, 1904.

Application filed June 5, 1903. Serial No. 160,185. (No model.)

To all whom it may concern:

Be it known that I, RICHARD L. NEUBERT, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Improvement in Sawmills, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates particularly to sawmills in which provision is made for simultaneously making cuts in planes which are at right angles to each other and parallel to the length of the log, whereby a section may be cut the full width of a log by one saw and by one or more saws set in planes intersecting the plane of the first saw, the piece severed by the first saw being severed lengthwise into pieces of any desired width.

The object of the invention is chiefly to provide mechanism comprising saws which are readily and easily adjustable for "edging" boards as they are being sawed from a log. Inasmuch as each board cut from the log varies in width from the board preceding or following it, it is necessary to closely readjust the edging-saws with each shift of the log for the cutting of a new board.

In addition to the mechanism making possible a prompt and accurate setting of each of the edge-saws the machine comprises mechanism for moving the edge-saws toward and from the log, setting the saws near enough to the log for making the desired depth of cut or shifting the saws and all the parts directly connected therewith completely away from and out of the range of the log and the carriage upon which the log is supported.

In the accompanying drawings, Figure 1 is a side elevation of an apparatus embodying my improvement. Fig. 2 is a front elevation. Fig. 3 is a longitudinal central section. Fig. 4 is a horizontal section on the line 4 4 of Fig. 3. Fig. 5 is a section on the line 5 5 of Fig. 1 looking in the direction of the arrow. Fig. 6 is a vertical section on the line 6 6 of Fig. 1.

Referring to said drawings, 1 is a vertical arbor which is surrounded by circular saws 2 and 3, secured, respectively, by key-seated hubs 4 and 5, surrounding and adapted to slide vertically upon said arbor. Said arbor and mechanism for manually raising and lowering said saws to any chosen positions within the limit of the length of said arbor are supported upon a carriage 6, which is in turn slidably supported upon the parallel horizontal carriage ways or rails 7. Said ways or rails 7 form a base for the seating of my improvement upon the frame F of the sawmill, as shown in Fig. 2 of the drawings. Thus my improvement is adapted to use as an attachment to sawmills having only the large upright saw S. Said carriage ways or rails are preferably provided with a horizontal longitudinal groove 8, opening toward the other of said rails. Said carriage has at its base the laterally-directed feet 9, extending into said grooves 8, the height and transverse length of said feet being such as to closely fit into said grooves without binding therein, to the end that said carriage may be firmly held in any chosen position upon said ways and yet permit said carriage to slide upon said ways without the application of large power.

Any suitable mechanism may be employed for the shifting of said carriage and securing it in the desired position. The drawings show a connecting-rod 10, hinged by one end to the arm 11 of the carriage and by the other end to the arm 12 of a rock-shaft 13, which extends horizontally and transversely across the carriage-track and is secured in bearings 14 upon the upright stationary arched frame 15. By means of a lever 16, secured to said rock-shaft and in the rack 17, the rock-shaft may be rotated and the connecting-rod and the carriage reciprocated. By engaging said lever on said rack the carriage may be secured in the positions determined by the notches in said rack. To provide for placing the cutting edge of the saws into the precise position relative to the large saw S required for accurate work, the adjustment afforded by said rack and lever is supplemented by a screw adjustment located somewhere between said lever and the carriage. The turnbuckle or tubular nut 18 on the connecting-rod 10 is such a screw adjustment.

The carriage comprises two uprights 19 and

a horizontal member 20, extending from one rail 7 to the other and joining said uprights. At the top a similar member 21 connects said uprights. From the member 20 the forward feet 9 extend into the grooves 8 of the rails 7, and from the middle of said member 20 an arm 22 extends forward horizontally and forms a bearing for the lower end of the saw-arbor, and from the middle of the member 21 a similar arm 23 extends horizontally forward and forms a bearing for the upper end of said arbor. At the middle of said upper member an extension 24 rises and forms a bearing for the forward end of a horizontal shaft 25, the other end of which is seated in one or more bearings in the upper portion of the arched frame 15. Upon the forward end of the shaft 25 is a friction-wheel 26, which engages a similar friction-wheel 27, secured to the upper end of the saw-arbor. A band-wheel 28 surrounds the shaft 25 at the frame 15. Said wheel is key-seated upon said shaft, and said shaft is arranged to slide through the bearing or bearings 15^a on the frame 15. This permits said shaft to slide through said bearings and band-wheel when the carriage 6 is shifted horizontally toward and from said frame 15.

From the middle of the horizontal member 20 an arm 29 extends horizontally rearward, and a similar arm 30 extends horizontally rearward from the horizontal member 21. Immovable vertical shafts or columns 31 and 32 extend from one of said arms to the other and stand at a short distance from each other, and said columns extend loosely through horizontal vertically-slidable saw-supports. The lower of said supports, 33, has fingers 33^a extending into the groove of the hub of the lower saw, and the upper of said supports, 34, has similar fingers 34^a extending into the groove of the upper saw. By sliding said supports up or down upon the guide formed by the columns 31 and 32 said saws may be brought to any desired elevation within the range permitted by the clear portion of the arbor and said columns.

To the inner end of the lower saw-support 33 a link 35 is pivoted by one end and extends thence upward and is pivoted by its other end to the horizontal lever 36, which is hinged by its outer end at 37 and arranged for engagement upon the notched rack 38. The upper saw-support 34 is similarly connected by a link 39, which is similarly joined to a lever 40, hinged at 41 and adapted for engagement with a rack 42. By shifting the levers 36 and 40 the saws may be raised or lowered to the desired positions, and the two saws may be moved simultaneously, one hand of the operator taking one of said levers and the other hand taking the other of said levers, and this adjustment can be effected speedily. While the log is running back upon its rack to begin a new cut the operator may raise and lower the edging-saws by observing the highest and lowest points which must form the edges of the next board. Thus by the time the log is again ready for the next vertical cut the edge-saws are accurately set.

By means of the lever 16 the carriage may be quickly thrown rearward whenever it is desired to bring the edging-saws out of action or out of the range of the log or log-carriage.

If so desired, more saws may be placed upon the arbor, and corresponding saw-supports, links, levers, and racks may be added for the manipulation of said saws.

It is obvious that a single angular or grooved column may be used instead of the two columns 31 and 32.

I claim as my invention—

1. In an attachment for sawmills, the combination of parallel ways or rails constituting a base for seating the attachment upon the frame of a sawmill, a carriage having feet engaging with said ways, and said carriage comprising two uprights, 19, joined below by a horizontal member, 20, and above by a horizontal member, 21, arms, 22 and 23, extending forward, respectively, from the members, 20 and 21, an arbor journaled in said arms, and vertically-adjustable saws secured to said arbor.

2. In an attachment for sawmills, the combination of parallel ways or rails constituting a base for seating the attachment upon the frame of a sawmill, a carriage having feet engaging said ways, and said carriage comprising two uprights, 19, joined below by a horizontal member, 20, and above by a horizontal member, 21, arms, 22 and 23, extending forward, respectively, from the members, 20 and 21, an arbor journaled to said arms, vertically-adjustable saws secured to said arbor, arms, 29 and 30, extending rearward, respectively, from said members, 20 and 21, a column supported by said arms, 29 and 30, and supports vertically movable upon said column and engaging the saws on said arbor.

3. In an attachment for sawmills, the combination of parallel ways or rails constituting a base for seating the attachment upon the frame of a sawmill, a carriage having feet engaging with said ways, and said carriage comprising two forward-directed arms, 22 and 23, and an upward extension, 24, a saw-arbor vertically journaled in said forward-directed arms, and extending above the uppermost of said arms, a gear-wheel applied to the upper end of said arbor, a horizontal shaft extending non-slidably through a bearing in said extension, 24, a gear-wheel applied to the end of said shaft adjacent to and engaging the gear-wheel on said arbor, a fixed bearing adjacent to said carriage and slidably receiving said horizontal shaft, and a pulley key-seated upon said shaft.

4. In an attachment for sawmills, the combination of parallel ways or rails constituting a base for seating the attachment upon the frame of a sawmill, a stationary frame, 15, having horizontal bearings, 15^a, a carriage located upon said ways, an upright saw-arbor supported by said carriage, a gear-wheel applied to the upper end of said arbor, a horizontal shaft extending slidably through said bearings, 15^a, and non-slidably through a bearing on said carriage, a gear-wheel applied to said shaft in engagement with the gear-wheel on said arbor, and a pulley key-seated upon said shaft between said bearings, 15^a.

In testimony whereof I have signed my name, in presence of two witnesses, this 30th day of May, 1903.

RICHARD L. NEUBERT.

Witnesses:
M. F. FLENNIKEN,
CYRUS KEHR.