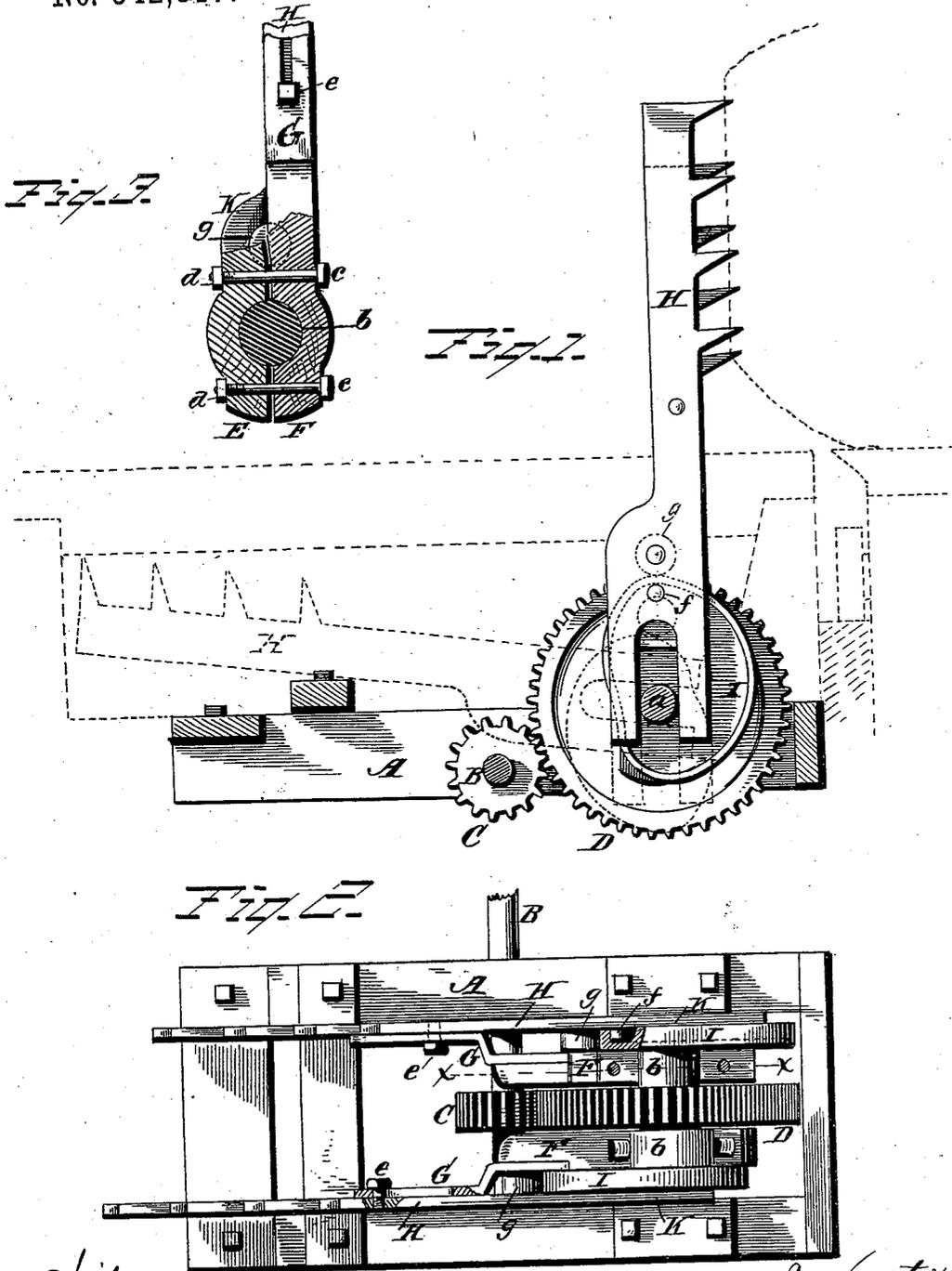


(No Model.)

J. VANDERVORT, J. D. OWEN & A. L. VANDERVORT.
DEVICE FOR ROLLING LOGS.

No. 542,817.

Patented July 16, 1895.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN VANDERVORT, JAMES D. OWEN, AND ARTHUR L. VANDERVORT, OF
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DEVICE FOR ROLLING LOGS.

SPECIFICATION forming part of Letters Patent No. 542,817, dated July 16, 1895.

Application filed June 5, 1894. Serial No. 513,535. (No model.)

To all whom it may concern:

Be it known that we, JOHN VANDERVORT, JAMES D. OWEN, and ARTHUR L. VANDERVORT, citizens of the United States, residing at Laceyville, in the county of Wyoming and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Rolling Logs; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has for its object to provide a device for rolling logs onto sawmill-carriages that will possess strength, be simple in construction, and effective in its operation, and enable the log to be turned continuously for any length of time that the operator may desire and be held secure while being operated by the device, which is entirely above the floor, and consequently can be operated equally as well in a mill close to the ground as one setting up from the ground.

These several objects above enumerated are attained by a device constructed substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings represents a longitudinal section of our improved device for turning logs, showing the tooth-bars in two positions in dotted and full lines, respectively, also a portion of the log and sawmill-carriage in dotted lines; Fig. 2, a plan view of the device; Fig. 3, a detail sectional view on line $x x$ of Fig. 2.

In the accompanying drawings, A represents a suitable frame to which the several operating parts of the device are connected, and may be of any desirable size and construction as found best adapted to the purpose. This frame rests upon the floor and is located between the skids over which the logs are rolled with front end close to the carriage-track.

A shaft B has its bearings in the frame A and is provided with a pinion C, which meshes with the teeth of a gear-wheel D, said shaft extending along the floor to the saw-frame, where it is connected with the saw-

mandrel by means of suitable gearing or any well-known means by which a reversible motion may be obtained.

The gear-wheel D is cast with the shaft a or otherwise rigidly secured thereon, and has a hub or enlargement b upon the sides thereof, which diameter is greater than that of the shaft, as shown in Fig. 3 of the drawings. Over these enlarged extensions or hub of the gear-wheel are secured frictional boxes, which are constructed of wood and formed of two sections E F, connected together by bolts c and nuts d , engaging with the screw-threaded ends of the bolts. To the sections F of these frictional boxes are secured slotted plates G, and these plates connect with the tooth-bars H by means of screws e , which extend through the slots in the plates and engage with screw-threaded holes in the bars, as shown in Fig. 2 of the drawings. The slotted plates G project outward along the sides of the toothed bars H any desired distance, and by means of the screws e move the bars back and forth in bringing them into and moving them back out of action. The two sections E F clamp the enlarged part of the shaft between them with sufficient force to turn with the shaft either forward or back, as far as they are permitted to move, but not to interfere with the movement of the shaft. When the shaft is revolved forward the sections are raised by frictional contact alone with the shaft into the position shown in solid lines in Figs. 1 and 3, carrying the toothed bars H through the plates G with them, and when the shaft is revolved backward the sections, plates, and bars are moved back into the position shown in dotted lines in Fig. 1 and solid lines in Fig. 2. The sections E F and slotted plates G control the toothed bars H and serve as guides, upon which they move as they are reciprocated by their cams.

The ends of the hub or enlargements b are cast or otherwise suitably provided with cams I, which turns with the shaft a and operate in connection with the pins f upon the inner sides of the tooth-bars to alternately control the motion thereof. The tooth-bars have antifriiction-rollers g , which bear against the periphery of the cams and are located

upon the bars directly opposite the pins *f*, whereby a steady motion is given to the bars when in operation.

The tooth-bars *H* have slotted ends or yokes *K*, which fit over the shaft *a*, as shown in Fig. 1 of the drawings, and if preferred the teeth of the bars may be made separate and afterward suitably connected thereto instead of being cast with the bars.

It will be seen from the construction and means herein described that the tooth-bars are lifted by means of the cams and their connections therewith, and the cams so arranged with relation to each other that while one bar is moving up the other is moving down, thereby enabling the log to be kept on a continuous rolling motion.

When tightening the sections *E F* of the boxes by means of the bolts and nuts, the friction between the boxes and hubs or enlargements *b* will be correspondingly increased. The friction created by these wooden sections of the boxes with the hub or enlargements *b* is sufficient to lift and carry the tooth-bars over until the teeth thereof come in contact with the log and produce sufficient resistance to overcome the frictional resistance of the boxes upon the hub or enlargements *b*, thus enabling the latter to turn inside the boxes.

By the turning of the hub or enlargements *b* and also the shaft *a*, the cams *I* will be operated and their connection with the tooth-bars hereinbefore described will impart to the bars an up and down or vertical reciprocating motion and alternately, thereby imparting to the log a continuous rolling motion and at the same time holding the teeth firmly to the log. When the tooth-bars are in the position shown in dotted lines of Fig. 1, the bars are below the skids and entirely out of the way of the log and as soon as the log has passed the tooth-bars the device is put in motion by means of a suitable lever, the teeth catching on the log and keeping it rolling as long as required. When the log is in position for "dogging," the operator may let go the lever and the device will hold the log firmly to the knees.

Any number of tooth-bars may be employed and any suitable form and construction of cams may be substituted for those shown, and any desirable connections between the tooth-bars and cams may be used, as well as any form of frictional devices may be employed and any preferred and well-known means for connecting them with the tooth-bars.

We do not wish to restrict ourselves to any special means for bringing the tooth-bars from a substantially horizontal position to that of an upright or vertical position to engage with the log and afterward imparting to the bars an alternately vertically-reciprocating motion to roll the log along, as these features of the invention are the essential ones that render the device valuable and important as a log-roller. Therefore any changes in the details of construction whereby these

features of the invention are not affected may be made without departing from the principle of the invention.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The toothed bars, having slots in their ends, and means for engaging with the cams, the shaft passing through the slots, the cams secured to the shaft, and the operating wheels, the toothed bars being made to move in opposite directions, all combined to operate substantially as shown.

2. The shaft *a*, the toothed bars, and means secured to the shaft for causing the toothed bars to reciprocate, combined with the friction blocks or sections applied to the shaft, and connected at their outer ends to the bars, so as to move them into and out of action, substantially as described.

3. The toothed bars, slotted at their inner ends and each provided with a pin, or stud, and a friction roller; combined with the cams, secured to the operating shaft and which move the toothed rods in opposite directions; the shaft, provided with a driving wheel; and friction blocks applied to the shaft, and loosely connected at their outer ends to the toothed bars, so as to form supports therefor, substantially as set forth.

4. In a log roller the shaft *a* provided with the enlarged parts *b*, and having the wheel *D*, and the two cams *I* secured thereto; combined with the friction blocks secured to the enlarged parts of the shaft, and having slotted arms at their outer ends, and the toothed bars, slotted at their inner ends so as to pass over the shaft, provided with means for engaging with the cams, and loosely connected to the slotted arms of the friction blocks, substantially as specified.

5. A device for rolling logs, consisting of a suitable frame, a rotatable shaft having cams connected thereto, tooth-bars connecting with the cams, and frictional boxes or devices connecting the tooth-bars with the shaft, substantially as and for the purpose specified.

6. A device for rolling logs, consisting of a suitable frame, a rotatable shaft having cams connected thereto, tooth-bars connecting with the cams, whereby a vertically and alternately reciprocating motion is imparted thereto, and sectional friction boxes connecting the shaft with the tooth-bars, and suitable gearing for imparting to the shaft a rotary motion, substantially as and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

JOHN VANDERVORT.
JAMES D. OWEN.
ARTHUR L. VANDERVORT.

Witnesses:

J. B. EDWARDS,
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