March 25, 1941. W. H. BEANE 2,235,913

LOG ROLLER

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FIG. 1.

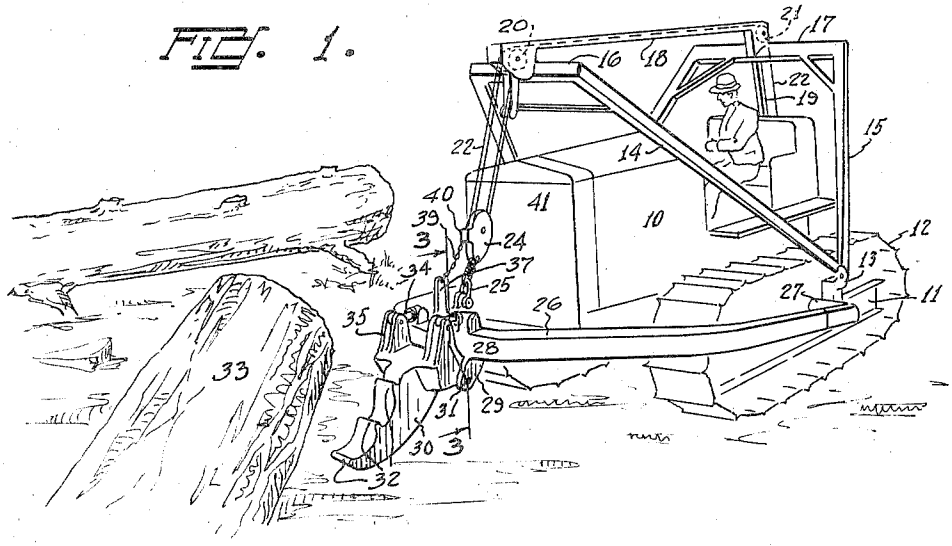

FIG. 2.

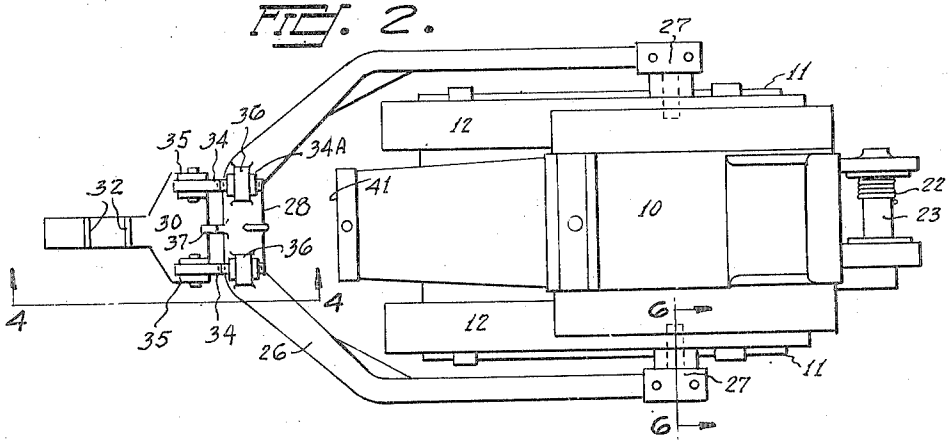

FIG. 3.

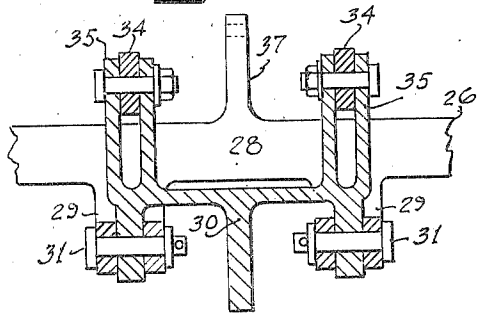

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FIG. 4.

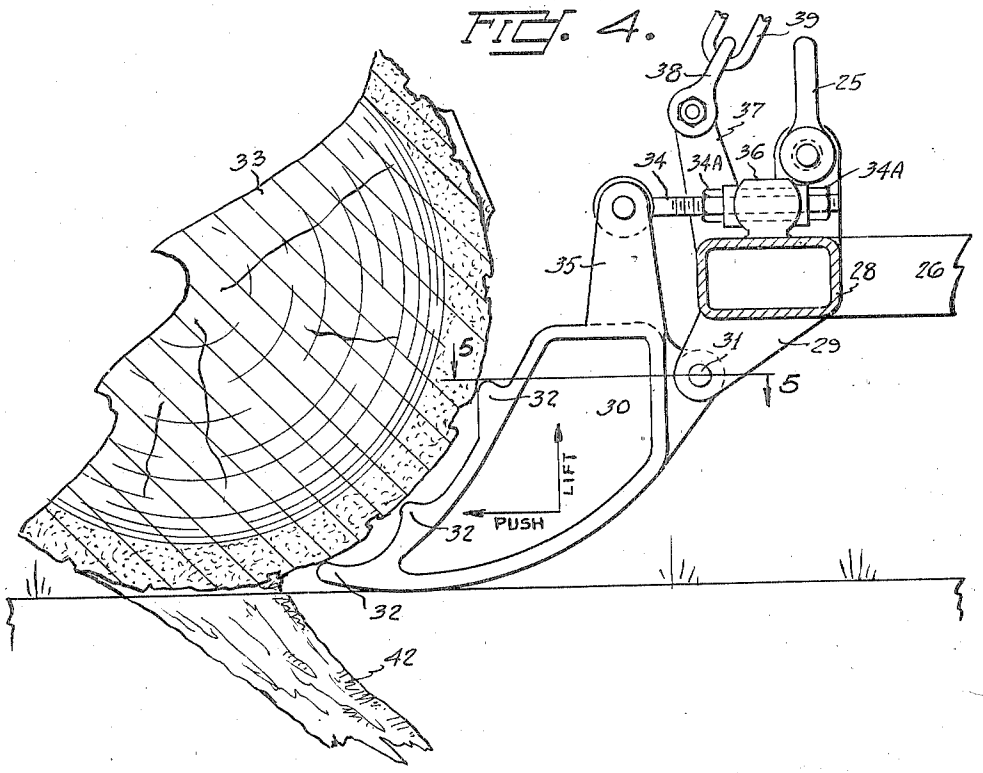


FIG. 6.

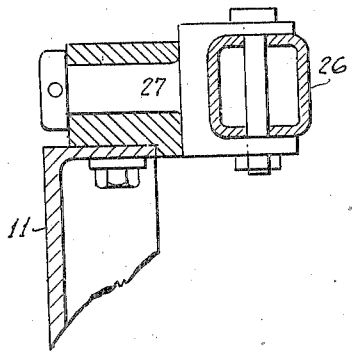
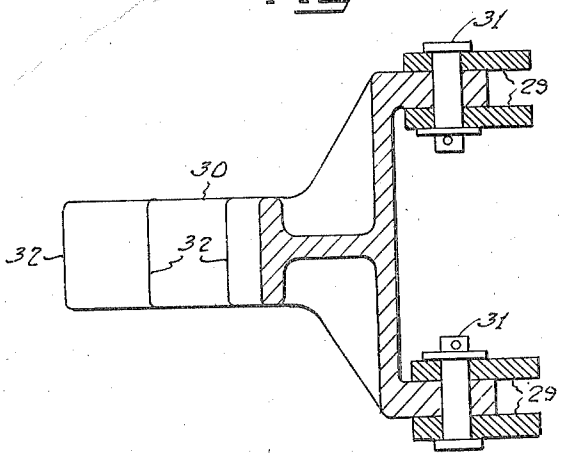


FIG. 5.



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2,235,913

LOG ROLLER

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Application June 20, 1939, Serial No. 280,095

4 Claims. (Cl. 214—130)

This invention relates generally to the logging industry, and particularly to a log roller.

Before entering into an explanation of this invention, it will be understood that when logging timber of a considerable size, it is the duty of the fallers to fell the tree, buck it in required lengths and cut off the limbs on the exposed surface. This is called limbing three sides or the top and both sides of the tree. Obviously, the "knotter" is unable to cut the limbs on the other side. When the logs are moved to the landing for loading, they not only skid hard but tear up the skid trails and landings and the loading crews are consequently delayed by waiting on the "knotters" who are called on to cut off the remaining limbs as they become exposed. To roll these logs over and knot them in the woods is a time and cost saver. This has been done in the past by using a swamp hook and cable attached to the Caterpillar. However, this requires two men on the ground and it is hard work climbing around through the brush.

The main object of my invention is to provide a mechanical log roller which performs its work with only the Caterpillar operator for man power and by means of which it is possible to roll a log any desired amount or push it for skidding with the expenditure of a minimum amount of time and effort on the part of the crew and equipment.

The second object is to construct a log roller which is merely an attachment for an ordinary track laying tractor whose log engaging jaw can be so positioned and manipulated as to obtain any desired rolling and positioning action.

These and other objects are accomplished in the manner set forth in the following specification as illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of the device showing the equipment moving into position against a log.

Fig. 2 is a plan of the device.

Fig. 3 is a section taken along the line 3—3 in Fig. 1.

Fig. 4 is a vertical section taken along the line 4—4 in Fig. 2.

Fig. 5 is a section taken along the line 5—5 in Fig. 4.

Fig. 6 is a fragmentary section taken along the line 6—6 in Fig. 2.

Similar numerals refer to similar parts throughout the several views.

Referring in detail to the drawings, there is shown a tractor 10 whose frame 11 is supported by the track laying elements 12. On the sides of the frame 11 are mounted the brackets 13 to which are hinged the arches 14 and 15 whose upper ends 16 and 17 are united by the longitudinal tie 18. The arch 15 is tied to the frame 11 by means of the strut 19. Double sheaves 20 are mounted at the forward end of the tie 18 and the single sheave 21 is mounted at the rear end of the tie 18 and a cable 22 passes around the sheaves 20 and 21 and winds upon the drum 23 which is operated from the power plant of the Caterpillar in the conventional manner (not shown).

The cable 22 also passes through the double block 24 which is attached by means of a clevis 25 to the movable arch 26 which extends in front of the tractor and is hinged at its ends 27 to the tractor frame 11. Extending downwardly from the forward end 28 of the arch 26 are the lugs 29 between which is pivotally mounted the jaw 30 on the pin 31. The jaw 30 is provided with a plurality of teeth 32, the purpose of which is to engage the log 33 and assist in rolling or positioning same.

The angularity of the jaw 30 with relation to the arch 26 is determined by the eye bolts 34 which are attached to the upper ends of the arms 35 and pass through the ears 36 which project upwardly from the end 28 of the arch 26. Nuts 34A are used to adjust the bolt 34.

There is also provided an upright post 37 which is integral with the end 28 and has attached thereto a clevis 38 which is attached by the chain 39 to the eye 40 of the block 24, the main purpose of which is to prevent a rebound of the block 24 from injuring the radiator 41 of the tractor 10.

The operation of the device is as follows:

Assuming that the log 33 has a limb 42 on its underside as shown in Fig. 4 and it is desired to turn the log 33 in order that the "knotter may cut the limb 42 therefrom, the operator of the tractor 10 moves the tractor into position, for example as shown in Fig. 1, until the jaw 30 assumes the position shown in Fig. 4. He accomplishes this by manipulating the arch 26 by winding or unwinding the cable 22 and moving the tractor 10 along the ground. When the jaw 30 is in the desired position, either a pushing or a lifting movement or both, as may be required, will cause the log 33 to roll until the limb 42 is in an exposed position.

Obviously, the same device may be employed to gather the logs into a desired relationship for collective skidding or loading.

I am aware that bulldozers and graders and other pushing implements have been constructed in the past. Such devices would not however be satisfactory for use in log turning or positioning

owing to the fact that they have relatively great breadth and would encounter the projecting limbs and prevent the rolling of the log instead of producing such action.

I claim:

1. A log roller having in combination a land travelling vehicle and a narrow inclined jaw projecting forwardly from said vehicle means for varying the angularity of said jaw with relation to the ground together with means for raising and lowering said jaw while said vehicle is being operated.

2. A log rolling device consisting of a land travelling vehicle in combination with an arch hinged to said vehicle forwardly thereof, a jaw projecting forwardly and downwardly from the forward end of said arch means for varying the angularity between said jaw and arch and means for raising and lowering the forward end of said arch.

3. A log rolling mechanism having in combination a land travelling vehicle having hinged to the sides thereof and extending around its forward end an arch, a cable winding mechanism actuated by the prime mover of said land travelling unit adapted to raise and lower said arch, an inclined jaw having its forward side serrated extending in front of the forward end of said arch and having means for adjusting the angularity of said jaw with relation to said arch.

4. In a log turning device the combination of a land travelling vehicle having an arched frame extending around the front thereof and hinged to the sides thereof, a stationary arched frame extending above said land travelling vehicle and supported thereby, a cable winding mechanism on said vehicle having its cable supported by said last mentioned arch and attached to the first mentioned arch for the purpose of controlling the elevation thereof and a log engaging jaw attached to and extending forwardly from the forward end of said first mentioned arch.

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