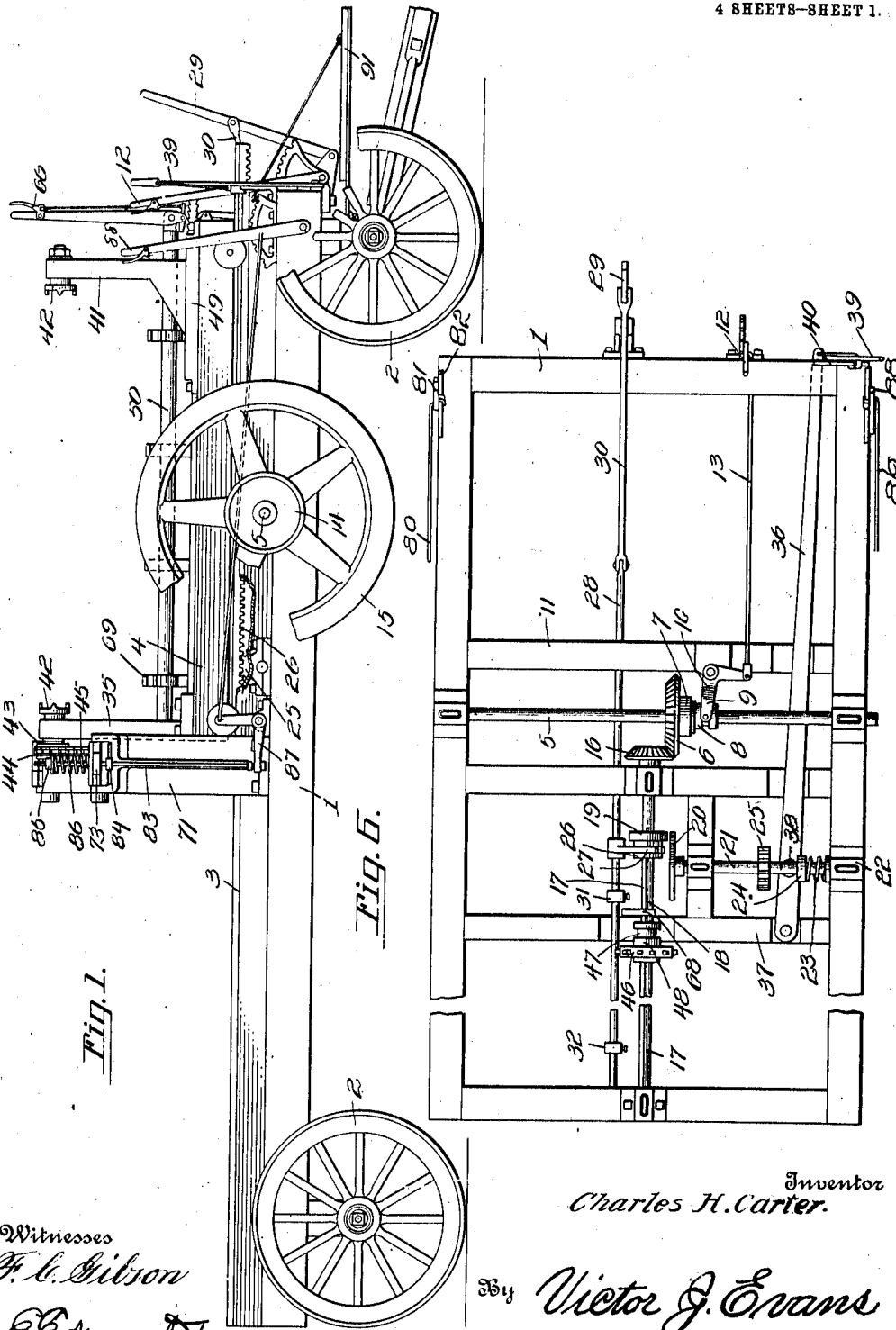


C. H. CARTER.
WOOD SKINNING MACHINE.
APPLICATION FILED SEPT. 16, 1910.

988,860.

Patented Apr. 4, 1911.

4 SHEETS-SHEET 1.



Witnesses
F. L. Gibson
E. Edmonstone

Inventor
Charles H. Carter.

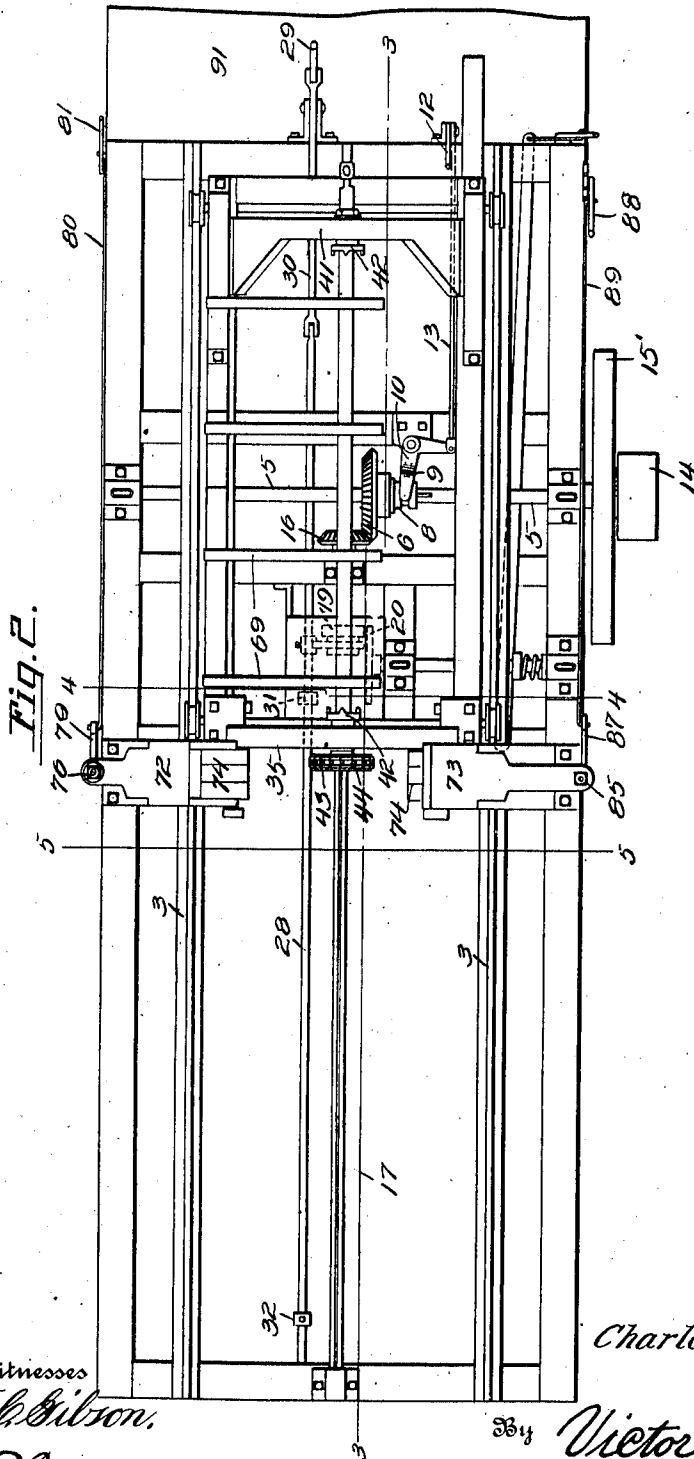
By Victor J. Evans
Attorney

C. H. CARTER.
WOOD SKINNING MACHINE.
APPLICATION FILED SEPT. 15, 1910.

988,860.

Patented Apr. 4, 1911.

4 SHEETS—SHEET 2.



Witnesses
F. L. Gibson.

E. Edwards

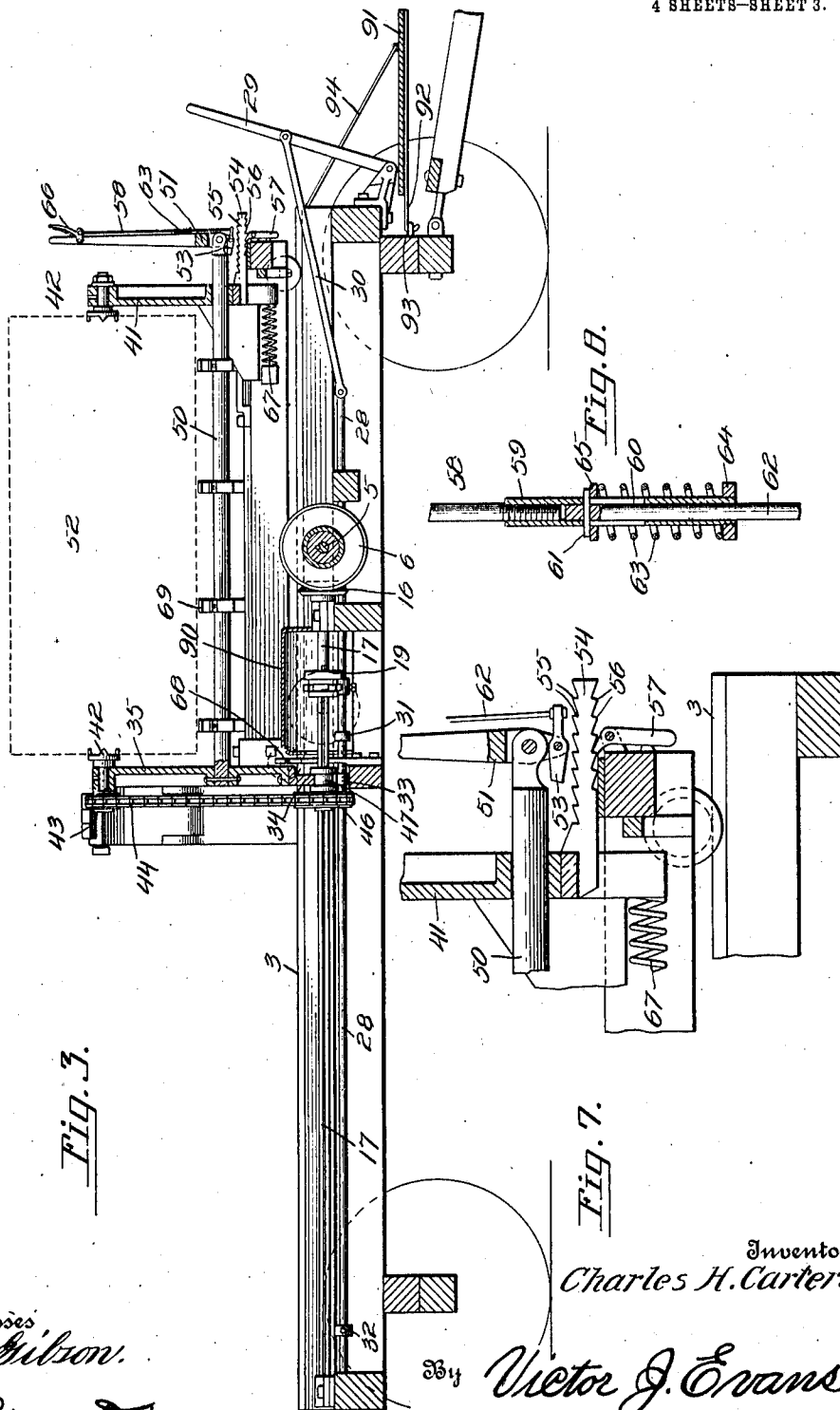
Inventor
Charles H. Carter.

By Victor J. Evans
Attorney

C. H. CARTER.
WOOD SKINNING MACHINE.
APPLICATION FILED SEPT. 15, 1910.

988,860.

Patented Apr. 4, 1911.
4 SHEETS—SHEET 3.



Witnesses:
F. A. Wilson.
Edw. J. Evans

Inventor
Charles H. Carter.

Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

CHARLES H. CARTER, OF FARMERS FORK, VIRGINIA.

WOOD-SKINNING MACHINE.

988,860.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed September-15, 1910. Serial No. 582,237.

To all whom it may concern:

Be it known that E. CHARLES H. CARTER, a citizen of the United States, residing at Farmers Fork, in the county of Richmond and State of Virginia, have invented new and useful Improvements in Wood-Skinning Machines, of which the following is a specification.

This invention relates to wood skinning machines and the object of the invention is the provision of a portable wood skinning machine which may be readily transported from place to place and which will effectually remove the bark from logs so that they may be utilized for purposes of making wood pulp.

A further object of the invention is the provision of a pair of stationary knives and a reciprocating log carriage together with means to rotate the log and automatically dump the same from the carriage after the knives have performed their function.

A still further object of the invention is the provision of a portable truck having an automatically reciprocated log carriage mounted thereon together with log rotating mechanism which acts in conjunction with stationary knives to remove the bark from the log and further means to dump the log after being treated by the knives.

Further objects of the invention will appear as the following specific description is read in connection with the accompanying drawing which forms a part of this application, and in which:

Figure 1 is a side elevation with parts broken away. Fig. 2 is a top plan view with the traction wheels removed. Fig. 3 is a longitudinal section taken on the line 3—3 of Fig. 2. Fig. 4 is a transverse section taken on the line 4—4 of Fig. 2. Fig. 5 is a similar section taken on the line 5—5 of Fig. 2. Fig. 6 is a detail top plan view of the frame with parts removed therefrom. Fig. 7 is an enlarged detail sectional view of the log releasing mechanism. Fig. 8 is an enlarged detail sectional view of the pawl controlling rod and its associated spring.

Referring more particularly to the drawing 1 represents the truck frame which is mounted upon the traction wheels 2 and is provided with a pair of longitudinal track rails 3 upon which the log carriage 4 is adapted to travel. The truck frame has 55 journaled therein the transverse driving shaft 5 which is provided intermediate its

ends with a bevel gear 6 which is loosely mounted upon the shaft and is provided with a clutch member 7 adapted to be engaged by a clutch member 8 splined upon the shaft and controlled by the forked end 9 of a bell crank lever 10 which is pivoted upon a cross bar 11 and operated by a hand lever 12 through the rod 13.

Power may be applied to the shaft 5 in any suitable manner and a simple form is shown in the belt wheel 14 keyed to the shaft 5 outside of the balance or fly wheel 15. The gear 6 is constantly in engagement with a bevel pinion 16 which is keyed to the forward end of a longitudinal shaft 17. The shaft 17 is provided with a groove 18 throughout its length and splined upon the shaft is a friction gear 19 which is adapted to engage a disk 20 formed upon a transverse shaft 21 which is journaled in bearings 22 and has a spring 23 surrounding the same between one of the bearings and a collar 24 so as to normally force the disk 20 into engagement with the gear 19. The shaft 21 carries a toothed pinion 25 which is adapted to engage a rack bar 26 carried on the underside of the carriage 4 so that the carriage may be moved back and forth over the track rails as will hereinafter be described, it being understood that the gear 19 is shiftable over the face of the disk so as to control the speed of the carriage and to reverse its movement.

To control the movement of the carriage the gear 19 is provided with a grooved collar 26 which is engaged by a bifurcated arm 27 carried by a longitudinally movable rod 28. This rod may be controlled by a lever 29 through a link 30 so as to govern the speed of the carriage as desired. At different points upon the rod, there are adjustably mounted suitable stop collars 31 and 32 which are adapted to be engaged by a depending arm 33 carried upon a bearing bracket 34 depending from the rear log head 35. The disk 20 may be entirely removed from engagement with the gear 19 by means of a lever 36 pivoted upon the cross bar 37 and having a roller 38 journaled thereon adapted to engage the collar 24. This lever is controlled by a lever 39 operating over a segment 40 carried by the front of the frame 1.

The carriage 4 comprises a substantially rectangular frame having the log heads 35 and 41 extending up from opposite ends

thereof and each provided with the log clutching dogs 42 which revolve in bearings carried by the heads. The head 35 is stationary with the carriage and the dog 42 which is mounted therein is provided with an extension 43 upon which is secured a sprocket gear 44 over which a chain 45 passes from a sprocket gear 46 splined upon the shaft 17. The gear 46 is moved along the shaft 17 by means of the bracket 34 which is bifurcated to engage the groove 47 formed in the collar 48 which is integral with the gear 46. In this manner it will be seen that the dog 42 may be continuously rotated during the movement of the carriage upon the track rails.

The head 41 is slidably mounted upon a bed plate 49 and has passing therethrough a shaft 50 which is connected to the head 35 and has pivotally mounted upon its free end a lever 51 which is adapted to operate the head to throw the dog 42 into engagement with the log 52 shown in dotted lines in Figs. 3 and 5. This lever has mounted upon its lower end a pawl 53 which is adapted to engage a rack bar 54 having ratchet teeth 55 and 56 formed upon its upper and lower faces respectively. The lower rack teeth 56 are adapted to be engaged by a pawl 57 having a weighted lower end so as to normally engage the teeth and lock the rack bar and head in adjusted position as accomplished by the lever 51. The connecting rod 58 carried upon the lever 51 for operating the pawl 53 has secured to its lower end a sleeve 59 having slots 60 formed therein to receive the transverse pin 61 carried upon the upper end of the connecting link or rod 62. Surrounding the sleeve 59 is a spiral spring 63 which is positioned between collars 64 and 65 carried by the sleeve. The collar 64 is keyed to the end of the sleeve and the collar 65 is loosely mounted thereon and is operated by the pin 61. The rod 58 is connected to a hand lever 66 pivoted upon the lever 51 which when operated raises the rod 58 and consequently lowers the operating end of the pawl 53 into engagement with the teeth 55 of the rack bar. By rocking the lever 51 back and forth upon its pivotal point at the end of the rod 50, the pawl 53 will positively engage the teeth 55 and force the head 41 forward against the tension of the spiral springs 67 and in its opposite movement will ride idly over the teeth. As the rack bar and head move forward to cause the engagement of the dogs 42 with the log, the pawl 57 engages the teeth 56 and locks them in adjusted position.

In order to release the pawl 57 from the rack 56 and permit the springs 67 to return the head 41 to normal position and thus disengage the dogs from the log, there is mounted upon the cross bar 37, an upstand-

ing arm 68 which lies in the path of the lower end of the dog 57 and acts to engage the same at a time when the arm 45 forces the rod 28 and thereby the gear 19 into the center of the disk 20, thus disengaging the log at a time when the carriage is substantially stationary. The momentum of the carriage however, carries it a slight distance farther on the tracks so that the gear 19 will be moved to the opposite side of the disk 20 and the rotation of the shaft 21 thus reversed to return the carriage to normal position.

Pivotally mounted upon the rod 50 are a plurality of arms 69 whose free ends lie upon the side bars of the carriage so as to arrange the arms at an incline whereby when the log is disconnected from the logs it will roll down the arms 69 and off the carriage onto suitable skids which may be provided for receiving the same.

Rigidly mounted upon the truck frame 1 on opposite sides of the track 3 are knife standards 70—71 upon the upper ends of which are pivoted the knife holders 72—73. These knife holders adjustably carry the knife blades 74 so as to properly engage the opposite sides of the log as shown in Fig. 5. The knife holder 72 is inclined upwardly so as to position the knife upon one side of the log above its horizontal center and the knife holder 73 is arranged horizontally so as to bring the knife which it carries into engagement with the log below the horizontal center.

In practice, the knife holder 72 with its knife 74 is adapted to do the actual work while the knife holder 73 and its knife 74 are auxiliary and adapted to complete the skinning of the log and to effectually take off any bark. The knife holder 72 has passing through its free end a rod 75 with a limiting collar 76 on its outer end and a similar collar 77 below the arm so as to form a stop for the spiral spring 78. The lower end of the rod 75 is connected to one arm of a bell crank lever 79 which is operated by a rod 80 connected above the pivotal point of a lever 81 which is mounted upon the side of the truck frame 1 and adapted to travel over a segment 82. By operating the lever 81, the position of the knife holder 72 and its knife may be properly adjusted. The free end of the knife holder 73 has a rod 83 passing therethrough with a stop collar 84 secured below the end of the holder 73 and a similar collar 85 secured at its free end and forming an abutment for the spring 86 which is positioned between the same and the holder 73. The free end of this rod 83 is connected to a bell crank lever 87 which is controlled by a lever 88 through a rod or link 89. By manipulating the lever 88 the rod 83 is pulled downwardly and the knife of the holder 73 is raised so as to bring the

knife into engagement with the log. After the passage of the log between the knives the stop collars 76 and 84 will limit the downward and upward movement of the knives.

The gear 19 and the disk 20 being arranged immediately under the knives are frequently clogged by chips and in order to prevent this, a casing 90 is placed over these parts for the purpose of shielding them. A suitable platform 91 having inwardly extending hooks 92 adapted to removably engage eyes 93 carried by the frame which is supported in horizontal position by means of the links 94 in position for the operator to manipulate the levers.

In the operation of the device, the log is placed between the heads and clamped in position by the dogs as before described. The clutch 8 is then thrown into engagement with the clutch member 6 so as to rotate the shaft 17. After this the lever 36 is released so as to permit the spring 23 to force the disk 20 into engagement with the disk 19. When the log comes into the radius of action of the knives the levers 81 and 88 are operated to throw the knives into engagement with the log and to bring such pressure to bear thereupon as will be proper to remove the bark and small knots from the log, the springs 78 and 86 taking up any parts which the knives cannot cut through and causing the knives to be pressed into grooves and permitting them to ride over ridges. By manipulating the lever 29 the speed of the carriage may be governed according to the work which the knives are doing so that the carriage will not complete its movement before all the bark has been removed from the log. When the log has passed the knives the pawl 57 has its depending end brought into engagement with the arms 68 and thus the rack bar is released and the springs 67 force the head 41 away from the log and thus release it so that it may roll down the arms 69 onto suitable skids, not shown. The momentum of the carriage carries it a slight distance beyond the point where the pawl 57 strikes the arm 68 so that the arm 33 is brought into engagement with the stop collar 32, thus throwing the arm 27 and the gear 19 to the opposite side of the disk 20. This reverses the rotation of the shaft 21 and the carriage is thus returned. Upon the return movement of the carriage the arm 33 engages the collar 31 and again reverses the mechanism so as to cause the forward movement of the carriage. At this time the operator should manipulate the lever 36 so as to disengage the disk 20 from the gear 19 and thus stop the movement of the carriage. When a new log is about to be placed in position the lever 12 should be operated to unclutch the shaft 5 with the gear 6 and thereby stop the rotation of the shaft 17. A

new log may then be placed in position as before described and the operation repeated.

Having thus described the invention, what is claimed is—

1. In a machine of the character described, the combination with a portable truck frame, of a log carriage slidably mounted thereon, means for reciprocating said log carriage, means for manually controlling the movement of the carriage and the speed thereof, log holding means on the carriage, means for rotating said log, means for releasing said log holding means, and means for discharging the log from the carriage after the log holding means is released.

2. In a device of the class described, the combination with a portable truck frame, a log carriage slidably mounted thereon, means to operate the carriage over the truck frame, means to automatically reverse the movement thereof, a stationary log holding head mounted on the carriage, a movable log holding head mounted on the carriage, means to hold said movable head in engagement with the log, means to rotate the log in the head, a pair of oppositely disposed cutting knives arranged to engage the log, means to release the movable head after the log has passed the knives, and means to force the movable head to normal position whereby the log is released and discharged from the carriage.

3. In a machine of the character described, the combination with a slidably mounted log carriage, of means to automatically reciprocate the same, a stationary and a movable head on said log carriage, rotating log dogs journaled in said heads, means to rotate one of the dogs during the reciprocation of the carriage, means to force the movable head with its dog into engagement with the log to be treated, means to automatically release said holding means, means to return the movable head to normal position to release the dogs from the log, and means to receive and discharge the log from the carriage when said head is turned to normal.

4. A device of the class described comprising a portable truck frame, a pair of stationary oppositely disposed cutting knives mounted thereon, a carriage adapted to be reciprocated back and forth past said knives, and means for rotating a log on the carriage.

5. A device of the class described comprising a portable truck frame, a pair of stationary knives thereon, a carriage mounted on the truck frame, means to reciprocate the same past the knives, means to rotate a log upon the carriage, and means to throw the knives into engagement with the log.

6. A device of the class described comprising a reciprocating log carriage, a stationary and a movable head mounted on said carriage, log dogs journaled in said heads, means for reciprocating the carriage, means

for rotating one of the dogs during the reciprocation of the carriage, means to throw the movable head and its dog into engagement with the log, means to hold said head in log holding position, means to automatically release said head at the end of one movement of the carriage, and means to throw said head to normal position upon the release thereof, together with stationary

knives adapted to act upon a log held by 10 the dogs.

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

CHARLES H. CARTER.

Witnesses:

A. T. JOHNSON,
R. J. LAWS.