Aug. 23, 1932. J. M. COUNCIL 1,873,697

DEVICE FOR REMOVING BARK FROM LOGS

Filed April 3, 1931 3 Sheets-Sheet 1

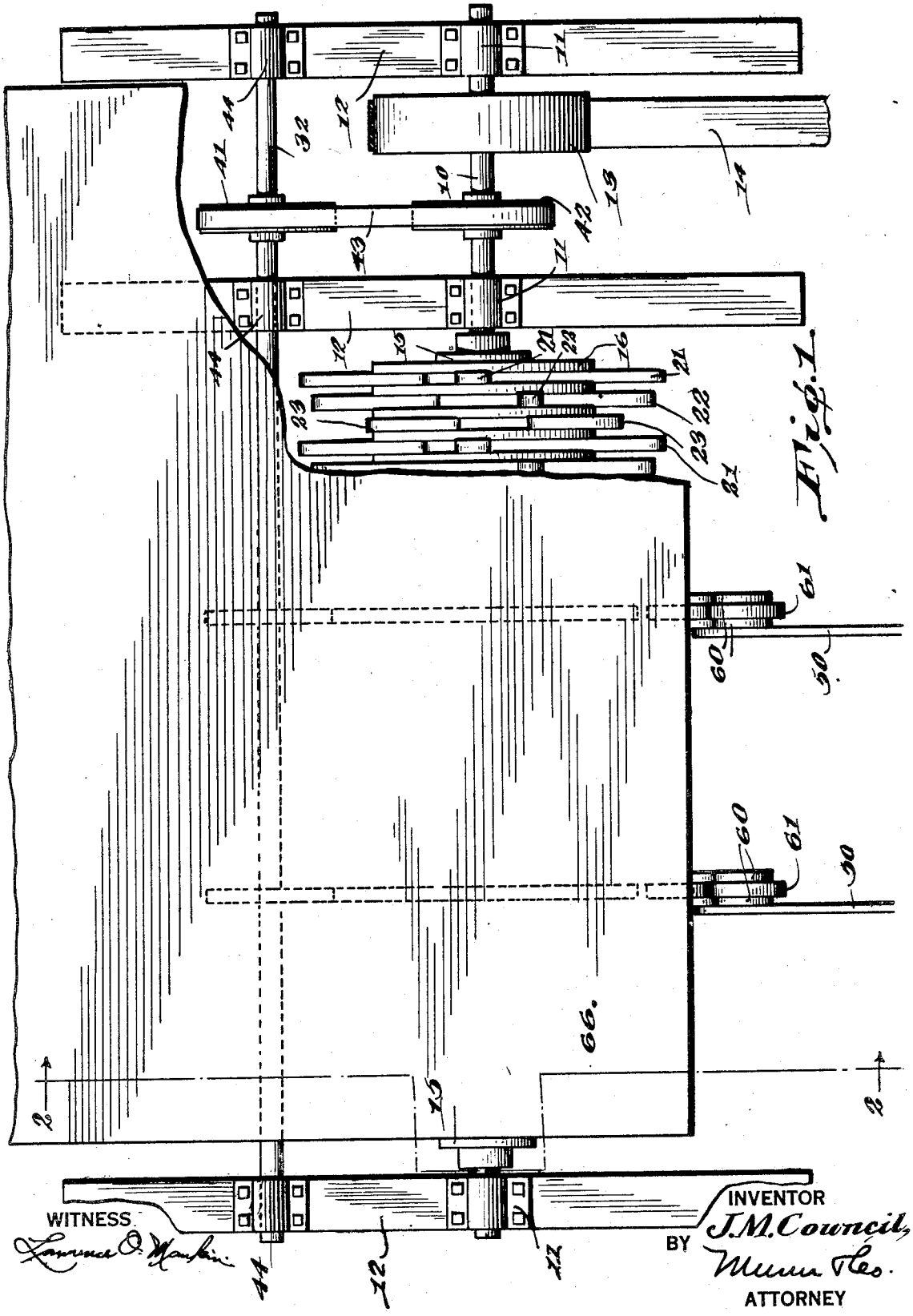


Fig. 1.

WITNESS
Lawrence O. Mankin

INVENTOR
J. M. Council,
BY Munn & Co.
ATTORNEY

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Filed April 3, 1931 3 Sheets-Sheet 2

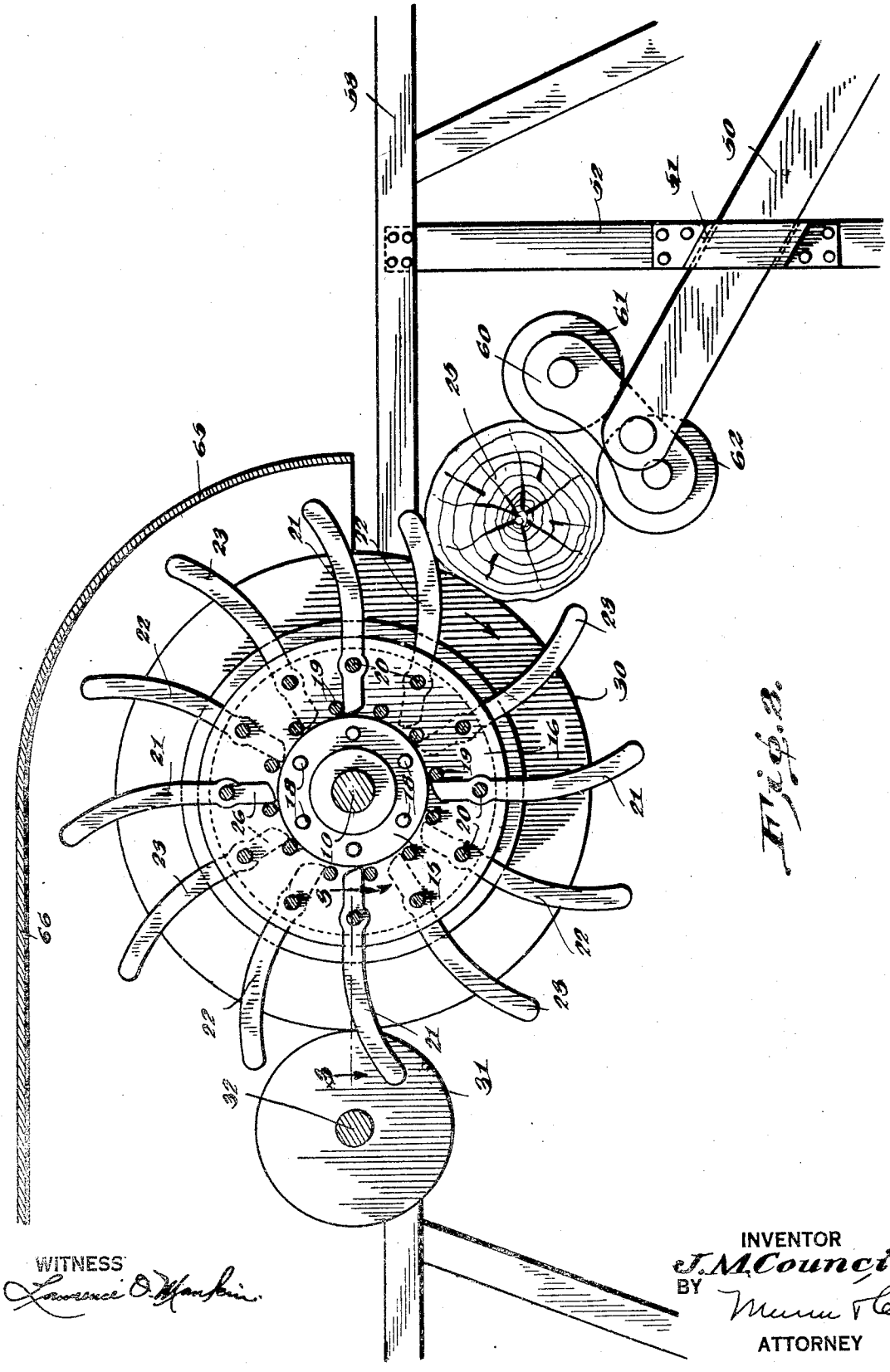


Fig. 2.

WITNESS
Lawrence O. Hankins

INVENTOR
J. M. Council,
BY Munn & Co.
ATTORNEY

Aug. 23, 1932. J. M. COUNCIL 1,873,697

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Filed April 3, 1931 3 Sheets-Sheet 3

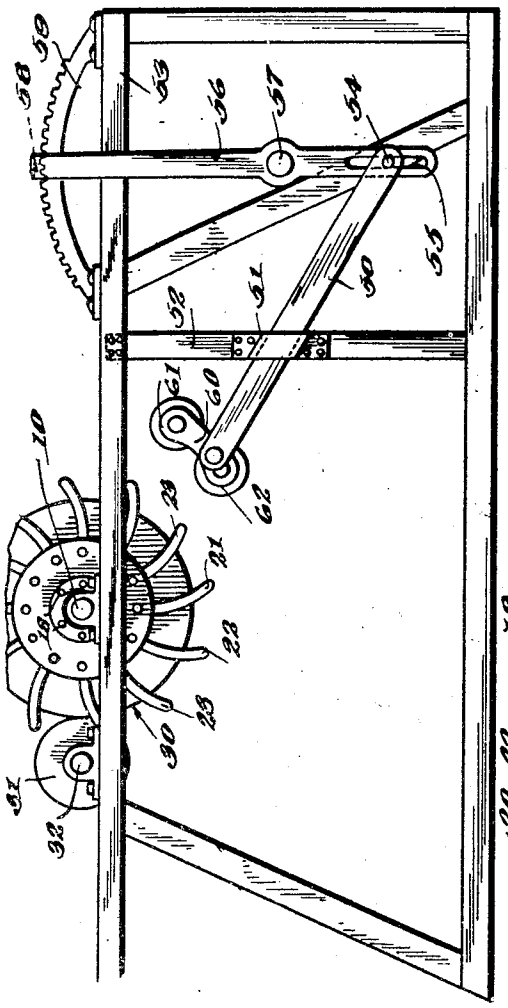


Fig. 4.

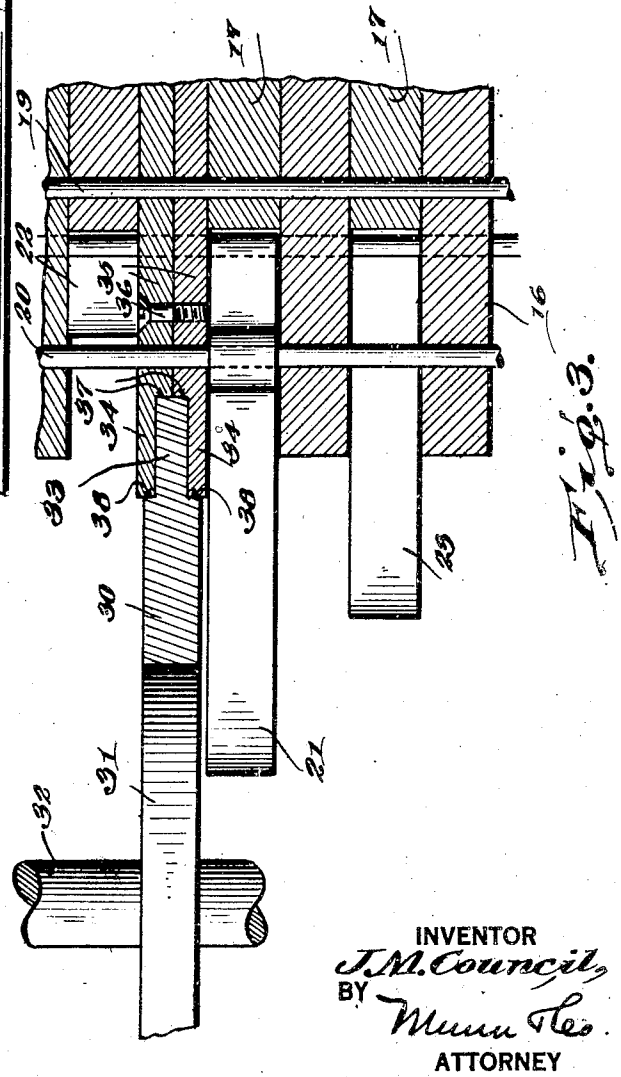


Fig. 3.

WITNESS
Laurence O. Monkin

INVENTOR
J. M. Council,
BY Munn & Co.
ATTORNEY

Patented Aug. 23, 1932 1,873,697

UNITED STATES PATENT OFFICE

JOHN M. COUNCIL, OF WANANISH, NORTH CAROLINA

DEVICE FOR REMOVING BARK FROM LOGS

Application filed April 3, 1931. Serial No. 527,513.

This invention relates to a device for removing bark from logs.

It has been found that bark is difficult to remove from the log wood used in pulp mills, veneer mills, crate and box factories during certain periods of the year so that during the other periods it is necessary to remove the bark from the logs and store the logs for those periods when it has been found almost impossible to remove the bark.

It is an object of the present invention to provide a device which will remove bark from the logs in such an efficient manner that the bark may be removed throughout the various seasons of the year.

A further object of the invention is the provision of a device for removing bark from logs in which a plurality of hammers are adapted to give progressive blows to the bark as the log is being revolved and substantially in a spiral manner so that all parts of the bark on the log are subjected to continuous blows whereby the bark will be readily peeled or removed from the logs.

A further object of the invention is the provision of a device for supporting and revolving the logs during the bark removing process in which an arm is provided and adjustable towards or away from the hammers to compensate for various diameters of the logs, the arm being provided at its inner and supporting end with spaced rollers carried by links or brackets pivoted intermediate their ends on the arm so that when the logs are dropped in place the rollers will automatically fall into supporting position for the logs.

This invention will be best understood from a consideration of the following detailed description, in view of the accompanying drawings forming a part of the specification; nevertheless it is to be understood that the invention is not confined to the disclosure, being susceptible of such changes and modifications which shall define no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Figure 1 is a plan view of a bark removing device constructed in accordance with the principles of my invention,

Figure 2 is a transverse vertical section taken along the line 2—2 of Figure 1,

Figure 3 is a fragmentary horizontal section taken along the line 3—3 of Figure 2,

Figure 4 is a side view in elevation of the adjustable means for supporting logs of various diameters.

Referring more particularly to the drawings, 10 designates a shaft which is supported in bearings 11 carried by horizontally disposed beams 12 forming a part of the supporting structure for the device. This shaft is driven by a pulley 13 and a belt 14 and the belt in turn is driven by any suitable source of power.

Secured to the shaft 10 is a pair of spaced collars 15 and between these collars are located a plurality of discs 16 spaced from each other by a plurality of alternately disposed discs 17 of lesser diameter than the discs 16. The discs 16 and 17 are secured together by means of rods 18, 19 and 20. The ends of these rods project outwardly beyond the outermost discs 16 and nuts are threaded on the end for clamping the discs together to form a unitary structure.

It will be noted from the various figures that there are a plurality of series of hammers pivotally supported on the rods 20 between the various spaced discs 16. The hammers 21 are spaced 90° apart between a pair of the discs 16 while four hammers 22 are located between the next pair of spaced discs and are advanced at an angle of 30° from the hammers 21. A third series of hammers 23 are arranged between the next pair of spaced discs 16 and are placed at an angle of 30° in advance of the hammers 22 or 60° in advance of the hammers 21. It will thus be noted that in all of the various series of hammers which are arranged successively between the pairs of discs 16 that they are all advanced in the next succeeding series 30° from the preceding series.

The discs 16 are rotated in a direction indicated by the arrow in Fig. 2 and it will be noted that the outer free ends of the hammers which project beyond the peripheries

of the discs 16 are curved rearwardly from the direction of rotation of said discs. The inner free or shorter ends of the hammers are located between the discs 16 and are adapted to normally engage the rods 19. The inner free ends of the hammers, however, are sheared off along the arc of a circle so that when the hammers strike the log 25 the free ends of the hammers will be moved backwardly and the shorter ends 26 of said hammers will be able to pass the rods 19 which are in advance of the inner free ends of the hammers.

During rotation of the disc and the hammers, the hammers cannot move forwardly towards the direction of rotation of the disc 16, but the rods 19 maintain the hammers in proper position so that they will strike the bark with sufficient force in order to remove the same from the logs. The rods 19 not only aid in securing the discs together, but operate to prevent a hammer from swinging ahead of a predetermined point so that it will be in proper operative position when coming in contact with the bark on the log.

The logs are revolved by means of spaced discs 30 which are revolved independently of the discs 16 and the hammers. The diameters of the discs 30 are such that the peripheries of said discs extend beyond the disc 16 in order that they will properly engage the log 25 and cause the log to be revolved. The discs 30 are driven by means of friction discs 31 rigid on a shaft 32. It will be appreciated, however, that instead of the friction discs 31 that gears or any suitable well known mechanism may be employed for the purpose. In this event the teeth will be applied to the periphery of the disc 30 and these teeth will engage the bark of the log 25 and give a more positive rotation of the log.

Each of the discs 30 is provided with a large circular passage and the portion of the disc adjacent the central passage is provided with a reduced portion 33 adapted to be seated between a pair of peripheral flanges 34 of discs 35. The discs 35 are loose upon the shaft 10 and are connected together by means of bolts 36. Since the rods 19 and 20 pass through the discs 35 said discs will be revolved simultaneously with the discs 16 and 17. Adjacent the periphery of the discs 35 are provided shoulders 37 upon which the periphery of the reduced portion 33 rests. Shoulders 38 are also provided adjacent the inner periphery of the discs 30 which are engaged by the free peripheral edges of the flanges 34.

The friction disc or gears 31 are driven by the shaft 32 which extends in parallel relation with the shaft 10 and this shaft is driven by means of a pulley 41 fixed to the shaft 40, a pulley 42 fixed to the shaft 10 and a belt 43 trained on the pulleys 41 and 42. The shaft 40 is supported in bearings 44 carried by the beam 12.

A rod or arm 50 is inclined at an angle to the horizontal and is slidably mounted in a bearing 51 formed in a standard 52 of a framework 53. The outer free end of the arm 50 is provided with a pin 54 received within an elongated slot 55 formed in the bottom of a lever 56 pivotally mounted at 57 on the framework 53. This lever carries a pawl 58 adapted to engage the teeth of a rack 59 supported upon the top of the framework 53 so that when the lever is placed in a predetermined position the pawl and the teeth will retain the lever against movement.

A pair of links 60 are pivotally mounted at 61 upon the outer free end of the arm 50 and rollers 61 and 62 are carried at the extreme end of said links and these rollers are adapted to engage the log for supporting the log and permit rotation thereof when the bark is being removed. It will be noted that the pivots of the links 60 are adjacent the rollers 62 so that when the log is dropped in position from a curved portion 65 of a hood 66 it will strike the lowermost roller 62, thereby causing oscillation of the links 60 whereby the rollers 61 will be moved into engagement with the log. It will be noted that there are a pair of arms 50 and links 60 carrying the respective rollers 61 and 62 at spaced distances along the hood 66.

The hood 66 not only forms a means for guiding the logs onto the rollers 61 and 62 but provides a protective covering over the revolving hammers 21 to 23, inclusive, in order to prevent injury to the workmen.

In the operation of the device the logs are placed upon the horizontal portion of the hood 66 and moved along the curved portion 65 and dropped in place betwen the rollers 61 and 62 and the spaced master discs 30.

When the shaft 10 is driven the hammers will move progressively forward and give successive blows in a spiral manner to the bark on the log 25. The revolving master discs 30 being in engagement with the log 25 will cause rotation of the log at a speed which will be controlled by the motor which drives the device and also the diameters of the drums 41 and 42 but the speed of the master discs is independent of the speed of the hammers.

A series of hammers may not be confined to the arrangement described, but may consist of two hammers 180° apart; three hammers 120° apart; or six hammers 60° apart. The adjacent series may be in line or may be advanced more than 30°, if desired. In other words, the hammers may be suitably arranged for different woods, or for seasonal changes in the physical condition of the different woods.

I claim:

1. A device for peeling bark from logs

comprising a driven shaft, a plurality of discs secured to the shaft, each alternate disc being of greater diameter than the intermediately disposed discs, all of the discs having alined passages, bolts inserted through the passages for securing the discs together, hammers pivotally mounted intermediate the ends thereof between pairs of the alternate discs, means engaging the inner free ends of the hammers for limiting the movement of the outer free ends of the hammers towards the direction of travel of the discs, spaced discs mounted for rotation on the shaft independently of the shaft, means for causing rotation of the discs, the last-mentioned discs adapted to engage a log acted on by the hammers for causing rotation of said log.

2. In a device for peeling bark from logs, a plurality of hammers for progressively beating the bark on a log, means for supporting the log in operative relation with the beaters and comprising arms, links pivotally mounted on the free ends of the arms, rollers mounted at the opposite ends of the links, the links being pivotally mounted adjacent the lowermost roller, said roller being positioned in the path of the incoming log and when engaged by the log causing oscillation of the links and moving the other roller into engagement with the log, the spaced rollers forming a seat for aiding in supporting the log.

JOHN M. COUNCIL.