Jan. 31, 1928.

1,657,682

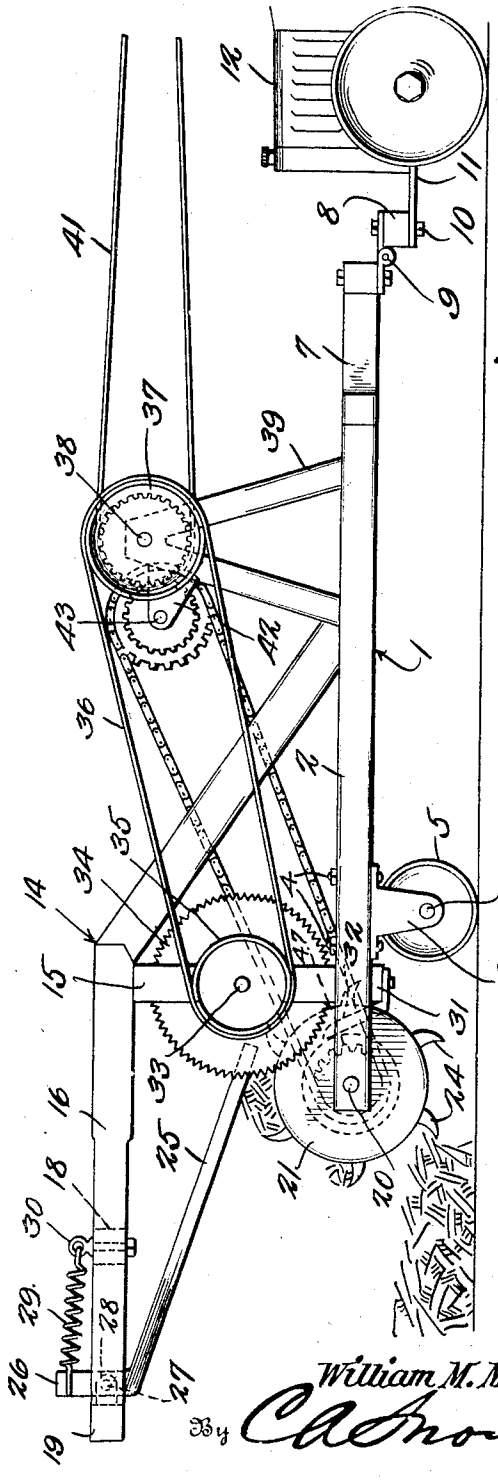
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BRUSH MILL

Filed April 27, 1926

2 Sheets-Sheet 1

Fig. 1.



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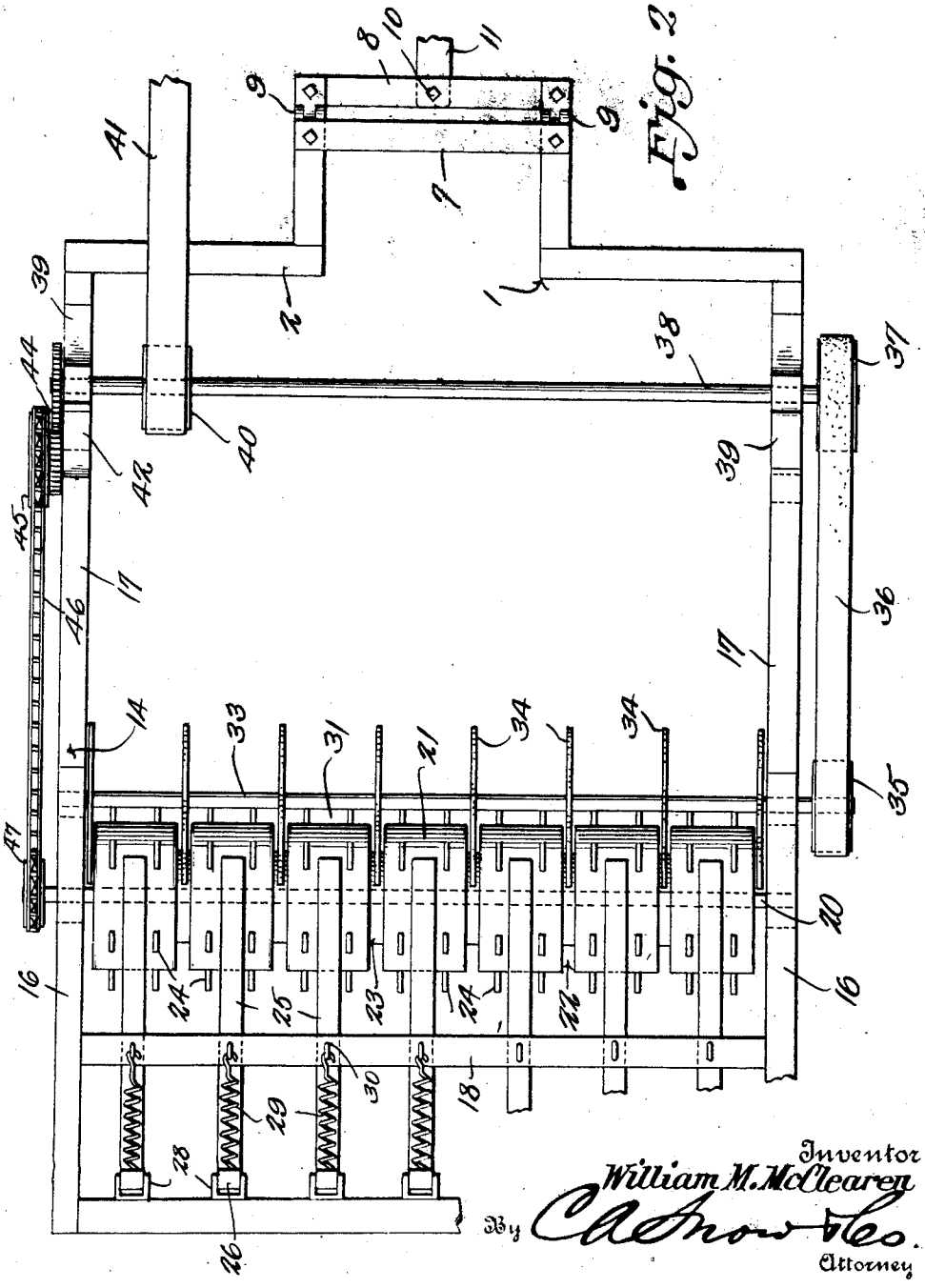
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2 Sheets-Sheet 2

Fig. 2.



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UNITED STATES PATENT OFFICE.

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BRUSH MILL.

Application filed April 27, 1926. Serial No. 104,982.

This invention aims to provide novel means for collecting brush and cutting it up, as the machine moves over the surface of the ground.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the drawings:—

Figure 1 is a side elevation; and

Figure 2 is a top plan wherein parts are broken away.

The device includes a truck 1 comprising a main frame 2. Bearings 3 are held by bolts 4 on the side rails of the frame 2 and are adjustable longitudinally of the frame, ground wheels 5 being journaled at 6 on the bearings 3. The frame 2 has a reduced rear extension 7 to which a cross piece 8 is hinged at 9 for vertical swinging movement, a pivot element 10 connecting the intermediate portion of the cross piece 8 with the tongue 11 of a tractor 12—although it is to be understood that the truck 1 may be propelled in any desired manner.

On the forward portion of the main frame 2 there is an auxiliary frame 14 which extends forwardly beyond the main frame 2. The auxiliary frame 14 includes posts 15 erected on the side rails of the main frame 2, side bars 16 projecting forwardly from the upper ends of the posts 15, the posts and the side bars 16 being sustained by rearwardly inclined braces 17 connected to the side rails of the main frame 2. The side bars 16 of the auxiliary frame 14 are connected by an intermediate cross bar 18 and by an end cross bar 19.

A shaft 20 is journaled in the forward ends of the side rails of the main frame 2. A collecting drum 21 is secured to the shaft 20. The collecting drum 21 has circumferential grooves 22 defining reduced portions 23. The drum 21 has curved teeth 24. Compression members 25 are supplied, the same slanting downwardly and rearwardly and extending above the drum 21. The compression members 25 are equipped at their forward ends with upstanding arms 26 which are pivoted at 27 to hangers 28 on the end bar 19. Retractile springs 29 are supplied. The forward ends of the retractile springs 29 are connected to the upper ends of the arms 26 of the compression members 25. The rear ends of the retractile springs 29 are connected by eye bolts 30, or otherwise, to the intermediate cross bar 18 of the auxiliary frame 14. The side rails of the main frame 2 are connected by a cross member 31. Cleaners 32 are connected at their lower ends to the cross member 31. The cleaners 32 are upwardly and forwardly inclined. Their upper ends rest on the reduced portions 23 of the drum 21, within the circumferential grooves 22.

A shaft 33 is journaled in the posts 15. Saws 34 are secured to the shaft 33. The saws 34 extend into the circumferential grooves 22 of the drum 21. On one end of the shaft 33 there is a pulley 35. The pulley 35 is engaged by a belt 36. The belt 36 cooperates with a pulley 37 on a shaft 38. The shaft 38 is journaled in standards 39 erected on the side rails of the main frame 2. There is a pulley 40 on the shaft 38 between the standards 39. The pulley 40 is engaged by a belt 41 that is driven by any suitable mechanism (not shown) on the tractor 12. One of the standards 39 has an offset bracket 42. A shaft 43 is journaled in the bracket 42. The shaft 43 is connected with the shaft 38 by reversing gears 44. On the shaft 43 there is a sprocket wheel 45 cooperating with a sprocket chain 46 engaged with a sprocket wheel 47 on the shaft 20 of the collecting drum 21.

In practical operation, the shaft 38 is driven from the tractor by way of the pulley 40 and the belt 41. The gears 44 rotate the shaft 43, and from the shaft 43, rotation is imparted to the collecting drum 21 by way of the sprocket wheel 45, the sprocket chain 46, and the sprocket wheel 47. Rotation is imparted to the saws 34 by way of the shaft 33, the pulley 35, the belt 36, and the pulley 37.

The curved teeth 24 claw up the brush, when the drum 21 is rotated, and the brush carried upwardly against the compression members 25, which, being actuated by the springs 29, press down the brush on the col-

lecting drum 21, so that the brush will be severed readily when the drum 21 carries the brush around against the rotating saws 34. The function of the cleaners 32 is to cut up and remove brush that may be lodged in the grooves 22, and, thus, to keep the grooves free and clear, so that the saws 34 may work readily therein.

What is claimed is:—

1. In a brush cutter, a truck, a collecting member journaled on the forward end of the truck, saws journaled on the truck above and to the rear of the collecting member and extended within the contour of the collecting member, the collecting member having curved teeth arranged in circumferential rows, there being a pair of such rows between adjoining saws, one row of teeth of each pair being located adjacent to the side of one saw, the space in front of the saws being open to permit the cut brush to drop freely to the ground behind the collecting member after the brush has been carried between the saws by the teeth of the pairs of rows, cleaners on the truck below the saws and alined vertically with the saws, the cleaners cooperating with the rear portion of the collecting member, compression elements carried by the truck and extended downwardly and rearwardly from a point above the collecting member, the rear ends of the compression elements bearing yieldably on the collecting member, between the rows of teeth of each pair and operating to hold the brush on the top of the collecting member whilst the saws are operating on the brush, means for rotating the collecting member so that the bottom portion of the collecting member moves in the direction that the truck is travelling, the top portion of the collecting member moving in a direction opposite to that in which the truck is travelling, and means for rotating the saws so that those portions of the saws which cooperate with the collecting member move in a direction opposite to that in which the vehicle is travelling.

2. In a device of the class described, a truck, a collecting member journaled on the forward end of the truck, saws journaled on the truck above and to the rear of the collecting member and extended within the contour of the collecting member, compression elements fulcrumed intermediate their ends on the truck, the rear ends of the compression elements being extended downwardly and rearwardly from a point above and in front of the collecting member, spring connections between the upper forward ends of the compression elements and the truck, whereby the rear ends of the compression elements will operate to hold the brush yieldably on the top of the collecting member whilst the saws are operating on the brush, and means for rotating both the saws and the collecting member.

3. In a device of the class described, a truck, a collecting member journaled on the forward end of the truck and having circumferential grooves, saws journaled on the truck above and to the rear of the collecting member and extended into the grooves, compression elements extended rearwardly from a point above and in front of the collecting member, the forward ends of the compression elements being mounted on the frame, and the rear ends of the compression elements serving to hold the brush on the top of the collecting member whilst the saws are operating on the brush, cleaners carried by the frame and entering the grooves of the collecting member, means for rotating the saws, and means for rotating the collecting member.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

WILLIAM M. McCLEAREN.