

Sept. 29, 1953

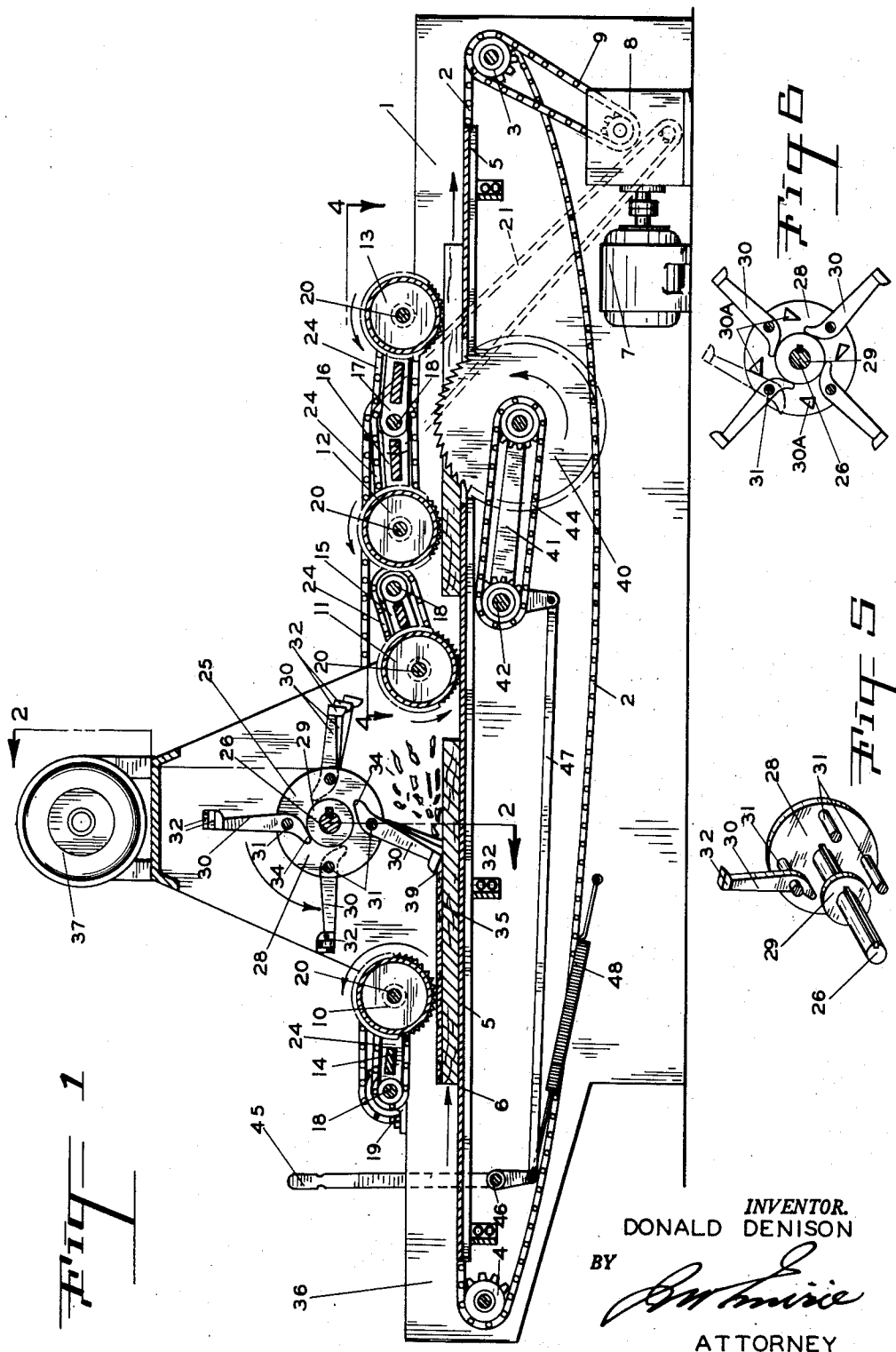
D. DENISON

2,653,635

BARK REMOVING MACHINE

Filed Oct. 1, 1951

2 Sheets-Sheet 1



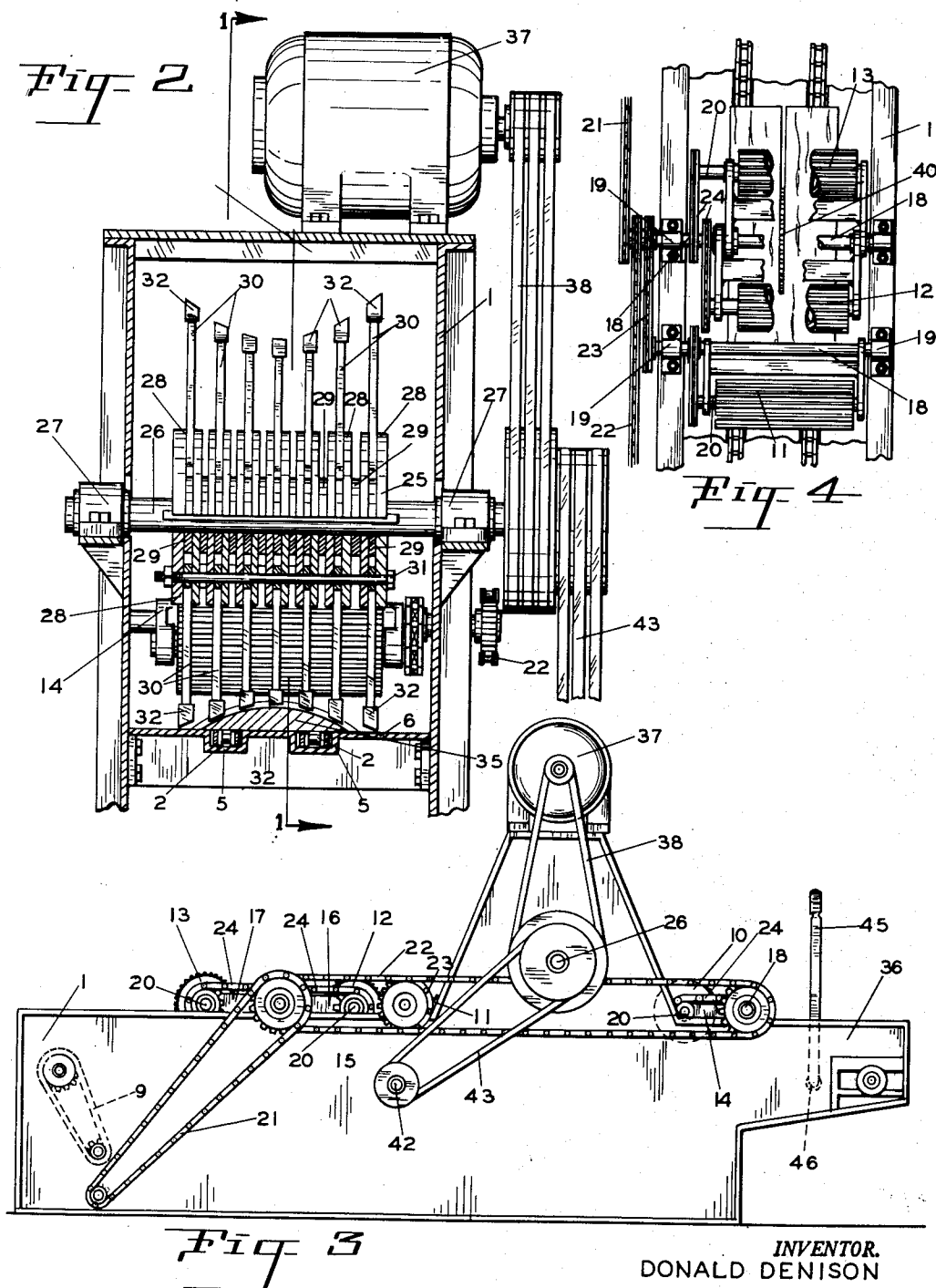
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UNITED STATES PATENT OFFICE

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BARK REMOVING MACHINE

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2 Claims. (Cl. 144-208)

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This invention relates to bark removing machines and is particularly adapted for the removing of bark from slab wood.

The primary object of the machine is to remove the bark from slabs while feeding the slabs through the machine in a continuous flow.

A further object of the invention is to provide means within the machine for cutting the slabs longitudinally into smaller pieces at the same time the bark is being removed from the slab.

These and other incidental objects will be apparent in the drawings, specifications and claims.

Referring to the drawings:

Figure 1 is a longitudinal sectional view of my new and improved bark removing machine, taken on line 1-1 of Figure 2.

Figure 2 is a transverse sectional view, taken on line 2-2 of Figure 1.

Figure 3 is a side view of the machine, illustrating the method of driving the bark removing head, the feed rollers, conveyor chain and the slab splitting saw.

Figure 4 is a plan view of the feed rollers, together with a plan view of the splitting saw for splitting the slab. This view is taken on line 4-4 of Figure 1.

Figure 5 is a perspective partly disassembled view of the bark removing head.

Figure 6 is another preferred form of controlling the movement of the hammer arms.

Referring more specifically to the drawings:

My new and improved bark removing machine consists of a frame 1, having spaced conveyor chains 2 trained about sprockets 3 and 4, the chains riding in channel ways 5 formed within a longitudinal table 6. The chains are slightly higher than the surface of the table so as to convey the slab therealong.

The conveyor chains 2 are driven by a motor 7 and speed reducing unit 8 by way of a chain 9. Hold down and feed rollers 10, 11, 12 and 13 are mounted above the chains 2 in the usual manner by arms 14, 15, 16 and 17. These arms are pivotally supported by cross shafts 18 which are journaled within bearings 19 to the frame of the machine.

The feed rollers are journaled to the opposite end of the arms by way of cross shafts 20. The shafts 18 are driven by the speed reducer 8 through chains 21, 22 and 23, best illustrated in Figures 3 and 4. The feed rollers 10, 11, 12 and 13 are driven from the shafts 18 by chains 24. This is of well known practice in regards to the feed roller mechanism.

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My invention consists of mounting a special bark removing head 25 on a cross shaft 26 journaled to the frame 1 by the bearings 27. This head consists of flat disks 28 mounted and keyed to the shaft 26 and having spacers 29 therebetween for spacing them apart. A series of spaced-apart bark removing arms 30 are pivotally mounted between these disks on transverse rods or bolts 31 which hold the head assembly 25 assembled. The arms, each side the central one of the series, gradually increase in length to approximately conform to the transverse curvature of the outer surface of the slab being operated on.

The arms 30 have heads or hammers 32 on their outer ends. Inner ends 34 of the arms extend past the rods 31 and may contact the spacers 29 so as to limit swinging movement of the arms 33 in a counterclockwise direction, as viewed in Figure 1. It will be noted that these arms may swing freely in the opposite direction.

I will now describe the action of this bark removing head. The slabs 35 enter an end 36 of the machine on the conveyor chains 2, entering under the infeed roller 10, which assists the conveyor chain in moving the slab through the machine. The bark removing head 25 is driven in the direction of the arrow at a relatively high speed by a motor 37 through belts 38. Centrifugal force causes the arms and the hammers to assume a straight out or radial position until the hammer heads 32 strike the bark of the slab 35 at 39, and chip the bark away from the slab, as indicated in Figure 1. At this point it will be noted that the arms 30 will lag or swing clockwise, but again straighten out after leaving the slab. The slab then enters under the intermediate feed rollers 11 and 12. In the event it is desired to split the slab, a saw 40 is moved up into the path of the oncoming slab, the split slab then passing under the outfeed roller 13.

The saw 40 is journaled on arms 41, which in turn are pivoted to a cross shaft 42 journaled within suitable bearings (not shown) on the frame 1. This shaft is driven by belts 43 from the shaft 26 of the bark removing head 25, best illustrated in Figure 3. The saw 40 is driven by a chain 44 from the shaft 42, as best illustrated in Figure 1, the position of the saw being determined by a control lever 45, which is pivotally mounted at 46 on the frame 1 and connected to a bell crank on the saw arms 41 by a link 47, the saw being counterbalanced by a spring 48.

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Referring to Figure 6, I have illustrated stops 30A for limiting clockwise or free swinging movement of the arms 30, the stops 30A being formed on the sides of the disks 28. The broken line position of the arm shows how the stop limits its clockwise movement.

What I claim is:

1. A bark removing apparatus, comprising a frame formed with longitudinal grooves, slab conveyor chains operating in the grooves, a transverse shaft mounted in the frame above and spaced from the chains, a series of pairs of spaced-apart disks keyed on the shaft, collars keyed on the shaft to space apart the two disks forming each pair of disks, means on the shaft for spacing apart the respective pairs of disks, a series of transverse rods extending through the series of pairs of disks, a series of arms loosely mounted on the transverse rods, the arms of each series fitting between the two disks forming each pair of spaced-apart disks, the inner ends of the arms extending beyond the transverse rods for contact with the collars when the transverse shaft is rotated and the arms assume radial positions, the outer ends of the arms having hammers which when the shaft is

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rotated contact with and chip the bark on a slab conveyed over the frame by the conveyor chains, the inner ends of the arms being free to swing away from the collars after contacting the slab.

2. A bark removing apparatus, as defined in claim 1, wherein the arms each side the central one of the series gradually increase in length to approximately conform to the transverse curvature of the outer surface of the slab.

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