

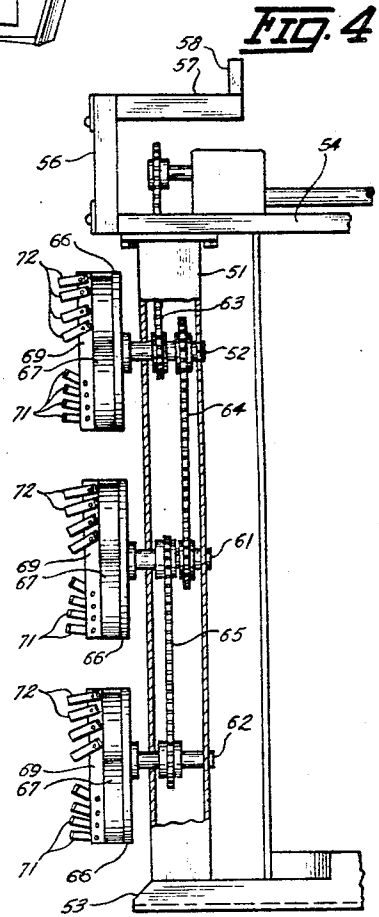
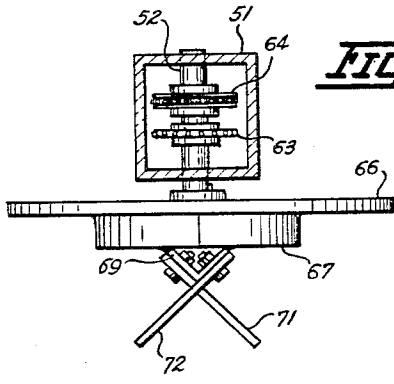
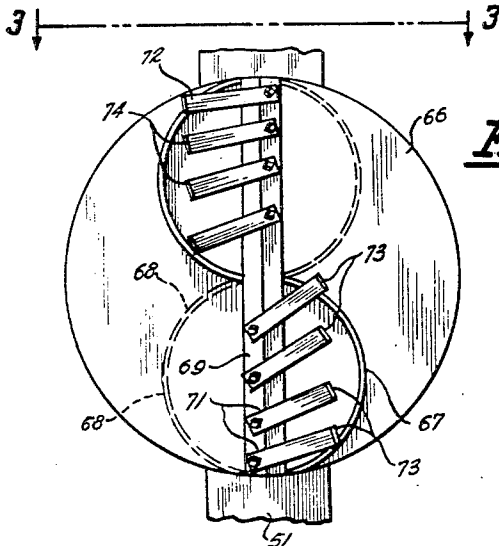
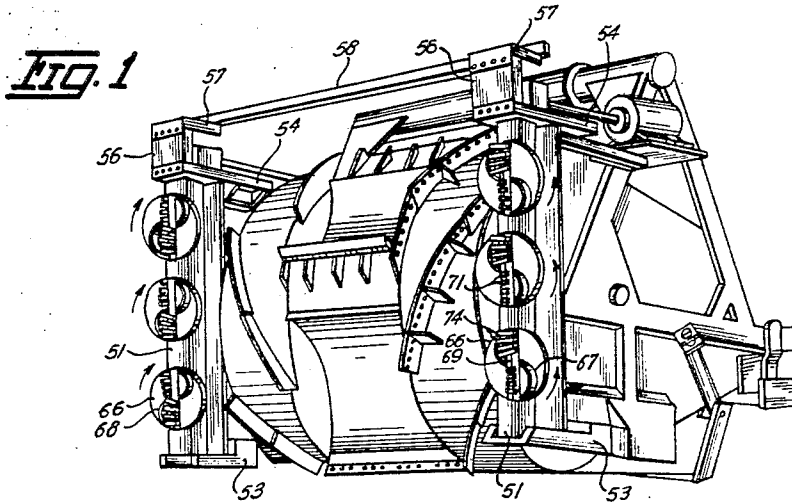
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ROTARY AUXILIARY FEEDERS FOR EXCAVATING AND LOADING MEANS

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ROTARY AUXILIARY FEEDERS FOR EXCAVATING AND LOADING MEANS

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5 Claims

ABSTRACT OF THE DISCLOSURE

Auxiliary digging and throwing members for feeding aggregate into a rotary excavating and loading machine, comprising a series of horizontally rotating discs arranged in vertical relation, one row on each side of the excavating and loading machine, the discs presenting digging teeth projecting forwardly preferably in S relation to dig aggregate and throw it upwardly and transversely into the main excavator.

This invention relates to excavating and loading machinery such as that shown in my Patent No. 2,748,505, and had particular relation to an auxiliary feeder and auxiliary excavating and loading apparatus for machines of this character. While of considerable capacity, it may be supplemented by auxiliary loading and excavating means on either side of the main drum which serves the purposes of increasing the capacity of the machine and also of enlarging the cut of the loader to keep the sides of the main frame and loading machine free from aggregate material, and these are among the main objects of my invention.

Other and further features and objects of the invention will be more apparent to those skilled in the art upon a consideration of the accompanying drawing and following specifications, wherein is disclosed a single exemplary embodiment of the invention.

In said drawing:

FIGURE 1 is a view in perspective of an excavating and loading machine to which auxiliary excavating and feeding means have been applied according to one embodiment of my invention.

FIGURE 2 is a front elevational view of one of the cutting and feeding means shown in FIGURE 1.

FIGURE 3 is a view in section taken along the line 3-3 of FIGURE 2, and

FIGURE 4 is a view in side elevation of the auxiliary cutting means with the side cover of the main support broken away to illustrate the drive.

Referring now to the drawing:

The auxiliary excavating and feeding structure employs a substantially rectangular box-like main supporting column 51 in which one or more horizontally, forwardly-extending shafts 52 are mounted, using the front and rear walls of the box 51 as supports for the bearings of the said shafts. The posts are supported by means of shoes 53 attached to the side of the main frame for supporting the lower ends of the box-like members 51 and a heavy channel or the like at 54 for supporting the upper end of the box-like case 51. The upper supporting member is engaged to the sides of the main frame and this member 54 is provided with a plate in the forward end thereof, indicated at 56, and a rearwardly extending section 57 connected to its companion member on the auxiliary excavating apparatus by cross member 58.

The shafts such as 52, 61 and 62 are driven by means of sprockets and chains indicated generally at 63, 64 and 65 so as to rotate the shafts all in the same direction—that is, counterclockwise on the post 51 at the right-hand side of the machine, so that material is thrown over

inwardly into the path of the truck as will be more particularly hereinafter described.

Disc-like plates 66 are mounted on the shafts 52, 61 and 62 and these disc-like plates carry straps formed in S shape as indicated at 67 and are welded or otherwise secured to the faces of disc 66. These straps form curved scoops for throwing material outwardly from the center and discharging it generally transversely across the face of the machine.

Referring to FIGURE 2, the full lines at 67 indicate a scoop suited for throwing material to the left, when rotating in a counterclockwise direction. Such a scoop would be mounted on post 51 on the right-hand side of the excavating machine as viewed in FIGURE 1. The excavating members on the post 51 at the left side of the machine are provided with a scoop 68, indicated in dotted lines on FIGURE 2, which is adapted to throw material to the right and into the drum when the disk rotates clockwise. Thus, opposite sides of the excavating machine are provided with scoops which are oppositely disposed with respect to the center of the machine on their corresponding plates 66.

The outer edges of the shaped scoops are connected, preferably by an angle iron such as illustrated at 69, with the inner edges of the angle iron welded to the edges of the scoops and with cutting bits 71 and 72 bolted or otherwise secured to the outer faces of the angle iron as illustrated, with the bits mismatched so that their cutting paths will not overlap, and of course the set of bits at one end are secured to one face of the angle iron and the other bits at the other end are secured to the other face, so that as the disc or cutting element rotates, the bits are presented with their cutting ends at 73 and 74 forward for best cutting effect. The cutting bits also are inclined to a greater degree toward the center of the circle than they are at the outside.

I claim as my invention:

1. In an excavator having a main cutting drum mounted for rotation about a horizontal axis transverse to the movement of said excavator as it advances into an aggregate being excavated, said cutting drum serving to cut and to carry said aggregate away from the excavation, the improvement comprising: auxiliary digging and throwing members for cutting additional material from the edges of the excavation and feeding said material into the path of said cutting drum, said auxiliary members including a plurality of vertically aligned disk-like plates carried on rotatable horizontal shafts, post means located on at least one side of the main cutting drum and supporting said horizontal shafts, driving means for rotating said shafts, a curved scoop secured to the surface of each said disk-like plate for throwing material into the path of the main cutting drum, a plurality of cutting bits for loosening the aggregate to be excavated and a support member secured to said curved scoop for carrying said cutting bits.

2. The excavator of claim 1, wherein said support member carries said bits at an acute angle with respect to the surface plane of said disk-like plates.

3. The excavator of claim 1, said excavator including first and second post means, one located on each side of said main cutting drum, each post carrying a plurality of said rotatable, horizontal shafts.

4. The excavator of claim 3, wherein the curved scoops are oppositely disposed to the curved scoops secured to the disk-like plates on said second post means in relation to the center of the excavator path, whereby said scoops throw material into the path of said cutting drum.

5. The excavator of claim 4, wherein said support

member carries said bits at an acute angle with respect to the surface plane of said disk-like plates.

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