March 6, 1934. F. LIBERTINI 1,949,482

SCRAPING MACHINE

Filed Nov. 6, 1933

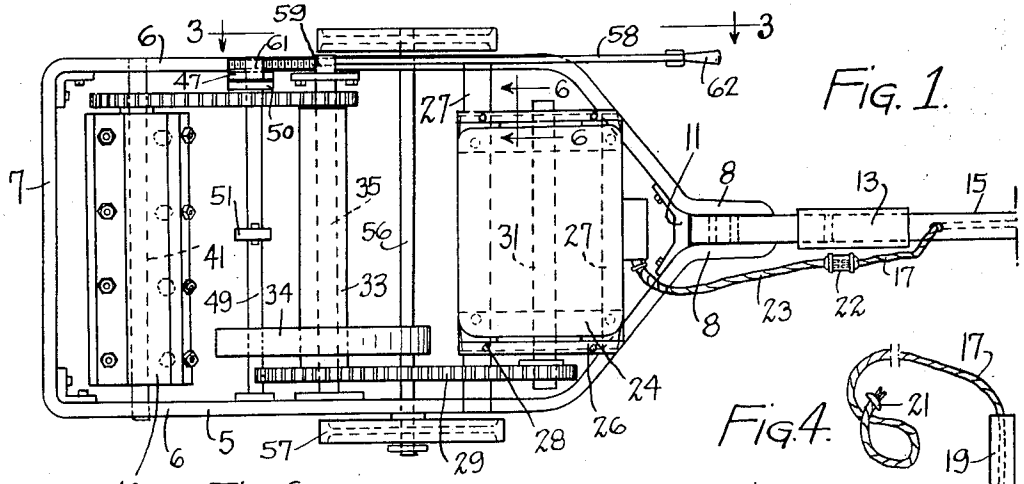


FIG. 1.

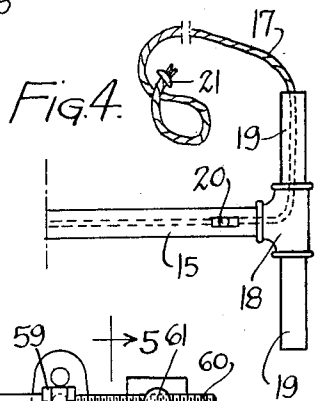


FIG. 4.

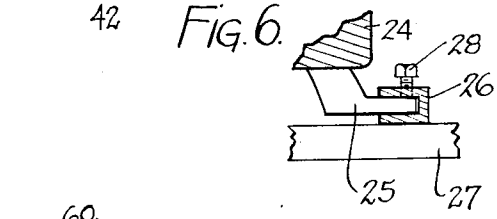


FIG. 6.

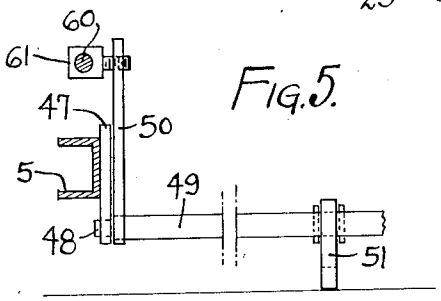


FIG. 5.

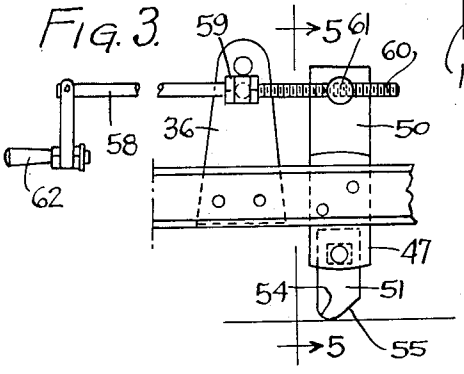


FIG. 3.

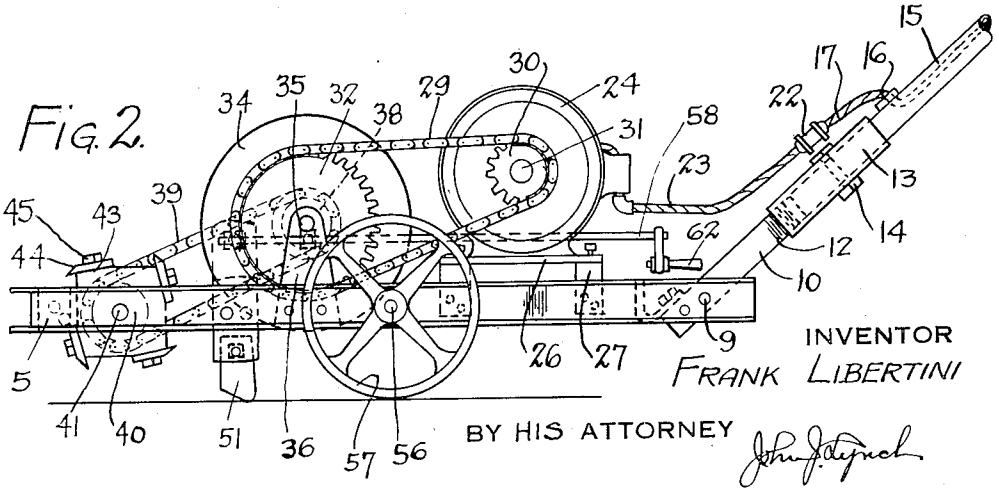


FIG. 2.

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UNITED STATES PATENT OFFICE

1,949,482

SCRAPING MACHINE

Frank Libertini, North Bergen, N. J.

Application November 6, 1933, Serial No. 696,863

1 Claim. (Cl. 262—20)

This invention relates to surface working machines and in particular to a roof scraper designed for the purpose of removing the old roof covering preparatory to resurfacing the roof, it being understood that while I have referred to a roof scraping machine, my invention may be employed in the scraping or cutting or working of any surface to which it may be adapted.

A particular object of my invention is to provide a machine of the character which has a high degree of efficiency, is made of relatively few parts and can be manipulated by an individual operator to quickly and effectively cut a surface to be treated.

A further object of my invention is to save labor by providing a machine which scrapes a roof in a minimum of time, has an adjustable feature incorporated therein which permits the use of the machine in various kinds of work and allows a top surface on a roof to be removed without damaging the under surface, thus permitting the roof to be recoated or covered at smaller cost than would be the case were the whole top coating to be removed preparatory to resurfacing.

Changes and variations may be made in the construction shown and described without departing from the principles of the invention or sacrificing its chief advantages; hence such invention is not to be confined to the structures shown in the accompanying drawing.

In the drawing;

Figure 1 is a top plan view of a roof scraping machine constructed in accordance with my invention.

Figure 2 is a view in side elevation of the machine illustrated in Figure 1.

Figure 3 is a fragmentary view in elevation taken on the line 3—3 of Figure 1 and illustrates the adjusting means employed in connection with my invention.

Figure 4 is a view of the end of the handle forming a continuation of Figure 1.

Figure 5 is a section taken on the line 5—5 of Figure 3 and shows the operation of the adjusting means, and

Figure 6 is a section taken on the line 6—6 of Figure 1 showing how the motor is mounted in the frame and can be readily removed, therefrom.

Referring to the drawing in detail, 5 indicates a frame which may be constructed of a single piece of metal channel member bent to provide the side portions 6, front 7 and rear extensions 8, the latter of which are secured as by the bolt or rivet 9 to the lower end of a pipe section 10. This section 10 is further supported and secured between the extensions 8 of the frame through the medium of a bracket 11 secured in any suitable manner to the frame 5. The outer end of the pipe section is threaded as at 12 to receive the coupling sleeve in which is bolted as at 14, the handle section of pipe 15. This section 15 is provided with an insulated opening 16 through which extends a section 17 of an electric wire or conductor. The upper end of the handle section 15 is provided with a T 18 and handles 19, the section 15 being also provided with a snap switch 20 to which the wire 17 is secured so that the operator of the machine may readily start and stop the motor.

The section of wire 17 may be of any length and is provided with the usual plug 21 through the medium of which it may be connected with a source of power. The lower end of the section 17 of wire is connected through the medium of a socket 22 with the section 23 of wire leading to the motor 24. This motor, of the usual type of construction, is provided along its ends with the feet 25 which are arranged to slide into a slotted strip 26 secured in any suitable manner to the cross pieces 27 which in turn are suitably secured to the frame 5.

The slotted strip 26 carries the set screws 28 which are employed to hold the motor securely in its adjusted position and to permit removal of the motor when the machine is to be transported any distance, it being evident that the set screws also provide an adjustment whereby any slack may be taken up in the drive chain 29 which is operated over a suitable sprocket 30 carried on the end of the motor shaft 31.

This chain 29 operates a chain gear 32 secured to the end of a tubular shaft 33. This shaft 33 also carries the flywheel 34 which is mounted through the medium of suitable roller bearings, not shown, upon a fixed shaft 35 supported in the brackets 36 which are secured in any suitable manner in the frame 5.

The end of the hollow shaft 32 opposite the flywheel 34 carries a drive sprocket 38 over which passes a sprocket chain 39. This sprocket chain 39 passes around a sprocket gear 40 carried on the end of the shaft 41 or secured directly to the end of a rectangular block, which in turn is mounted on roller bearings that revolve on the shaft 41.

This rectangular block 42 is preferably made of metal and is referred to as a cutter block hereafter. It is longitudinally bevelled at its corners

as at 43 to receive the longitudinal cutters 44 which are secured thereto by the machine screws 45.

The motor, driving the shaft 33 through the sprocket chain 29 and its associated parts, will store up energy in the flywheel 34 and thus constantly keep in operation, the cutter block and cutters when the machine is being worked. Also, the impetus given the cutter block by the flywheel 34 will maintain a uniform speed of rotation and will provide the energy necessary for the rotation of the block to cut or chop away the roughened surface over which the machine passes, thus removing pebbles, slag and old tar, from a roof evenly and quickly.

In order that the cutters may be adjusted relatively to the surface being worked, there is secured to the frame 5, at the opposite sides thereof, the brackets 47 at the opposite sides of the machine, in the lower ends of which are journalled the rounded ends 48 of an adjuster shaft 49, which throughout its major portion is rectangular in cross section and adjacent the bracket 47 at one end, as illustrated in Figure 5, has secured thereto, the arm 50. This arm 50 is provided with a rectangular opening through which the shaft 49 passes so that a movement of the arm 50 will rock the shaft 49 in the brackets 47. The shaft 49 carries one or more adjustable feet 51 and which as illustrated in Figure 3, is rounded as at 54 on one side and bevelled as at 55 so that a rocking movement of the shaft 49 will roll the member 51 on its curved end 54 and thus lower the forward edge of the machine or frame relatively to the axle 56 which passes through the frame and to which is secured the wheels 57 through the medium of which the vehicle or machine is rolled along a surface.

The adjustable movement of the arm 50 is carried out through the medium of an operating rod 58 which is mounted for revolving movement in a collar 59 secured in the side bracket 36. The forward end of the rod 58 is threaded as at 60 and passes through the self-adjusting nut 61, which is threaded to the arm 50, whereby the arm 50 may be rocked due to the travelling movement of the nut 61 along the threaded surface 60 of the rod 58. It is understood that the shaft 58 is revolvably supported in the bracket 36 and is operated through the medium of a suitable handle 62 pivoted to the end of shaft 58.

It is evident that I have provided a scraping machine which can be employed for a variety of uses and one in which the cutters can be adjusted to vary the depth of cut and also a machine which can be taken apart for ease in shipment and one which can be operated at high speed to effectively perform all manner of scraping operations.

My machine is not to be restricted to the precise details of construction shown since various changes and modifications may be made therein without departing from the scope of the invention or sacrificing the advantages derived from its use.

What I claim is:

In a machine of the character described, a wheeled frame, a hollow handle on the frame, a fly-wheel shaft, a fly-wheel on the shaft, a cutter block journalled in the frame, cutters secured to the corners of the block, and extending transversely of said machine, a motor removably secured to said frame, driving connections between said motor, the fly-wheel shaft and the cutter block, a rock shaft journalled transversely of the frame, an adjusting rod arranged to rock said rock shaft, and extending rearwardly to a point adjacent said handle, a ground engaging foot member carried by said rock shaft and having a curved lower edge and bevelled portions whereby the cutters may be adjusted relatively to the ground on a rocking movement of said shaft, a link having threaded connection with said adjusting rod and secured to said rock shaft, and a handle for operating said adjusting rod.

FRANK LIBERTINI. [L. S.]