United States Patent

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[54] **RIPPING MACHINE**
6 Claims, 6 Drawing Figs.

[52] **U.S. Cl.** **299/36,** 30/170
[51] **Int. Cl.** **E04d 15/00**
[50] **Field of Search** 30/169, 170, 172; 299/36, 37

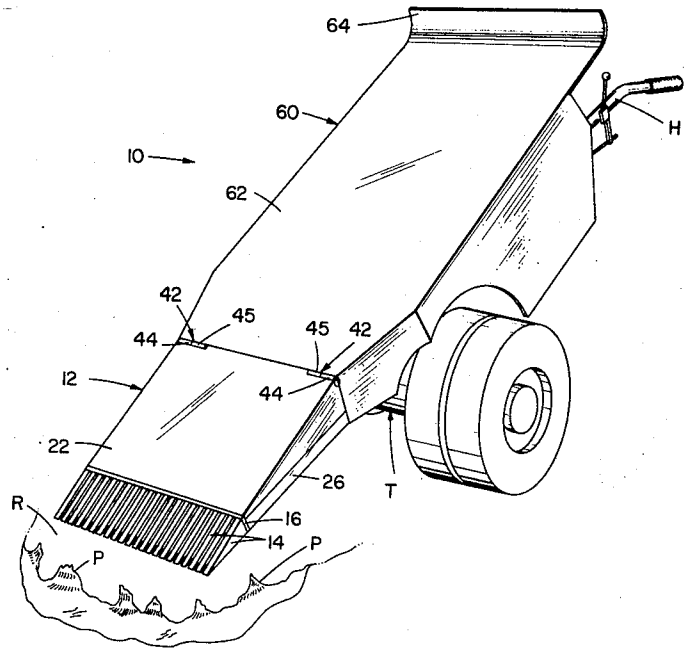
[56] **References Cited**

UNITED STATES PATENTS

2,777,680	1/1957	Robb	299/37
3,251,629	5/1966	Cawley	299/37
3,376,071	4/1968	Stein	299/37
3,563,608	2/1971	Crispino	299/37

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ABSTRACT: An improved roof-ripping machine having a tractor is provided which is used to thrust along the surface of a roof deck to break loose and remove old roofing paper from a roof. The machine, in addition to the tractor, consists of a ripping head having a fork assembly and a hinged shield. The fork assembly is provided with a plurality of tapered teeth to break loose and remove the roofing paper when driven forward by the tractor.



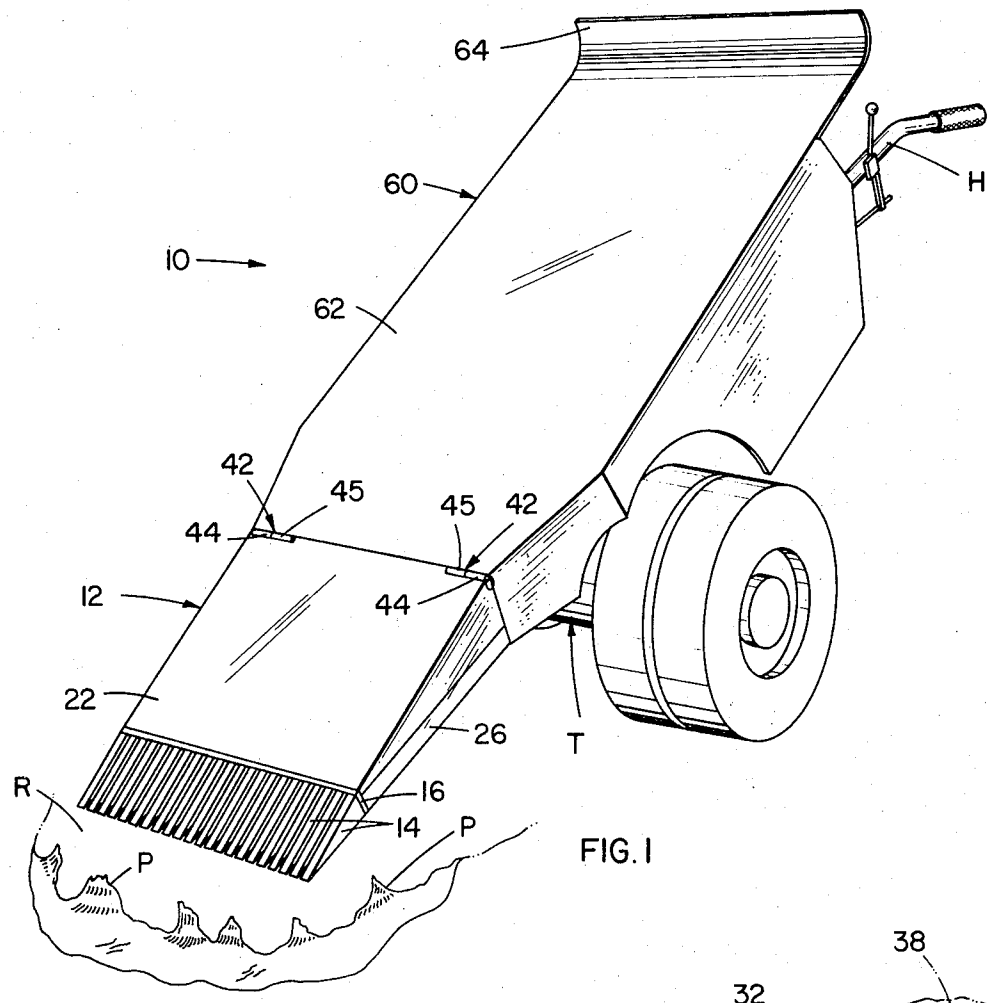


FIG. 1

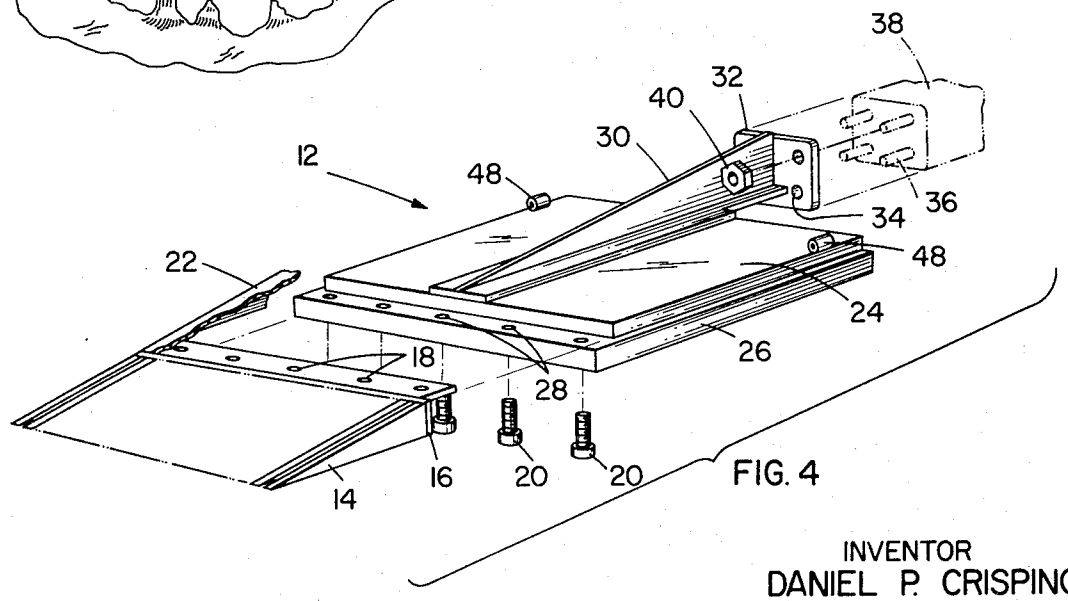


FIG. 4

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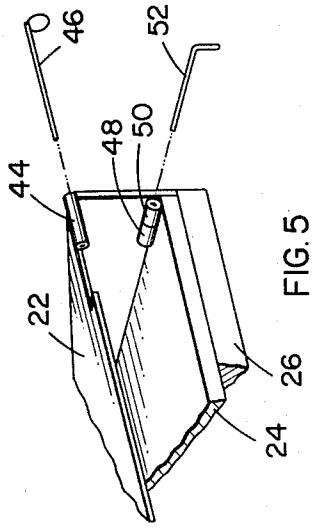


FIG. 5

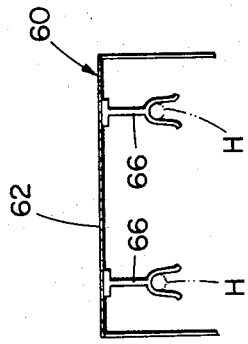


FIG. 6

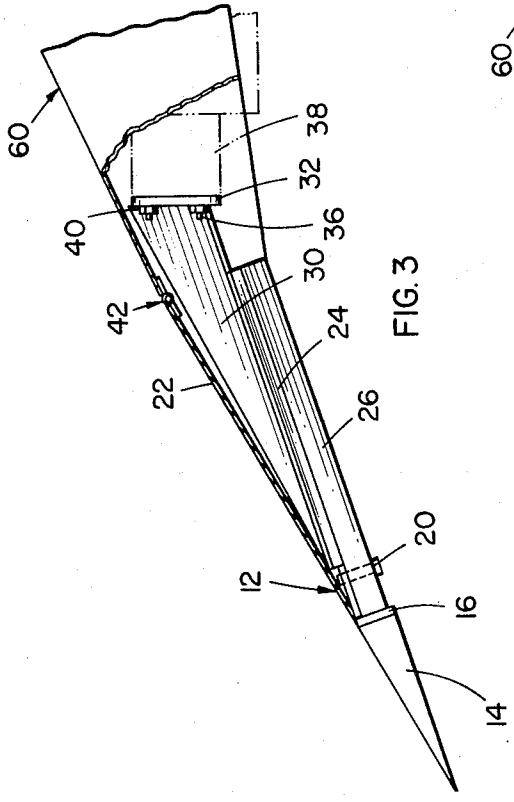


FIG. 3

FIG. 2

RIPPING MACHINE

This invention relates generally to surface-treating apparatus, and more particularly it pertains to a tractor-driven roof-ripping machine for old surfacing separation and removal of roofing paper and similar deck covering material.

In the past, ripping of deck covering or paper has been done with chisel bars which were manually thrust under the surfacing to be removed, which was then prized upward to break the bonding. Only small areas could be so removed with each operation and the deck covering or paper was usually broken into small pieces which cluttered the working area.

It is an object of this invention, therefore, to provide a tractor-driven roof-ripping machine for thrusting under and peeling away old surfacing sheet, roofing felts, rigid insulation, foam glass, and lightweight concrete, and to roofing laid on all types of roof-decks, including wood.

Another object of this invention is to provide a toothed-type tractor-driven roof-ripping machine for ripping sheet which has less tendency to bind than a continuous blade implement.

Still another object of this invention is to provide a simple, strongly reinforced thrusting blade attachment capable of heavy duty service on a tractor for use in removing deck covering and the like.

Still even another object of this invention is to provide a roof-ripping machine in which manual labor is minimized and large strokes are possible because of power assistance of a tractor unit.

Other objects and attendant advantages of this invention will become more readily apparent and understood from the following detailed specification and accompanying drawings in which:

FIG. 1 is a perspective view of a roof-ripping machine incorporating features of this invention;

FIG. 2 is a side elevation of a roof-ripping machine of FIG. 1 partially broken away to expose critical components;

FIG. 3 is an enlarged portion of the side elevation shown in FIG. 2;

FIG. 4 is an exploded perspective view of the forward portion of the roof-ripping machine of FIG. 1;

FIG. 5 is a partial perspective view showing disassembly features of a roof-ripping machine of FIG. 1; and

FIG. 6 is a section view taken along line 6—6 of FIG. 2.

Referring now to FIGS. 1 and 2 of the drawings, there is shown a roof-ripping machine designated generally by reference numeral 10 which is effectively used for the removal of roofing paper P and equivalent material coverings from roofs R. This roof-ripping machine 10 is composed of three main parts, namely a ripping head 12, a hinged shield 60, and a tractor T.

The head 12, shown best in FIGS. 2, 3, and 4, is provided with a front section for separating the paper P from the roof R. Fork members 14 are fixed to an angle member 16 which has a horizontal leg 18.

Leg 18 is provided with five threaded holes or apertures for receiving screws 20. The rear support section of the head 12 is composed of two plates 24, 26 fixed to one another, and which depend from a support 30. Support 30 is provided at its rear end with a mounting plate 32 having holes or apertures 34 for mounting to a tractor tool mounting head 38 by means of threaded studs 36, nuts 40, one of which is shown in FIG. 4.

The hinged shield 60, as shown in FIGS. 1 and 2, is provided with a deflective end portion 64 providing protection for the operator of the roof-ripping machine 10, and a tractor shield surface 62. The shield surface 62 of the shield 60 is utilized to shield support members 66,66 which rest on handles H,H of the tractor T.

The hinges 42,42 between the shield 60 and the head 12 are composed of two parts, namely one part 45,45 which is attached to the shield 60, and one part 44,44 attached to a lower shield 22 which is fixed to angle 16. The drawing pin 46 on both hinges 42,42 allows the shield 60 to be removed.

The removal of screws 20 and pins 52, which connect the front section of the head 12 with rear support section of the head 12 by being placed in the aperture of members 48,50 allows disconnecting of the front section of the head 12 from the rear section. Member 50 is fixed to shield 22, while member 48 is fixed to plate 24.

As shown in FIG. 2, when the roof-ripping machine 10 is operated, the paper P on the roof R comes off in small pieces or in large pieces as indicated by the phantom outlines on FIG. 2.

In actual operation, the ripping machine 10 is used much in the manner of a snowplow with the tractor T thrusting the points of the teeth 14 between the roof R and the paper P to break the bond therebetween at multiple spaced places and then elevating the loosened paper over the tapered teeth 14 and up the ramplike deflector shield 22 and shield 60 to be subsequently discarded.

Obviously many modifications and variations of the present invention are possible in light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

I claim:

1. A power-driven roof-ripping machine, comprising, means for separating a covering from a deck at multiple spaced places, means for distributing thrust to said separating means at said multiple spaced places, means for thrusting said thrust distributing means, pivotally mounted shield means for deflecting said covering on separation from the deck by said separating means, separating means including a fork assembly having a plurality of laterally related teeth, and tractor means for powering said thrust distributing means.

2. A power-driven roof-ripping machine as recited in claim 1, wherein said thrust distributing means including a plate member affixed to the fork assembly in the plane of said teeth, a beam member affixed to the plate member and projecting parallel thereto away from said teeth; and a coupling plate affixed angularly to said beam member, said coupling plate having means therein for attachment to said tractor means for thrusting said thrust distributing means.

3. A deck-covering ripper attachment as recited in claim 1, wherein said fork assembly includes a transverse bar carrying all said teeth, said bar being detachably affixed to said plate member.

4. A deck-covering ripper attachment as recited in claim 1, wherein said pivotally mounted deflecting means is pivotally affixed to said transverse bar and is detachable therewith from said plate member.

5. A deck-covering ripper attachment as recited in claim 1, wherein a portion of said deflecting means is supported in assembly by contact with said beam member.

6. A deck-covering ripper attachment as recited in claim 1, wherein said teeth are tapered.

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