Feb. 17, 1948. D. H. LUCAS 2,436,011

VACUUM LEAF PICKUP PULVERIZER

Filed April 6, 1945

Fig. 1.

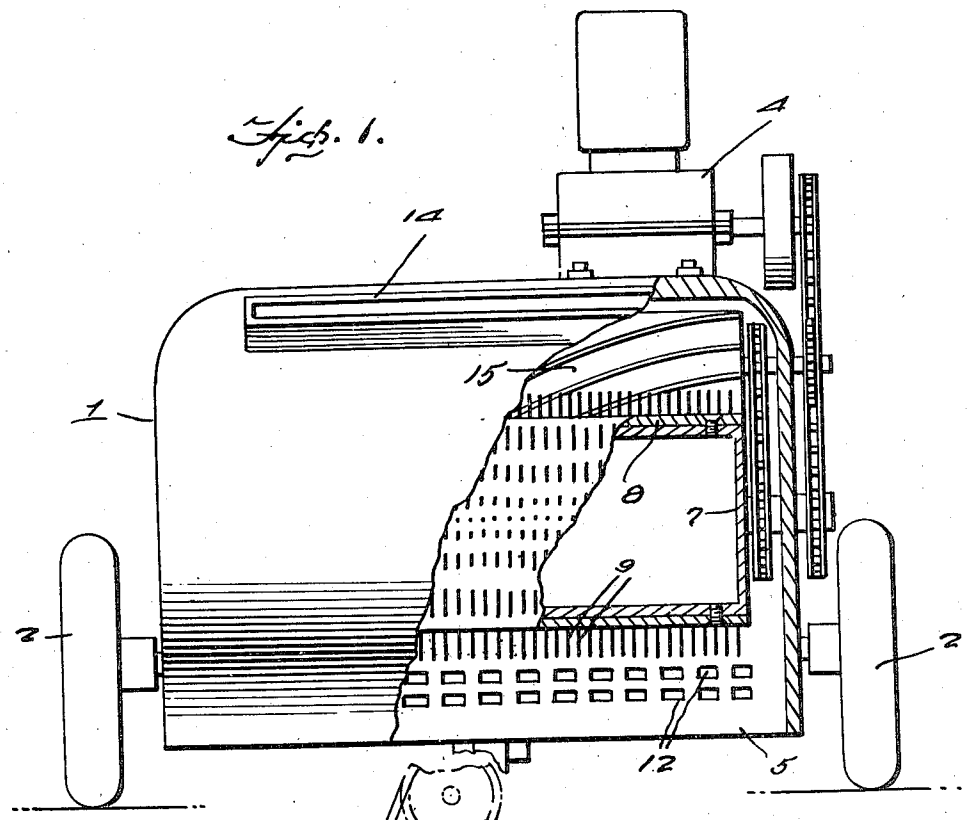
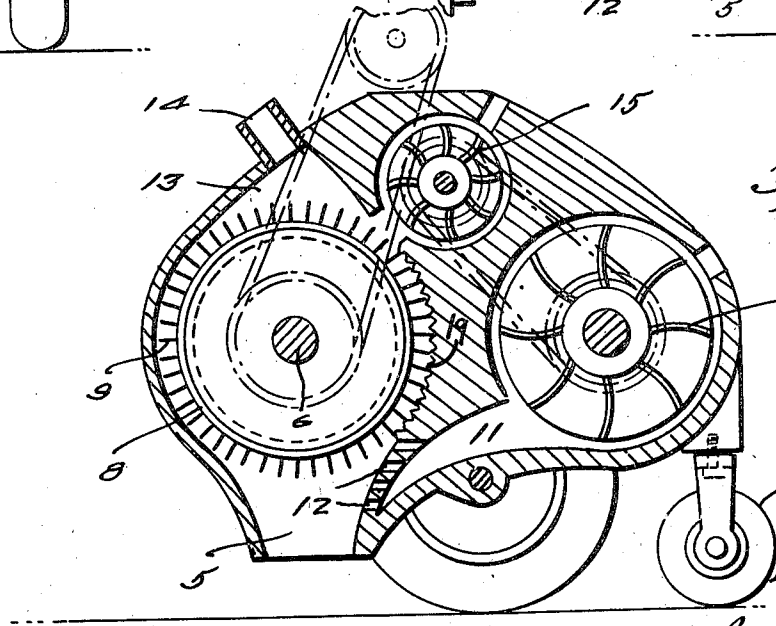


Fig. 2.



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VACUUM LEAF PICKUP PULVERIZER

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3 Claims. (Cl. 55—118)

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This invention relates to pulverizing devices, and more particularly to a device for picking up and pulverizing leaves.

A main object of the invention is to provide a novel and improved means for picking up and crushing leaves.

A further object of the invention is to provide an improved device of simple construction for removing leaves from streets, parks and grounds without the use of hand labor.

Further objects and advantages of the invention will appear from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a front elevational view of a device in accordance with this invention with portions broken away to show the internal structure.

Figure 2 is a longitudinal cross-sectional view of the device of Figure 1.

Referring to the drawings, 1 designates the body of the device, which comprises a housing mounted on side wheels 2, 2, and a rear dolly wheel 3. Mounted on body 1 is a small gasoline motor 4, which is connected by a suitable driving mechanism, not shown, to wheels 2, 2 to propel the device under its own power. The wheels are preferably provided with pneumatic tires.

At the forward portion of body 1 an interior receiving chamber 5 is provided having a downwardly facing inlet opening of substantial size. Transversely journaled in chamber 5 is a shaft 6 carrying a cylinder 7, said cylinder having rigidly mounted thereon a crusher sleeve 8. Sleeve 8 carries steel bristles 9 on its peripheral surface extending substantially over the entire area thereof.

The wall at one side of receiving chamber 5 adjacent to the peripheral bristles of the crusher sleeve 8 is provided with sharp serrations 19 providing an abrading surface of coextensive length with sleeve 8 for crushing leaves carried thereto by the steel bristles. The leaves are drawn into chamber 5 by a suction fan 10 mounted in the rearward portion of body 1 and communicating with chamber 5 by a passage 11 and a plurality of slots 12 connecting passage 11 to chamber 5. The suction produced by fan 10 is effective to draw leaves into chamber 5 against the peripheral steel bristles on sleeve 8.

Provided above the crushing cylinder is a discharge space 13 communicating by a discharge spout 14 with an appropriate receptacle for crushed leaves such as a bag. A blower fan 15 is provided in the upper portion of body 1, said blower fan having its discharge outlet directed so

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as to blow the crushed leaves off the steel bristles after abrasion against serrations 19 and into discharge space 13 for exhaust through spout 14.

Crusher shaft 6, suction fan 10 and blower fan 15 are driven by gasoline motor 4 by appropriate chain gearing. As shown in Figure 2, the direction of rotation of shaft 6 is such as to carry leaves drawn into chamber 5 against the abrading serrations 19 and upwardly into discharge space 13.

It is thus apparent that the device described in the foregoing description can be employed to rapidly clear any desired area of leaves and to convert said leaves into pulverized material which may be commercially useful per se. It is also apparent that tedious manual effort is reduced to a minimum by the use of the device.

Although separate suction and blower fans are disclosed herein, said fans may be combined into a single unit, if so desired, with the intake portion providing the suction effect and the exhaust portion providing the blower effect.

While a specific embodiment of a leaf disposal device has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore it is intended that no limitations be placed on the invention other than as defined by the scope of the appended claims.

What is claimed is:

1. A leaf disposal device comprising a body, an interior receiving chamber in the forward portion of said body, said chamber being provided with a downwardly facing inlet opening extending through its bottom and having an outlet opening in its outer wall adjacent the upper portion thereof, the exterior surface of the inner wall of said chamber being provided with an abrading means, a cylinder having abrading elements about its peripheral surface arranged within said chamber intermediate said inlet and outlet openings and mounted for rotation about a horizontal axis, the abrading elements of said cylinder coacting with said abrading means to thereby constitute a crushing means, suction means in association with said receiving chamber for causing leaves to be drawn upwardly through the inlet opening in said receiving chamber and delivering same to said cylinder, means for driving said cylinder in a direction such as to abrade the leaves between said crushing means, and means for expelling the crushed leaves from the receiving chamber.

2. A leaf disposal device comprising a body, an interior receiving chamber in the forward portion

of said body, said chamber being provided with a downwardly facing inlet opening extending through its bottom and having an outlet opening in its outer wall adjacent the upper portion thereof, the exterior face of the inner wall of said chamber being provided with an abrading means, a cylinder having abrading elements about its peripheral surface arranged within said chamber intermediate said inlet and outlet openings and mounted for rotation about a horizontal axis, the abrading elements of said cylinder coacting with said abrading means to thereby constitute a crushing means, suction means in association with said receiving chamber for causing leaves to be drawn upwardly through the inlet opening in said receiving chamber and delivering same to said cylinder, means for driving said cylinder in a direction such as to abrade the leaves between said crushing means, and means embodying a blower in association with said receiving chamber for expelling the crushed leaves therefrom.

3. A leaf disposal device comprising a body, an interior receiving chamber in the forward portion of said body, said chamber being provided with a downwardly facing inlet opening extending through its bottom and having an outlet opening in its outer wall adjacent the upper portion thereof, the exterior face of the inner wall of said chamber being provided intermediate its opposite ends with a plurality of serrations, a cylinder having bristle elements about its peripheral surface arranged within said chamber intermediate said inlet and outlet openings and mounted for rotation about a horizontal axis, said bristle elements coacting with said serrations to thereby constitute a crushing means, a second chamber in said body positioned to the rear of said receiving chamber and in communication with the latter, suction means within said second chamber for causing leaves to be drawn upwardly through the inlet opening in said receiving chamber and delivering same to said cylinder, means for driving said cylinder in a direction such as to abrade the leaves between said crushing means, a third chamber in said body positioned above and contiguous to said receiving chamber and in communication with the upper portion of the latter, and blower means within said third-named chamber for expelling the crushed leaves out through the outlet opening of said receiving chamber.

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The following references are of record in the file of this patent:

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