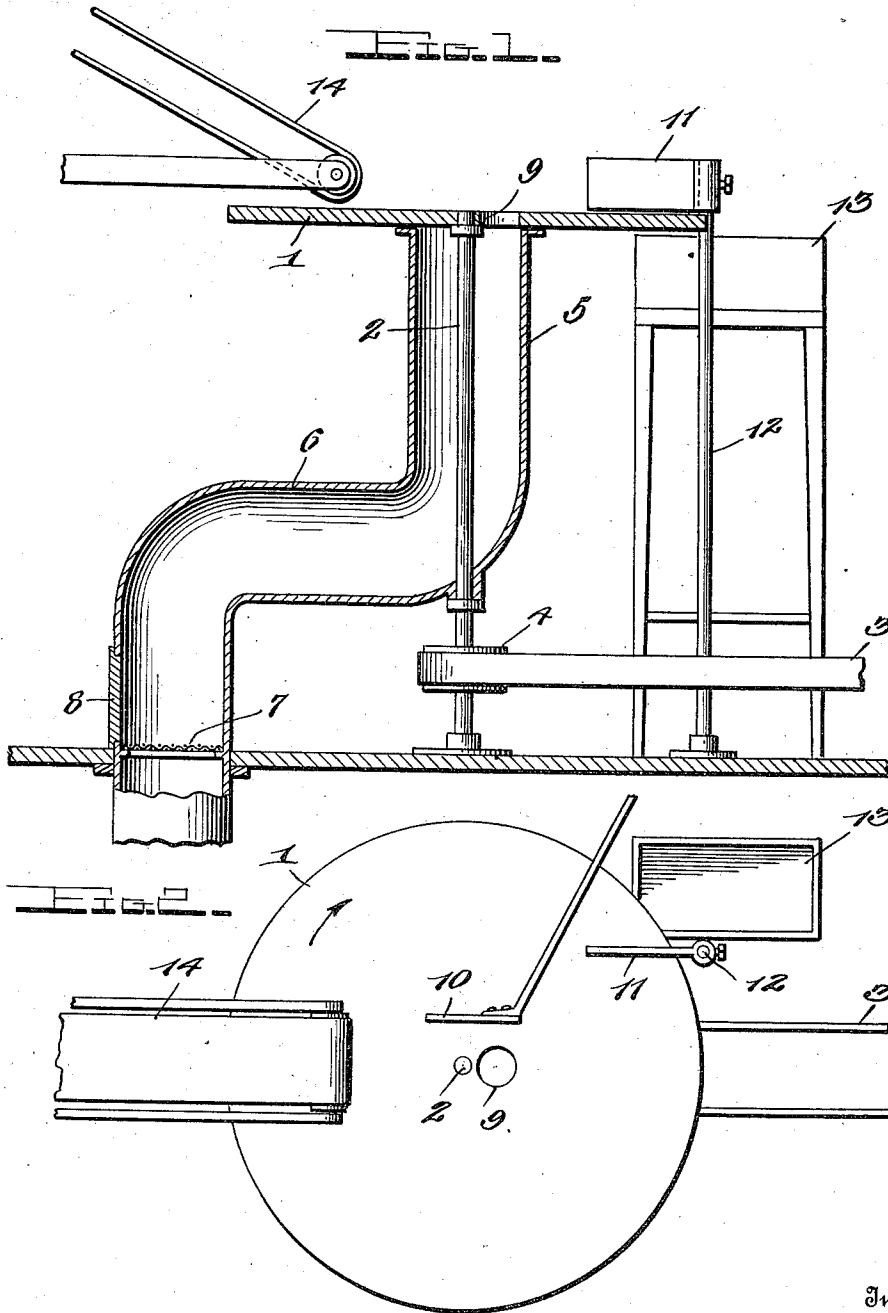


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To all whom it may concern:

Be it known that I, GORDON WYMAN ELDER, a citizen of the United States, residing at Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Separators, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention comprehends certain new and useful improvements in separators of the centrifugal type, and relates particularly to an improved construction of separator designed especially for use in a rubber reclaiming plant for separating the heavier particles of rubber from the lighter particles of shredded canvas, floss, or the like, after the material to be operated upon, such as worn-out tires, rubber hose or the like has been comminuted by the action of a grinding machine, although it is to be understood that the invention is not limited to this use but is of general application.

20 The invention has for its primary object a simple, durable and efficient construction of apparatus of this character, the parts of which may be cheaply manufactured and readily assembled and installed, and which will require practically no attention to maintain in proper running order. And the invention also aims to generally improve this class of devices and to render them more useful and commercially desirable.

25 With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

30 For a full understanding of the invention reference is to be had to the accompanying drawing, in which—

35 Figure 1 is a vertical sectional view of my improved separator, parts being shown in side elevation; and Fig. 2 is a top plan view thereof.

40 Corresponding and like parts are referred to in the following description and designated in the accompanying drawing by the same reference characters.

45 My improved rubber separator includes a revoluble disk 1 which may be of any size and formed of any desired material, the said disk being secured in a horizontal position on the upper end of a vertically disposed actuating shaft 2 which may be supported in

any desired way and operated by any desired means, as by a driving belt 3 passing over a pulley 4 secured to the shaft 2 at or near the lower end of the latter. The shaft 2 passes into and through a suction pipe 5, the upper end of which is in contact with the bottom surface of the disk 1, said tube being preferably provided with a lateral branch 6 in which a trap 7 is mounted, the trap being provided with an opening leading therinto and protected by any suitable form of detachable closure as that indicated at 8, whereby when the closure is in position, there will be no interference whatever with the proper suction action and whereby, whenever it is desired to remove from the trap 7 the canvas shreds or floss or similar substances deposited therein by the air suction, the closure 8 may be removed and such lighter particles taken out. It is to be understood that the suction in the pipe 5 is induced in any desired way and from any suitable suction fan or the like (not shown).

50 The rapidly revolving disk 1 is formed close to its center, but eccentric thereto, with an opening 9 which communicates with the upper end of the suction pipe 5 and which is of such a diameter and so disposed that it will at all times in the revolution of the disk be in registry with the upper end of the suction pipe.

55 From as much of the description as has preceded, in connection with the accompanying drawing, it will be understood that when the ground up material such as rubber tires, rubber hose or the like is deposited upon the upper surface of the disk 1, preferably near the opening 9 but at a point outside of the circular path of movement of said opening, the heavier particles, that is the rubber particles, will, owing to the centrifugal action, tend to move toward the periphery or rim of the disk 1, while the lighter particles such as the canvas shreds or floss will be drawn by the suction induced in the pipe 5, into said pipe and will be caught in the trap 7. As the lighter particles are thus separated from the heavier, their passage into the pipe 5 through the opening 9 may be facilitated by means of a manually operated rake 10.

60 In order to insure that the heavier particles will be properly directed into a suitable receptacle arranged to receive them I have provided a deflecting plate 11 which extends over the upper surface of the disk

1 at the rim thereof, said deflecting plate being operated by hand if desired, but being preferably mounted in a relatively stationary position by fastening it on the upper
5 end of a standard 12 which is secured in any desired way to the floor or other support. Thus the rubber will be deflected outwardly by the plate 11 and directed into any suitable receptacle such as that indicated at 13.
10 To deposit the substances upon the upper surface of the disk 1, I preferably employ an endless conveyer 14, the receiving end of which is in communication with the discharge end of a grinding machine (not
15 shown) and the lower or discharge end of which is located in adjusted position to the upper surface of the disk 1 and terminates at such a distance outside of the circular path of movement of the opening 9 that
20 there will be no liability of the mixed particles, such as the rubber and canvas shreds, passing into the opening 9 of the disk.

From the foregoing the operation of my improved centrifugal separator will be apparent. In the practical use of the device
25 as the heavier and lighter particles are fed by the conveyer 14 down upon the surface of the disk 1, the disk being rapidly rotated and a suction current being induced in the pipe 5, the heavier particles will tend to move out toward the rim of the disk and will be caused by the deflector 11 to pass over
30 into the tray or other receptacle 13, while the lighter particles will be drawn through the opening 9 into the tube or flue 5 and will be deposited in the trap 7, from whence they may be removed.

It will be seen that the entire mechanism
40 is exceedingly simple and composed of very few parts that will not be liable to get out of order, that will require practically no attention or repair and that may be easily

assembled and installed in a rubber reclaiming plant or the like.

While the accompanying drawing illustrates what I believe to be the preferred embodiment of my invention, it is to be understood that the invention is not limited thereto, but that various changes may be made in the construction, arrangement and proportions of the parts without departing from the scope of the invention as defined in the
50 appended claim.

Preferably, the deflecting plate 11 is axially mounted on its shaft or standard 12, 55 being secured in different positions by a set screw as shown, whereby it may be moved to the best possible advantage over the upper surface of the disk 1 to properly deflect the heavier particles outwardly from the disk
60 into the receptacle 13.

Having thus described my invention I claim:

A separator of the character described, including a horizontally disposed revoluble
65 disk, a vertical shaft carrying said disk, means for rotating said shaft to turn the disk, the disk being formed close to its center but eccentric thereto with an opening, a flue extending downwardly from the lower
70 face of said disk and of a diameter to circumscribe the path of movement of said opening, a deflecting plate supported over the upper surface of the disk at the rim
75 thereof, for the purpose specified, and a conveyer terminating at its discharge end outside of the path of movement of the opening in the disk, but close thereto.

In testimony whereof I hereunto affix my
80 signature in the presence of two witnesses.

GORDON WYMAN ELDER.

Witnesses:

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