Jan. 9, 1945. P. L. BERRY 2,366,705

COTTON CLEANER

Filed July 28, 1943 2 Sheets-Sheet 1

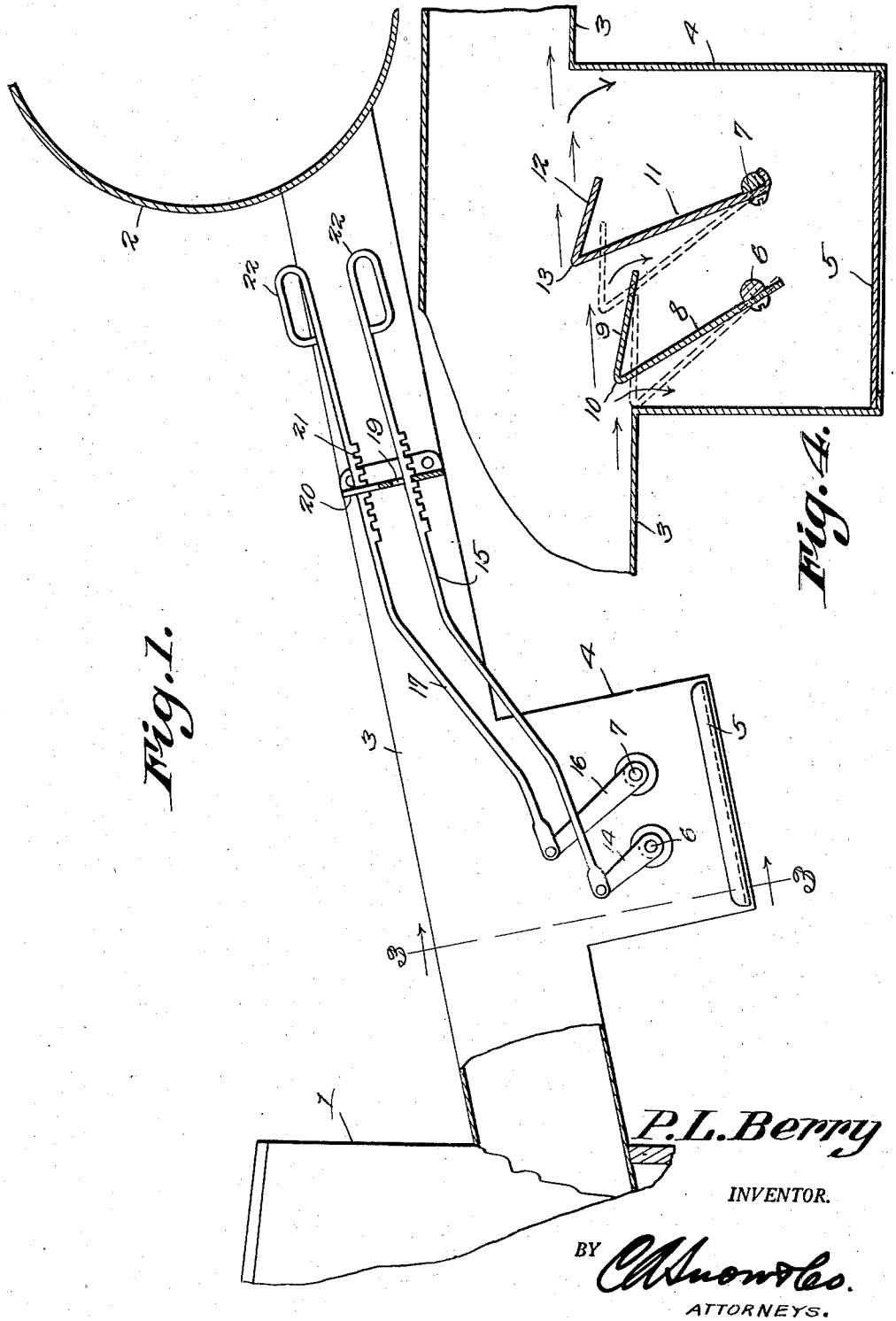


Fig. 1.

Fig. 4.

P. L. Berry

INVENTOR.

BY C. A. Snow & Co.

ATTORNEYS.

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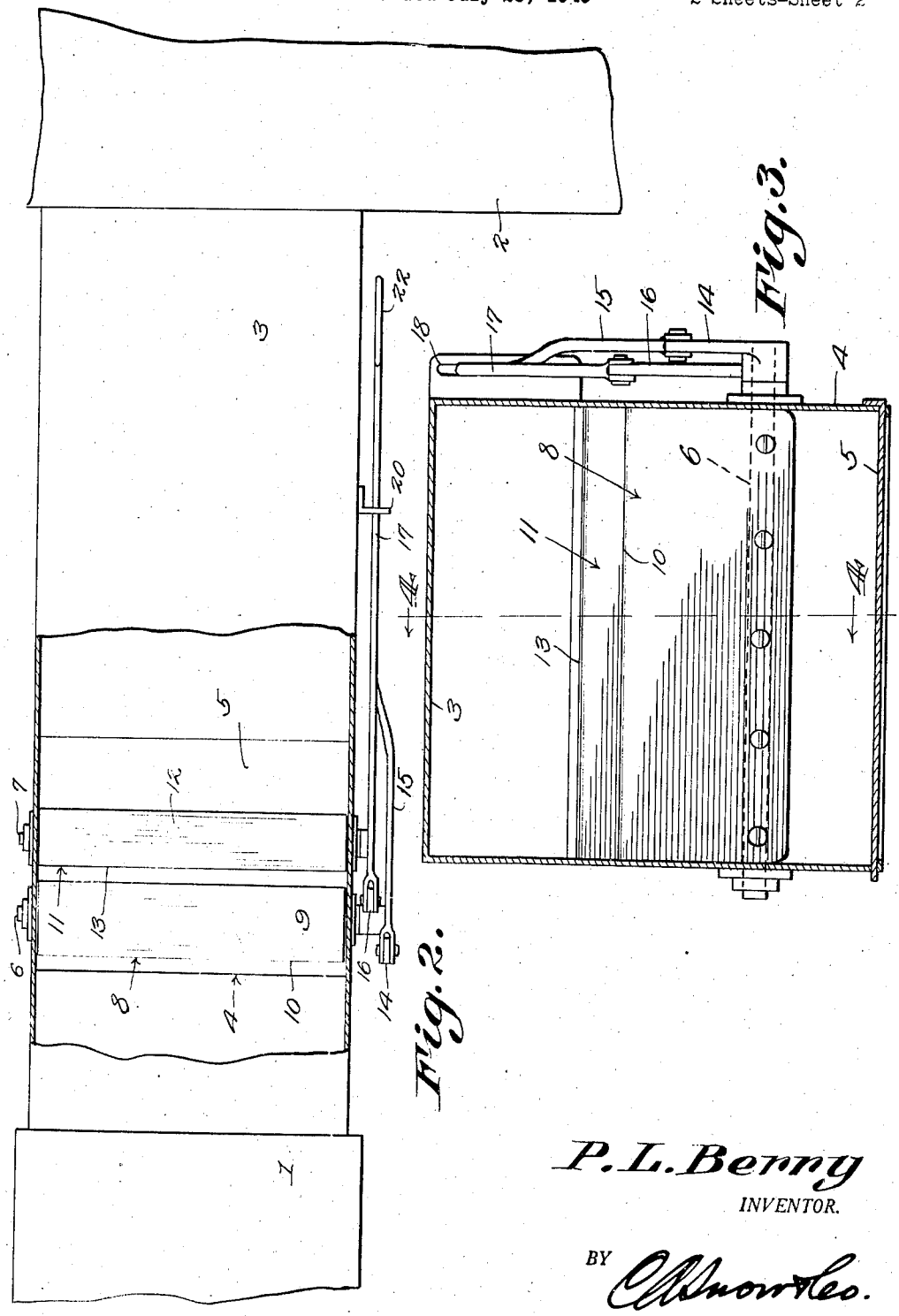


Fig. 2.

Fig. 3.

P. L. Berry
INVENTOR.

BY Albert Lee.
ATTORNEYS.

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COTTON CLEANER

Prentiss Lafayette Berry, Vance, Miss.

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1 Claim. (Cl. 19—76)

This invention relates to means for cleaning lint cotton after it leaves the gin and while it is being conducted to the main lint flue, it being possible through the use thereof to separate foreign matter from the lint by gravity, the cleaner being readily adjustable to adapt it for cleaning cotton lint of different types such as green or dry or trashy or clean.

It frequently happens that considerable trash passes through the saws with the lint after the seeds have been extracted but by providing a cleaner such as constitutes the present invention, this foreign matter can be removed by gravity before the lint reaches the main flue to which it is being directed from the gin.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings

Figure 1 is a view partly in side elevation and partly in section of a portion of a gin, a portion of the main flue used to conduct lint to the press, and a connecting flue provided with the present improvements.

Figure 2 is a view partly in top plan and partly in section of the structure shown in Fig. 1.

Figure 3 is an enlarged section on line 3—3, Fig. 1.

Figure 4 is a section on line 4—4, Figure 3.

Referring to the figures by characters of reference, 1 designates a portion of a gin containing the gin saws, etc., and 2 designates the main flue utilized for carrying the lint to a press. As a general rule one of these flues is connected to several gins. In the present case it is shown connected to a single gin by means of a lint flue 3 through which lint from which the cotton seeds have been removed will travel through the flue 2.

While the flue 3 is of uniform width throughout its length, that end portion nearest the gin is of greater depth than that end portion nearest the flue 2 and between these two end portions is located a depending separating chamber 4 extending throughout the width of the flue and opening upwardly thereinto. This separating chamber can be provided with a bottom 5 in the form of a slide which can be open for the purpose of cleaning the separating chamber.

Parallel shafts 6 and 7 are journalled in the side walls of the separating chamber 4 and extending upwardly from the shaft 6 and fixed thereto so as to move therewith is a plate 8 extending throughout the width of chamber 4 and constituting a baffle. The upper end portion of this plate is bent at an acute angle away from the large end of the flue to provide a wing 9 and the angle portion 10 of the baffle is so positioned that when it is in contact with the adjacent wall of chamber 4, the wing 9 will be substantially in line with the bottom of the large end of the flue. This is clearly shown in Fig. 4.

Another plate 11 is secured to the shaft 7 and is fixed thereto so as to move therewith and this plate has its upper end portion merging into a wing 12 disposed at an acute angle thereto, the angle portion 13 formed by the baffle plate 11 and its wing 12 being located at all times above the level of the wing 9. When the wing 9 is in its lowermost position, as shown by broken lines in Fig. 4, and the baffle plate 11 is resting against the wing 9, wing 12 of baffle 11 will be in a plane substantially parallel with the plane occupied by the wing 9 but below the level of the bottom of the small end of flue 3 as clearly shown in Fig. 4.

Shaft 6 has an arm 14 at one end secured thereto and provided with an operating rod 15. Another arm 16 is fixedly secured to one end of shaft 7 and has an operating rod 17 secured thereto. Both rods are extended through openings 18 and 19 respectively formed in a bracket 20 secured to and extending laterally from the flue 3. Both rods are provided with teeth 21 along their lower edges for engaging the lower walls of the respective openings 18 and 19 whereby, following longitudinal adjustment of the rod, they can be dropped into engagement with the walls of the respective openings and thus held against further longitudinal movement. Both rods are provided with handles 22 by which they can be manipulated readily.

At no time is the top of the chamber 4 closed. When the baffle plates 8 and 11 are swung to the left in Figs. 1 and 4 to their extreme positions, they will be located as indicated by broken lines in Fig. 4 with the bottom of flue 3 and the wings 9 and 12 all occupying substantially parallel planes but with wing 12 spaced from that wall of chamber 4 nearest flue 2. By manipulating rod 17, however, baffle plate 11 can be swung away from baffle plate 8 to the full line position shown in Fig. 4 or to any other desired

position and the baffle plate 8 can similarly be adjusted to any desired position either in contact with or spaced from the baffle 11 and the wall of chamber 4. It is intended to adjust these baffles relative to each other so as to meet the requirements of the particular cotton lint to be cleaned.

It is to be understood that, when the lint leaves the gin, it frequently contains trash which should be removed therefrom before it passes into the flue 2. The lint may be green or it may be dry. It is intended to adjust the baffles so as to afford the most advantageous result in removing the foreign matter from the lint as it passes through flue 3 from the gin 1. When the lint reaches the top of chamber 4 the heavier undesirable material mixed therewith will be deflected downwardly into chamber 4, gravitating to the bottom thereof. If the lint contains a considerable amount of trash, it is preferred to swing the baffles upwardly as indicated, for example, by full lines in Fig. 4. If the lint is comparatively free of undesirable matter, however, the baffles can be swung downwardly to the positions shown by broken lines in Fig. 1. In any case sufficient area will be provided to permit gravitation of foreign substances from the bottom of the flue into the chamber 4 and when a predetermined amount of this material has accumulated in the chamber, the slide bottom 5 can be opened and the collected material released therefrom.

Importance is attached to the fact that this cleaner is located between the gin and the flue so that the lint is cleaned after the seeds have been removed therefrom. Thus the invention is distinguished from those employed in which the cleaning operation takes place before the seeds are removed, or during the seed-removing operation, neither of which operations are entirely satisfactory, if employed alone because some objectionable material frequently passes from the gin with the lint and it is this material which the present invention is designed to remove.

What is claimed is:

The combination with a gin and a lint flue extending across the gin, of a connecting flue extending from the gin to the lint flue, a downwardly extending portion carried by the connecting flue and providing a separating chamber, that portion of the bottom of the connecting flue between said chamber and the gin being in a plane below the plane occupied by the remainder of the bottom portion of the connecting flue, separate baffle plates within the separating chamber and mounted to swing about parallel axes respectively, separate means for adjusting the respective baffle plates angularly, said baffle plates being positioned with the upper ends thereof at different elevations within the upper portion of the chamber and between the planes of the upper and lower bottom portions of the connecting flue, and wings extending from the upper ends of the baffle plates and away from the ends, said wings being normally positioned in separate planes parallel with the planes of the two bottom portions of the connecting flue.

PRENTISS LAFAYETTE BERRY.