June 3, 1930. T. N. PIERSON 1,761,842

ELEVATOR BOOT

Filed Feb. 11, 1929

Fig. 1.

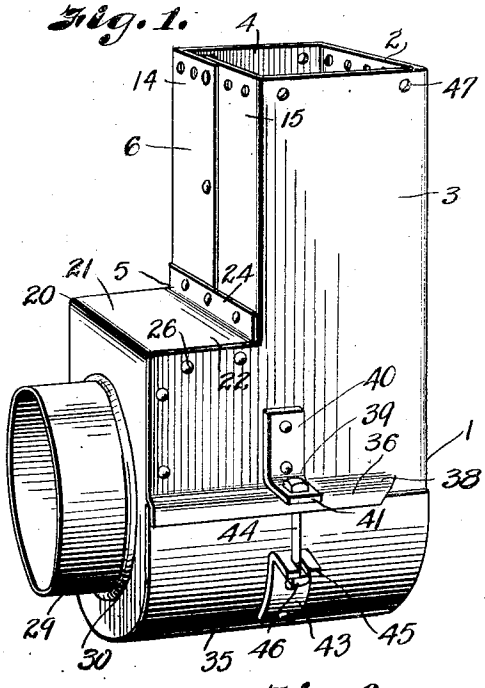


Fig. 2.

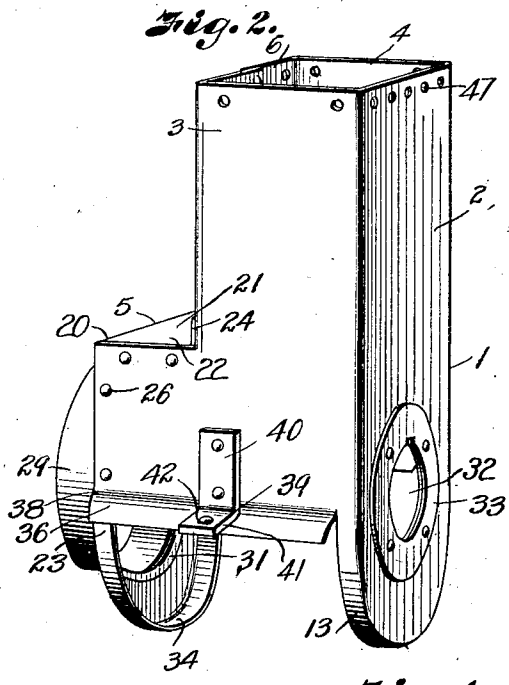


Fig. 3.

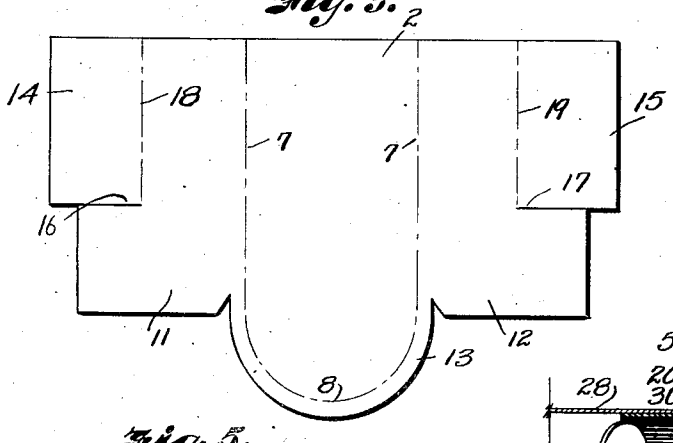


Fig. 4.

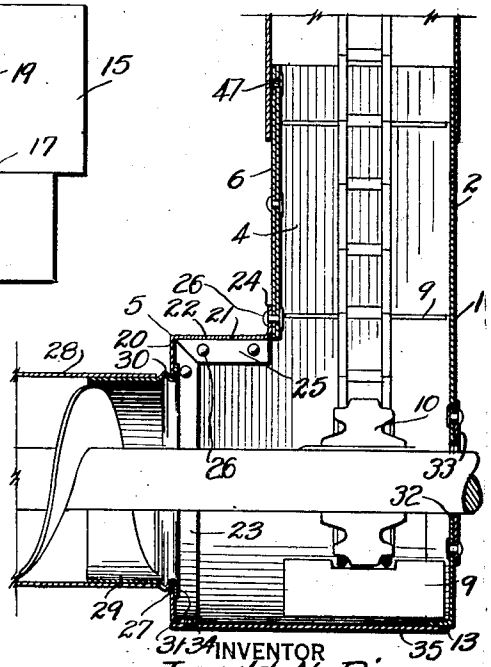
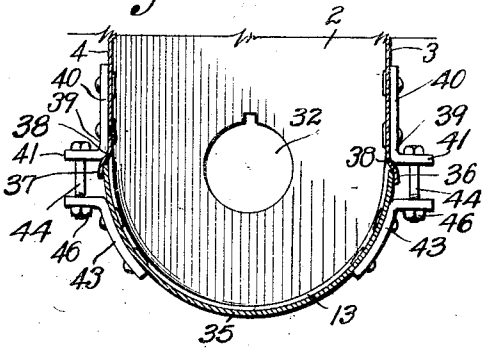


Fig. 5.



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1,761,842

UNITED STATES PATENT OFFICE

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ELEVATOR BOOT

Application filed February 11, 1929. Serial No. 339,236.

My invention relates to elevator boots, and more particularly to a device of that character for use in conducting grain from a grain harvester, the principal object of the invention being to provide a boot of simple and durable construction having a minimum number of joints.

It is a further object of the invention to provide the boot with a cleanout door which may be readily removed and securely replaced.

In accomplishing these and other objects of the invention, I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings, wherein:

Fig. 1 is a perspective view of the boot, showing the cleanout door in position.

Fig. 2 is a similar view from a different angle, with the cleanout door removed.

Fig. 3 is a development of the main portion of the boot.

Fig. 4 is a vertical sectional view through the shoe.

Fig. 5 is a cross section illustrating the fastening of the cleanout door.

Referring in detail to the drawings:

1 designates an elevator boot comprising a front wall 2, substantially L shaped side walls 3 and 4 and a stepped rear wall 5, the front wall 2 side walls 3 and 4 and the upper portion 6 of the rear wall being formed from a single sheet of metal as shown in Fig. 3. The front wall constitutes the central portion of the sheet as indicated by the broken line 7 curved at its lower end as at 8 complementary to the path of the elevator buckets 9 as they travel about the driving sprocket 10 later described, the side walls being formed from portions 11 and 12 extending laterally from the sides of the front portion of the sheet and bent at right angles thereto on the line 7, the curved portion 8 being somewhat larger than that of the front wall to provide a flange 13 which is formed when the side portions are bent along the broken line. Wing portions 14 and 15 extend from the upper corners of the portions 11 and 12 and lie within the angles 16 and 17 of the said side portions. The wings are bent inwardly on the dotted lines 18 and 19 and riveted to form the upper instepped portion 6 of the rear wall 5.

A plate 20 constitutes the lower portion of the rear wall and is of a shape complementary to the lower half of the front wall, the plate being provided with an extension 21 which is bent inwardly to form the horizontal wall 22 of the inset. The plate is also provided with forwardly directed flanges 23 along its sides and bottom for attachments of the plate to the side walls of the boot, and the extension 21 is provided with an upwardly directed flange 24 along its forward edge for attachment to the upper inset portion of the rear wall and downturned flanges 25 for attachment to the upper edges of the step of the side walls. Fastening devices such as rivets or the like 26 are used for securing the flanges to the side walls. However, I do not wish to be limited to rivets as the flanges may be welded, bolted or otherwise secured to the side walls.

The lower portion of the rear wall is provided with a central opening 27 of substantially the diameter of the conveyor housing 28 and a thimble 29 is secured therein by providing the thimble with a peripheral rib 30 which engages the outer edge of the opening to form a stop shoulder and the inner end of the thimble is flanged outwardly against the inside edge of the opening as at 31 to retain the thimble so that the conveyor housing may be slipped thereover and riveted or otherwise secured to the thimble. The front wall is provided with a shaft opening 32 concentric with the conveyor housing and reinforced by a ring 33.

The curve inturned flange 13 at the lower end of the front and curved portion 34 of the flange 23 on the wall provide seats for a curved cover 35 adapted to close the bottom of the housing. The lower edges 36 and 37 of the side walls are preferably offset outwardly as at 38 to overlap the upper edges of the cover plate.

In order to secure the cover plate in position I provide the side walls with angle-shaped lugs 39 having vertical legs 40 thereof riveted to the walls of the boot with the hori-

zontal legs 41 extending laterally thereof and provided with openings 42. Similar lugs 43 are secured to the cover plate in alignment with the lugs 39 and bolts 44 are projected through the openings 42 in the lugs 39 and slots 45 in the lugs 43 so that the cover may be tightened against the flanges by adjusting the nuts 46 on the bolts.

The elevator may be of any conventional type but is here illustrated as a chain having the buckets or blades operating over a sprocket fixed on an extension of the conveyor shaft.

The upper end of the boot may be provided with suitable openings 47 by which it may be secured to the elevator housing.

From the above description it is apparent that I have provided an elevator boot composed of a minimum number of parts, without unnecessary seams and joints, and including a cleanout door which is assembled with the boot to obviate loss of grain.

What I claim and desire to secure by Letters Patent is:

1. An elevator boot including a body member shaped from a single piece of metal bent to form a front wall and side walls, upper portions of the side walls having wings bent inwardly and secured together to form an upper rear wall section and shoulders below said section, a plate covering the lower, rear and shouldered portions of said body and having an upturned flange attached to said upper rear wall section, and a cover removably attached to said body for closing the lower end thereof.

2. An elevator boot including a body member shaped from a single piece of metal bent to form a front wall and side walls, upper portions of the side walls having wings bent inwardly and secured together to form an upper rear wall section and shoulders below said section, a plate covering the lower, rear and shouldered portions of said body and having an upturned flange attached to said upper rear wall section, the front wall and plate having extensions, and a cover seating on said extensions and removably attached to said body member for closing the lower end thereof.

3. In an elevator boot, a body member including front and rear walls having extensions at their lower ends provided with seat flanges and side walls having outwardly and downwardly extending keeper flanges, and a cover member seated on the seat flanges with its edges retained by the cover flanges, and means for removably attaching the cover member to the body member.

4. An elevator boot including a body member shaped from a single piece of metal bent to form a front wall and side walls, upper portions of the side walls having wings bent inwardly and secured together to form an upper rear wall section and shoulders below said sections, a plate covering the lower, rear and shouldered portions of said body and having an upturned flange attached to said upper rear wall section, the front wall and plate having extensions and provided respectively with a shaft bearing and conduit opening, and a cover seating on said extensions and removably attached to said body member for closing the lower end thereof.

In testimony whereof I affix my signature.

TORVALD N. PIERSON.