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COTTON WEIGHING DEVICE FOR COTTON GIN BALERS

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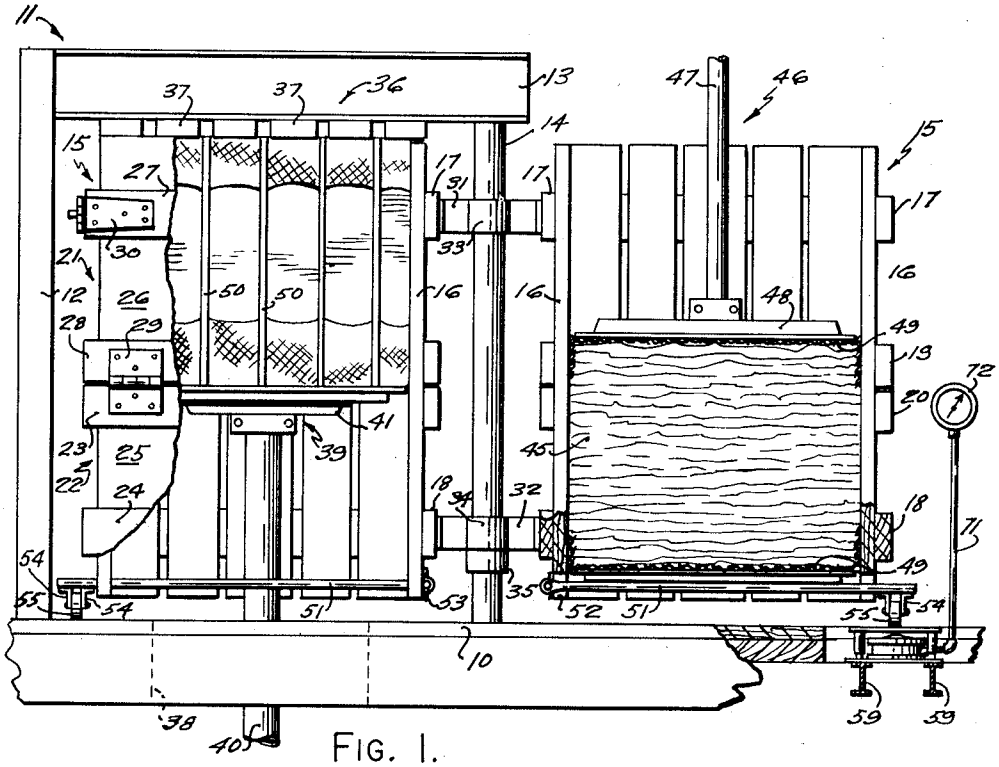


FIG. 1.

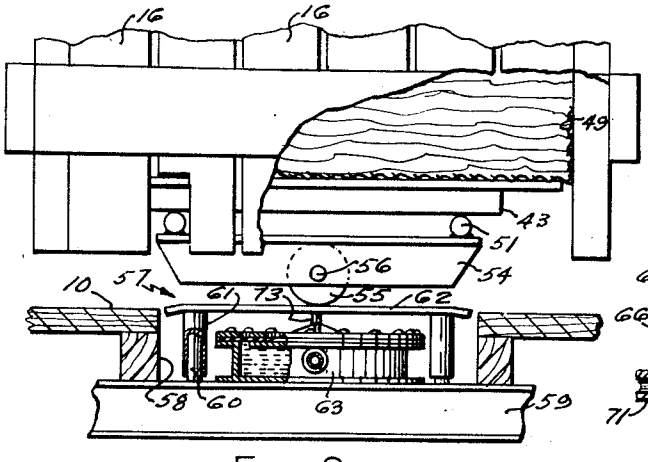


FIG. 2.

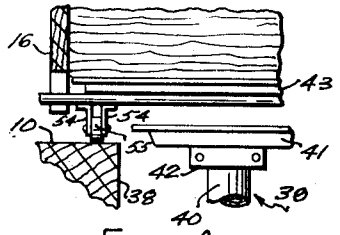


FIG. 4.

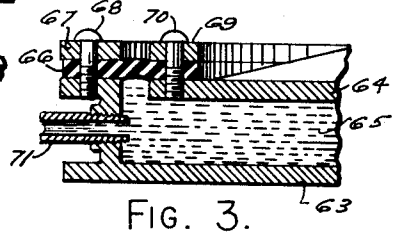


FIG. 3.

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COTTON WEIGHING DEVICE FOR COTTON GIN BALERS

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3 Claims. (Cl. 100—99)

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This invention relates to cotton gins and has reference to a double box revolving baling press. Generally, such presses are comprised of a pair of press boxes journaled on a center post positioned therebetween, and as the cotton in one box is being pressed and tied, the remaining box is being filled with lint cotton. After the baled cotton is removed from the box it is baled in, the formed boxes are revolved to position the previously empty box to receive the lint cotton, and to position the filled box for pressing and tying.

An object of the invention is to provide a construction whereby the cotton may be weighed as it is received in the box being filled, and whereby the resulting bales may be of uniform weight and size for convenience in storing, handling and shipping.

These ond other objects of the invention will become apparent from the following description and the accompanying drawings.

Figure 1 is a broken elevation and sectional view of a double box baling press embodying the features of the invention.

Figure 2 is an enlarged broken elevation and sectional view taken at a right angle with respect to Figure 1.

Figure 3 is a vertical broken sectional view of the weighing apparatus employed in the preferred embodiment of the invention.

Figure 4 is a broken vertical sectional view showing the position of the follower block supporting roller of one of the press boxes when the latter is over the baling ram.

The numeral 10 designates a cotton gin floor supporting a press frame 11 comprised of a vertical member 12 and a horizontal beam 13 extending from the upper end of the latter. A vertical center post 14 is secured between the horizontal beam 13 and the floor 10, and is spaced from the vertical member 12 at a distance to permit the press boxes 15 to be moved into position therebetween. Each box 15 is rectangular in cross section and both the top and bottom ends are open. The sides of the boxes 15 adjacent the center post 14, and the sides remote therefrom, are comprised of vertically positioned spaced boards 16 which are secured to form the respective sides by means of transverse cleats 17 and 18 along their upper and lower ends. Intermediate transverse cleats 19 and 20 are secured to the boards 16 in side by side relation below the centers of the boxes 15. The remaining sides of the boxes 15 are comprised of upper and lower panels 21 and 22, the lower said panel being rigidly secured to the box assembly by means of upper and lower

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cleats 23 and 24 which are nailed or otherwise secured to the previously described adjacent lower cleats 18 and 20. In addition to the cleats 23 and 24, the lower panels 22 include vertical boards 25, arranged as described in connection with the first referred to boards 16. The upper panels 21 are similarly comprised of vertical boards 26 which are secured to each other by upper and lower horizontal cleats 27 and 28 which coincide with the first described upper cleats 17 and 19. The adjacent cleats 28 and 23 of the upper and lower panels 21 and 22 are pivotally secured to each other by means of hinges 29, whereas the corners of the stationary cleats 17 and the upper panel cleats 27 are secured by means of hasps 30, or other suitable latching means.

The two press boxes 15 are mounted for rotation about the center post 14 by means of upper and lower arms 31 and 32 having bearings 33 and 34 intermediate their ends, and which bearings are journaled on the post 14.

A collar 35 is secured to the post 14 beneath the lower arm 32 for supporting the press box assembly. Preferably, the supporting arms 31 and 32 are secured to the cleats 17 and 18 on the opposing sides of the boxes 15.

A stationary platen 36 comprised of heavy spaced parallel horizontal boards 37 is secured to the lower surface of the horizontal beam 13 and the area of which platen is slightly larger than the horizontal transverse area of each box 15. Beneath the platen 36, and arranged for operation through an opening 38 in the floor 10 there is a hydraulic baling ram 39 comprised of a piston 40 having a horizontal substantially square head 41 secured to the upper end thereof by means of a collar 42. A rectangular follower plate 43 rests on the ram head 41 and is arranged for supporting the lint cotton 45 contained within the press boxes 15. It is to be understood that there is one follower plate 43 for each said box.

One of the boxes 15 is filled with lint cotton 45 when positioned outwardly from the baling ram 39 by mechanical means, not shown, and after which the cotton may be initially pressed downwardly in said box by means of an additional tramping ram 46 comprised of a piston 47 and relatively large head 48 on the lower end thereof. The movement of both described rams 39 and 46 is sufficient to clear the lower and upper ends of the press boxes 15. Bagging 49 is placed over the surface of the follower plate 43 in the box 15 to be filled, and after the action of the tramping ram 46, additional bagging 49 is

placed over the cotton 45 and the outwardly positioned box 15 is then rotated about the center post 14 to position the same over the press ram 39. The action of the baling ram presses the cotton upwardly into the upper end of the box 15, and after which the ties 50 are placed and secured around both cotton and bagging in the usual manner. After pressing and tying, the resulting bale is removed by unfastening the hasps 30 and swinging open the upper panels 21, by reversing the action of the press ram 39, and by then sliding the bale off of the follower plates 43. During the pressing operation the remaining box 15 is being filled with cotton.

The thus far described baling press is exemplary and not necessarily a part of the present invention.

The follower plates 43 are supported in the boxes 15 by means of spaced bars or beams 51 spaced farther apart than the width of the press ram head 41 whereby the latter may pass upwardly therebetween and lift said follower plate during the pressing operation. The bars 51 extend through notches 52 in the boards 16 in the sides of the boxes 15 and are pivotally mounted on the sides thereof adjacent the center post 14 by means of hinges 53 secured to said boards. The outer ends of the bars 51 are secured to each other by means of cross members in the form of spaced angle irons 54 which rotatably support a roller 55 therebetween. A pin 56 positioned through each pair of angle irons 54 rotatably supports at least one roller 55.

A platform type weighing scale 57 is mounted within a well 58 in the floor 10. Any suitable scale may be employed, but for the purpose of describing the invention a hydraulic scale is shown and includes four vertical guides 60 mounted on I-beams 59. Sleeves 61 are slidably mounted on the guides 60 and are secured to the lower side of a platform 62. A cylindrical container 63 is also supported on the beams 59 and is positioned between the sleeves 61. An annular plate 64 is mounted within and spaced from the upper end of the container 63. The fluid 65 contained therein is hermetically sealed by means of a flat resilient ring 66 which is secured in place by means of a retaining ring 67 around its outer periphery and bolts 68 passing therethrough and threadedly engaged in the upper end of said container. The inner periphery of the resilient ring 66 is secured by another retaining ring 69 and bolts 70 passing therethrough and threadedly engaged in the periphery of the annular plate 64. A hydraulic line 71 through the wall of the container 63 communicates the fluid 65 with an indicator 72 for registering the weight of cotton within the box 15 when the latter's roller is positioned on the scale platform 62. There is a rigid projection 73 connecting the upper center of the annular plate 64 with the lower center of the platform 62 for carrying out the last described weighing operation.

In operation, the cotton may be weighed as it is placed in the box 15 receiving the same, and whereby the resulting bales may be made of uniform size for convenience in handling, storing and shipping. It is pointed out that in the preferred form of the invention the rollers 55 are located outwardly of the press boxes, such rollers may be placed beneath the boxes when desired

without parting from the scope and intention of the invention.

The present invention is not limited to the specific construction herein shown and described, but may be made in many ways within the scope of the appended claims.

What is claimed is:

1. In a rotary baling press having at least one press box arranged for movement around a vertical axis positioned outwardly thereof, a follower plate within the lower end of said box, supporting means for said follower plate comprising a pair of spaced parallel beams hingedly secured at corresponding ends thereof to one side of said box and having the remaining ends thereof connected by at least one cross member rigidly secured therebetween, a roller mounted on said cross member and adapted to roll on a horizontal surface beneath said box, there being a well in said horizontal surface and containing a platform scale therein, the platform of said scale being substantially level with the horizontal surface and being positioned within the path of said roller.

2. In a rotary baling press having at least one press box for movement around a vertical axis positioned outwardly thereof, a follower plate positioned within the lower end of said box, a pair of spaced parallel beams hingedly secured to the lower end of said box and on the side thereof adjacent said vertical axis, the remaining ends of said beams being arranged for at least limited hinged movement beneath said box, at least one cross member rigidly secured beneath said beams at a location spaced from the referred to hinged connection of said beams, a roller mounted on and projecting downwardly from said cross member and adapted to roll on a horizontal surface beneath said box, and a platform scale within the path of said roller and having the upper surface of the platform arranged to receive said roller thereon.

3. In a rotary baling press having a pair of press boxes pivotally mounted on a vertically positioned center post therebetween and having a vertical press ram in a floor beneath said boxes, the combination of a beam assembly beneath each said box and hingedly secured thereto on the side thereof adjacent said center post, the sides of said beam assembly being spaced from each other so as to provide a space for receiving said ram therethrough, a roller mounted on and depending from said beam assembly and adapted to roll on said floor, and a platform scale mounted within said floor and located within the path of said roller.

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