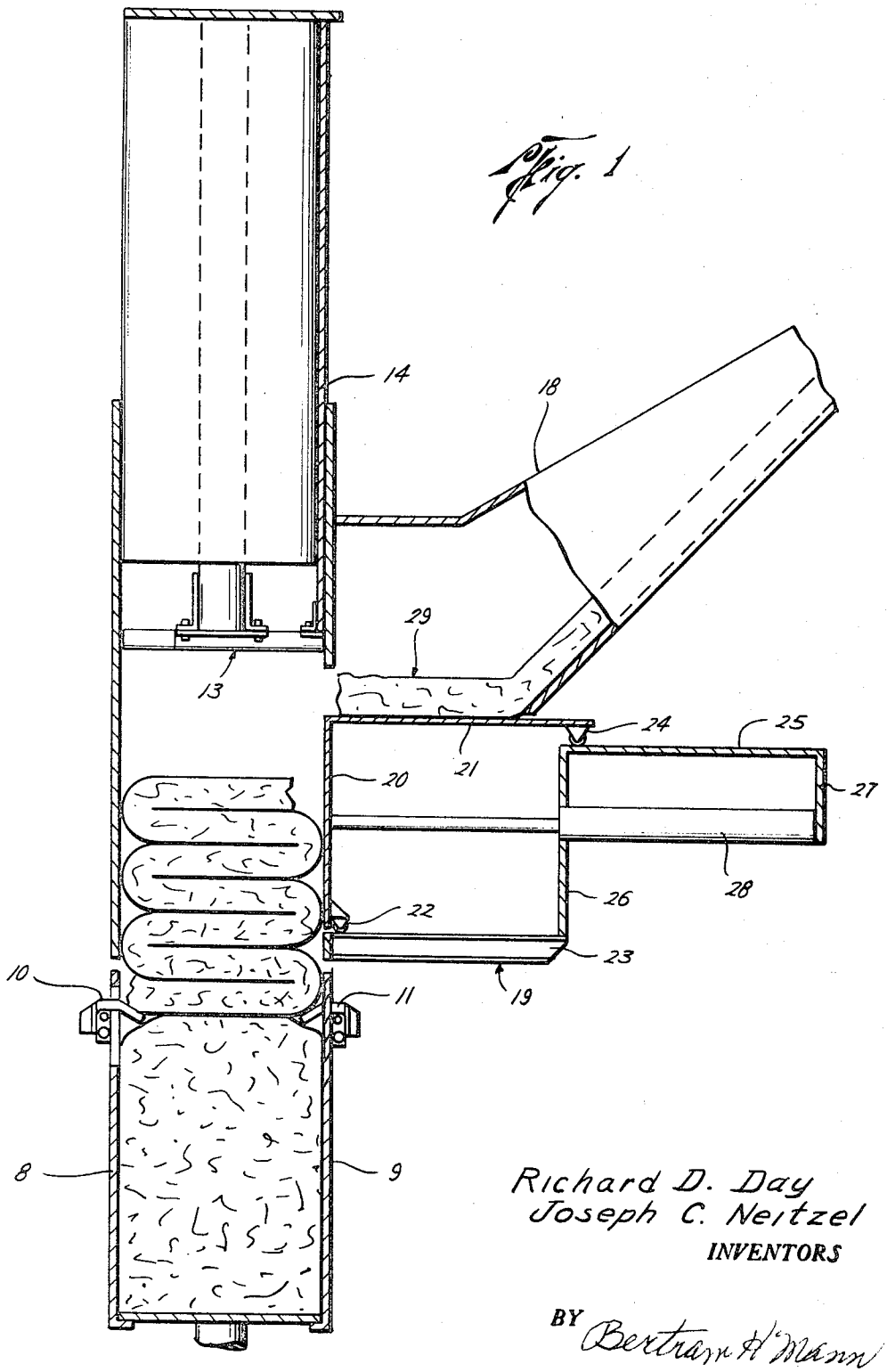
April 8, 1969 R. D. DAY ET AL 3,437,033

TRAMPER FOOT WITH RESILIENT EDGE STRUCTURE

Filed March 9, 1967 Sheet 1 of 3

Fig. 1



Richard D. Day
Joseph C. Neitzel
INVENTORS

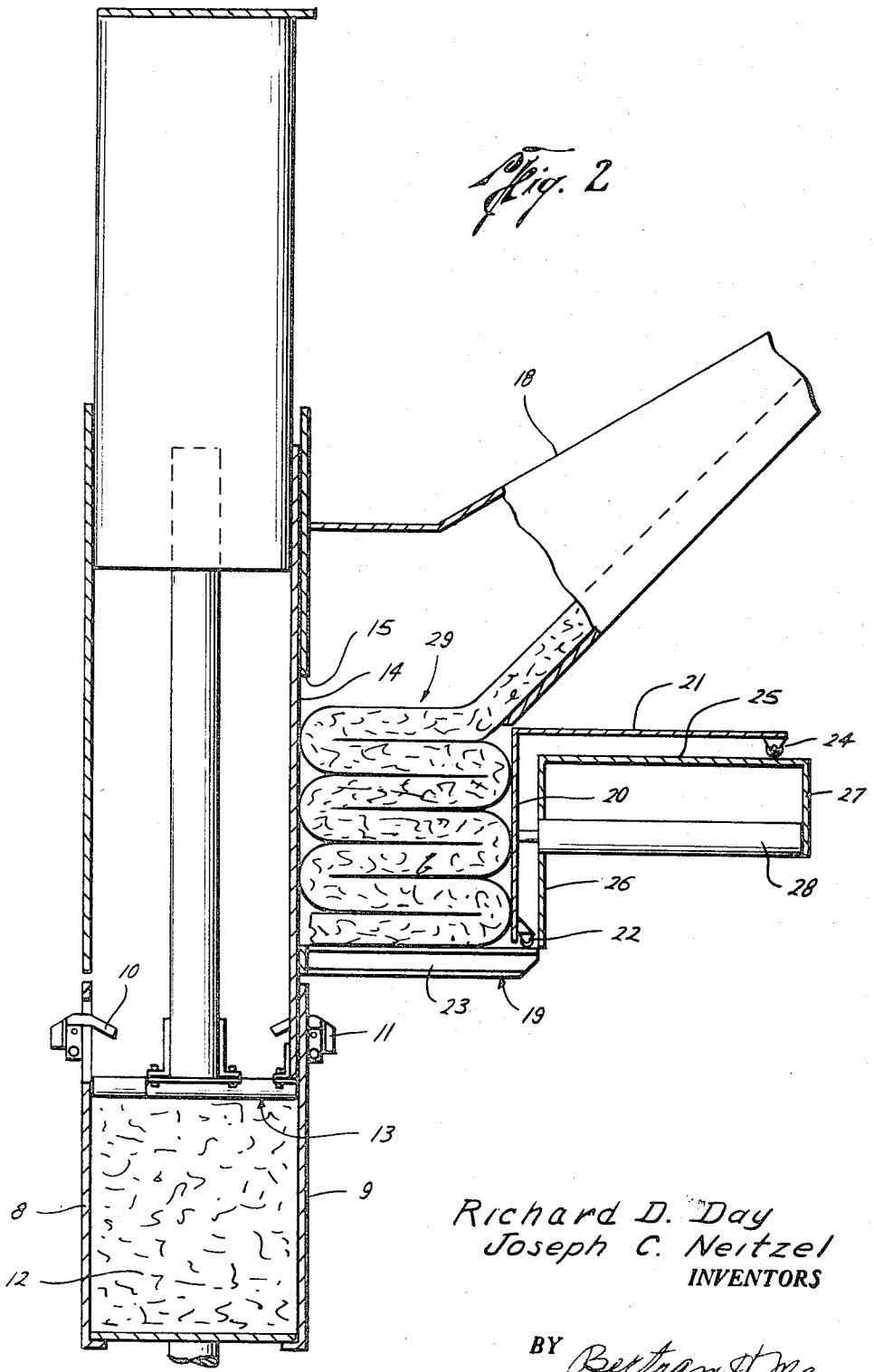
BY Bertram H. Mann
ATTORNEY

April 8, 1969 R. D. DAY ET AL 3,437,033

TRAMPER FOOT WITH RESILIENT EDGE STRUCTURE

Filed March 9, 1967 Sheet 2 of 3

Fig. 2



Richard D. Day
Joseph C. Neitzel
INVENTORS

BY Bertram H. Mann
ATTORNEY

April 8, 1969 R. D. DAY ET AL 3,437,033

TRAMPER FOOT WITH RESILIENT EDGE STRUCTURE

Filed March 9, 1967 Sheet 3 of 3

Fig. 3

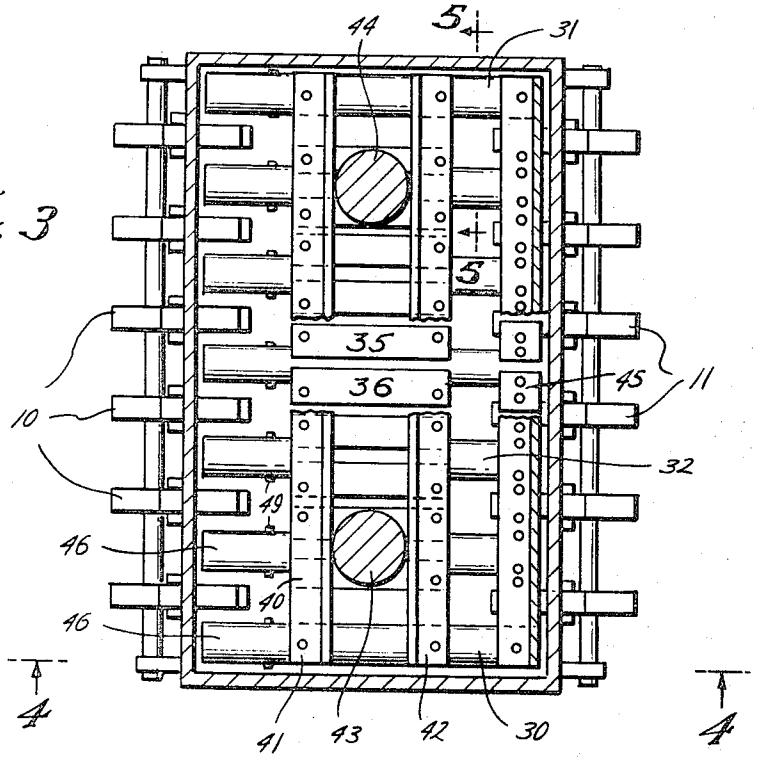


Fig. 4

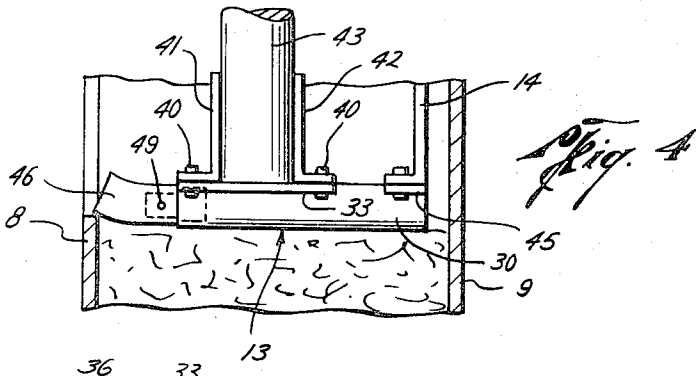


Fig. 5

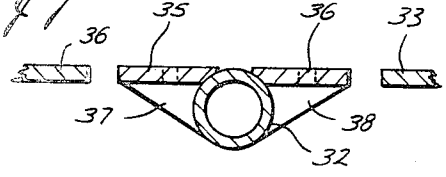
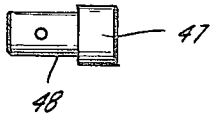


Fig. 6



Richard D. Day
Joseph C. Neitzel
INVENTORS

BY Bertram & Mann
ATTORNEY

United States Patent Office 3,437,033 Patented Apr. 8, 1969

3,437,033

TRAMPER FOOT WITH RESILIENT EDGE STRUCTURE

Richard D. Day and Joseph C. Neitzel, Dallas, Tex., assignors to Murray Company of Texas, Inc., Dallas, Tex., a corporation of Texas

Filed Mar. 9, 1967, Ser. No. 621,869
Int. Cl. B30b 15/30, 15/06
U.S. Cl. 100—215 10 Claims

ABSTRACT OF THE DISCLOSURE

In order to prevent damage to the tramper foot or box structure in a double box type press for cotton lint and other fibers, the ends of the face-forming battens or bars of the tramper foot are formed of laterally yieldable elements, such as short sections of rubber hose.

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates to presses of the type used in baling cotton lint and other fibers and consists of novel tramper foot structure for use therewith.

Prior art

A double box press of the type disclosed, for instance, in Patent No. 3,130,665, conventionally includes a pair of boxes rigidly secured side by side and rotatable about a center post between tramper and press positions. The tramper is provided with a foot structure which reciprocates vertically to apply initial compaction to the fibers. In the tramper position, fibers collected from a feed flue are fed into the press box beneath the lifted tramper foot by means of a suitable pusher. While it is desirable that the tramper foot occupy substantially all of the cross sectional area of the press box, a slight clearance between the foot and box walls is customarily provided to insure free movement of the foot. Due to the influence of the lint pusher, the foot may be shifted slightly toward the press box wall opposite the pusher. Obviously, if this shifting of the tramper foot is sufficient to take up the clearance provided, the foot may strike the press box wall and cause damage to the foot or box structure. Suggestions for alleviating this problem have included construction of the face of the tramper foot of wooden battens which will splinter in case of interference with the press box wall and the provision of rollers at the forward edge of these battens. Nevertheless, these expedients have proved only partly successful.

SUMMARY OF THE INVENTION

In accordanc with the present invention, the pressure-applying face of the tramper foot is formed by a plurality of parallel pipes or bars to which the tramper actuating mechanism is secured. Projecting inwardly from these bars toward the front wall of the press—that is, the wall opposite the lint pusher—there are provided short sections of laterally resilient hose which will yield in case the tramper foot shifts forwardly enough to engage the press box wall and, thereby, prevent damage either to the foot or box wall.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings which illustrates the invention:

FIG. 1 is a vertical section, largely schematic, illustrating portions of a fiber press including the tramper foot, fiber feed flue, and pusher mechanism;

FIG. 2 is a view of the parts in FIG. 1 and showing the tramper foot lowered into the press box;

FIG. 3 is a top view and section illustrating the tramper foot structure, portions being broken away to better illustrate underlying parts;

FIG. 4 is a section taken substantially on line 4—4 of FIG. 3;

FIG. 5 is a detail section taken substantially on line 5—5 of FIG. 3; and

FIG. 6 is an elevation of one of the batten hose adapters.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The press shown in FIGS. 1, 2, and 4 includes front and back walls **8** and **9**, these ordinarily being pivoted doors as illustrated in the above-mentioned Neitzel Patent No. 3,130,665, in which are mounted dogs **10** and **11**, the inward extensions of which will yield downwardly to permit the passage of fibers **12** into the lower part of the press box and which limit the upward expansion of the partially-compacted cotton fibers after the tramper foot structure **13** is withdrawn upwardly. Secured to the rear edge of the tramper foot structure **13** is a lint shield or curtain **14** which, in the lowered position of the tramper foot, as in FIG. 2, covers the opening **15** in the rear wall of the press through which fibers are moved into the press box.

Projecting rearwardly from the press box framing, but not secured to the boxes, is a fiber-feeding flue **18** and a pusher box **19** in which reciprocates horizontally a lint pusher wall **20** to the upper edge of which there is secured a right angularly projecting board **21**. Pusher wall **20** has rollers **22** at its lower edge which slide along rails **23**, while the rear edge of top board **21** has rollers **24** operable on rails **25**. Secured beneath rails **25** and between framing walls **26** and **27** is a hydraulic cylinder **28** forming part of a motor which actuates pusher wall **20**. Flue **18** has a bottom opening **29** through which lint may be dropped into box **19** in the manner illustrated in FIG. 2, when pusher walls **20** and **21** are withdrawn rightwardly.

As illustrated in FIG. 1, when pusher wall **20** is shifted leftwardly to force the collected lint folds into the press box, these folds may be of adequate volume to substantially fill the press box above dogs **10** and **11** and thus apply a certain amount of leftward bias to tramper foot **13**. Since the tramper foot, ideally, should as nearly as possible fill the cross sectional area of the press box, there can be very little leftward or forward shifting of the tramper foot without causing interference of the foot with the press front wall **8**, as suggested in FIG. 4.

As explained above, according to the present invention the left-hand or forward edge of the tramper foot is made yielding to prevent damage to the foot and/or press box in such case. For this purpose, the tramper foot structure is made out of a plurality, in this instance, seven, of preferably metal pipe sections **30** and **31** (FIGS. 4 and 5), at the ends of the foot structure, and **32**, intermediately thereof. Rigidly secured to the upper surfaces of end pipe sections **30** and **31**, as by welding are flange elements **33** which are laterally substantially coextensive with the pipes, while flange elements **35** and **36** are secured to the upper edges of intermediate pipe sections **32** and braced by gusset ribs **37** and **38**. Extending across all of pipe sections **30**, **31**, and **32** and secured as by bolts **40** are angle bars **41** and **42** which rigidly secure all of the pipe members together and to which are secured the actuating rods **43** and **44** which, under the influence of siutable motor means, not shown, cause the tramper foot structure to reciprocate vertically into and out of the press box on the tramper side, as illustrated in FIGS. 1 and 2. Flange elements **33**, **35**, and **36** do not extend horizontally beyond the bottom

flanges of these angle bars, thus leaving spaces as at **44** (FIG. 4) between the right-hand ends thereof and the short flanges **45** welded to the rear or right-hand ends of all of pipes **30**, **31**, and **32** for attachment of lint curtain **14**. The lint curtain is slotted between the adjacent edges of flanges **33** and **36** to receive dogs **11** when the foot is lowered.

All of the pipes **30**, **31**, and **32** extend only partially across the press box from rear wall **9** to front wall **8**, and the balance of this space is traversed by short, laterally-resilient hose sections **46** which are secured to the left or forward ends of the pipes by means of stepped adapter plugs as shown in FIG. 6. Each of these plugs has a larger potrion **47** which is snugly lodged in the left end of the corresponding pipe **30**, etc., and a smaller projection **48** which is inserted in the adjacent end of one of the flexible pipe sections **46**. The pipe section and adapter end **48** are secured together by a bolt **49** extending through aligned holes in the hose and adapter part **48**. Hose sections **46**, while being yieldable in case of interference with wall **8**, nevertheless are of sufficient rigidity to apply the desired initial compaction to the fibers being tramped into the press box.

Accordingly, the tramper foot structure is provided with a resilient edge portion which will yield, in case the foot structure should be displaced against the front wall of the press, as suggested in FIG. 4, to prevent damage to either the foot or press wall structure. The resilient end portions of the pipes or bars, which replace the usual wooden battens which usually make up the pressure face of the tramper foot, can be readily replaced simply by withdrawal of bolts **49**. The exact form of pipes or bars **30**, **32**, and **33** may me modified as desired. Of course, adequate space is provided between the flexible tube sections **46** to permit the tramper foot structure to pass the forward dogs **10**, and these spaces as well as the previously-mentioned spaces **44** provide for ready return to the press box area of fibers which may escape upwardly between the bar flange and hose sections during the pressure stroke of the tramper foot. The invention may be modified in various other respects as will occur to those skilled in the art, and the exclusive use of all modifications as come within the scope of the appended claims is contemplated.

We claim:

1. The combination in a fiber press having a press box and tramper mechanism to pack fibers in said box, of tramper foot structure received in said box and spaced from the box walls with minimum clearance consistent with free movement of the said structure in said box under normal operating conditions, said foot structure having a yieldable edge portion to accommodate lateral displacement of said foot structure in said box.

2. The combination described in claim **1** in which said foot structure including said edge portion is sufficiently form-sustaining to apply predetermined compaction pressure to fibers in said box.

3. The combination described in claim **2** in which said box includes side walls and further including pusher means for forcing fibers into said box in the path of said foot structure and toward one of said walls, said yieldable edge portion of said foot structure confronting said last-mentioned wall to prevent damage to said foot structure or wall in case of displacement of said structure so as to engage said wall.

4. The combination described in claim **3** in which said foot structure is mounted for reciprocating movements in said box and is relatively shiftable toward said wall during said movements.

5. The combination described in claim **4** in which said foot structure comprises a plurality of parallel bars partially traversing said box between opposite box walls thereof including said last-mentioned wall, and resilient extensions of said bars adjacent said last-mentioned wall.

6. The combination described in claim **4** in which said foot structure comprises a plurality of parallel bars partially traversing said box and sections of laterally resilient tubing secured one to each of said bars and projecting endwise therefrom toward said last-mentioned wall.

7. The combination described in claim **6** in which said parallel bars consist of sections of metal pipe and further including rigid flanges on said pipe sections and tramper foot actuating means secured to said flanges.

8. The combination described in claim **7** in which flanges extend along only portions of the combined lengths of said pipe sections and the resilient extensions thereof to provide openings in said foot structure to permit return to said box of fibers passing through and/or around said foot structure during operation of the tramper mechanism.

9. The combination described in claim **8** further including lint shielding curtain structure secured to said flange parts at the opposite ends of said bars from said resilient tubing sections.

10. A tramper foot for a fiber press comprising a plurality of parallel bars, flanges projecting sidewardly of said bars, and laterally resilient tube sections projecting endwardly from said bars, said bars, flanges, and tube sections forming the fiber engaging face of the tramper and being sufficiently form-sustaining to apply predetermined compaction force to fibers being pressed, said tube sections forming a laterally resilient edge portion for yielding in case of contact between said foot and adjacent press structure.

References Cited

UNITED STATES PATENTS

179,833	7/1876	Westbrook	100—295
242,598	6/1881	Castle	100—295
1,273,334	7/1918	Crosby.	
2,374,147	4/1945	Weeks	53—124
2,780,989	2/1957	Guy	100—215 XR
3,017,730	1/1962	Rodish.	
3,130,665	4/1964	Neitzel.	

FOREIGN PATENTS

713,471	7/1965	Canada.

BILLY J. WILHITE, *Primary Examiner.*

U.S. Cl. X.R.

100—220, 295