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J. W. KIMBROUGH.

FLOAT DRIVE FOR COTTON LINTERS.

APPLICATION FILED MAY 22, 1906.

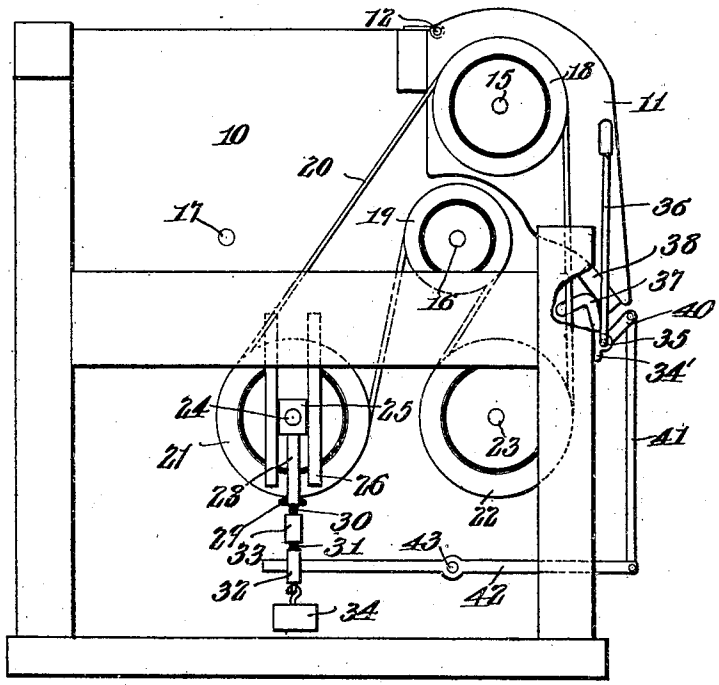

Fig. 1.

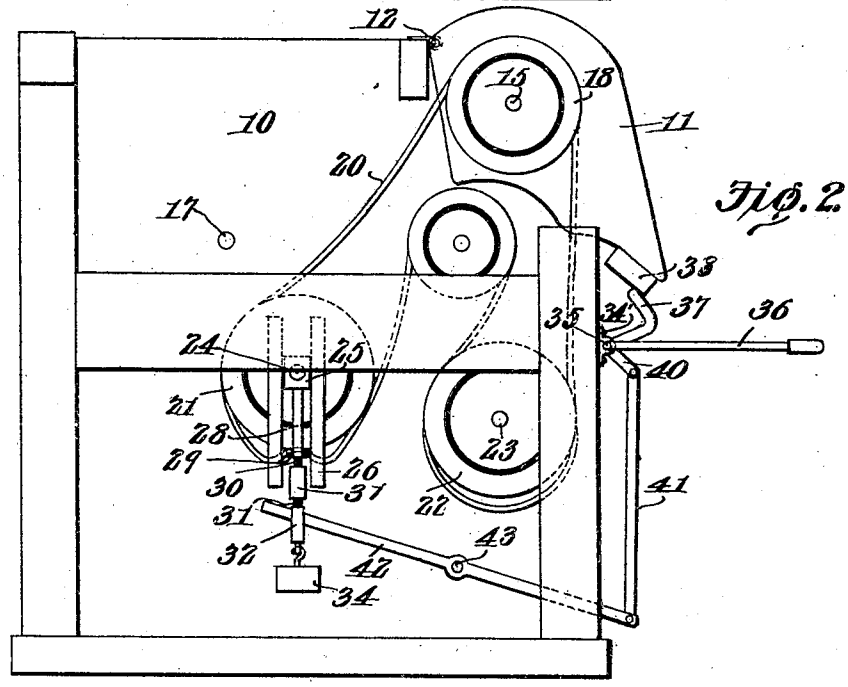

Fig. 2.

WITNESSES:

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JACOB WHEELER KIMBROUGH, OF DALLAS, TEXAS.

FLOAT-DRIVE FOR COTTON-LINTERS.

No. 835,538. Specification of Letters Patent. Patented Nov. 13, 1906.

Application filed May 22, 1906. Serial No. 318,201.

To all whom it may concern:

Be it known that I, JACOB WHEELER KIMBROUGH, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented a new and useful Float-Drive for Cotton-Linters, of which the following is a specification.

This invention relates to float-drives for cotton-seed linters, and has for its principal object to provide a novel means for imparting rotative movement to the float and for stopping such movement when the breast and roll-box are raised.

A further object of the invention is to provide a float-drive in which the weight of the breast and roll-box is utilized in tightening the driving-rope.

A still further object of the invention is to provide means operating to automatically slacken the rope during the operation of raising the breast.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a side elevation of sufficient of a cotton-linter to illustrate the application of the invention thereto, the breast being in the lowest position and the float-drive rope being operative. Fig. 2 is a similar view showing the breast raised and the float-driving rope slack.

Similar numerals of reference are employed to indicate corresponding parts in both figures of the drawings.

The linter 10 is provided, as usual, with the breast and roll-box 11, these being pivoted at 12 to the gin-frame. The ends of the roll-box are provided with bearings for the reception of the shaft 15 of the float-feed, and the frame of the linter has bearings for the reception of the saw-shaft 16 and brush-shaft 17.

At the end of the float-shaft 11 is a grooved pulley 18, and the end of the saw-shaft is also provided with a grooved pulley 19. Around these two pulleys passes a drive rope or belt 20, formed of any suitable material, and said rope or belt also passes around two idlers 21 and 22, which serve to properly guide the belt. The idler 22 is mounted on a stationary stud-shaft 23, carried by the frame, while the idler 21 is carried by a stud 24, that projects from a vertically-guided block 25, the latter being mounted between a pair of parallel guide-bars 26 at the side of the gin-frame. Depending from the block 25 is an arm 28, carrying a guard 29, which extends over the lower portion of the periphery of the pulley 21 for the purpose of preventing the accidental removal of the belt when the latter is slack. From this guard extends a threaded stem 30, which is connected to the threaded upper end 31 of a weight-carrying bar 32 The threads of the members 30 and 31 are respectively right and left handed and are connected by a right and left hand nut 33 to permit adjustment of the bar 32 and the raising of the weight 34. This weight tends to pull the block 25 down and keep the belt 20 taut.

At the front of the linter is a bearing or bearings 34′ for the reception of a short rock-shaft 35, at one end of which is a handled operating-lever 36. The shaft carries an arm 37, that is arranged to engage against the lower face of a beam 38 at the lower end of the breast, and when the lever is moved from the position shown in Fig. 1 to the position shown in Fig. 2 this arm 37 will ride against the beam 38 and will elevate the breast. The rock-shaft 35 also carries an arm 40, which is connected by a link 41 to the outer end of a lever 42, that is pivoted on a stud 43, projecting from the frame. The inner end of the lever passes through a slot in the bar 32, and the function of the nut 33, previously described, is to adjust this bar so that the lower wall of the slot will be engaged by the lever, and the weight of the breast imposed on the arm 37 will thus be transmitted through the lever 42 to the bar 32 and tend to draw down the block 35, thus materially increasing the stress of the belt and maintaining the latter taut, so that it may properly drive the float-shaft 15.

When the lever 36 is moved to the horizontal position, (shown in Fig. 2,) the breast is raised, and as link 41 is moved down the upper end of the lever 42 follows, and the inner end of said lever is moved upward, thus positively raising the block 25 and the idler 21 against the stress of the weight of spring 24, the belt or rope 20 being slackened to such an extent that it cannot drive the float-feed.

It will be seen that the mechanism is sim-

ple and is practically automatic in its operation in that as soon as the breast is raised the operation of the feed is stopped and motion is instantly imparted to the float-feed as soon as the breast is lowered.

The two sheaves 18 and 19 may be made of large diameter and arranged so that their peripheries slightly overlap. When this is done, the idlers are canted slightly in order to properly guide the rope.

I claim—

1. In mechanism of the class described, a float-feed, a shaft carrying the same, a pulley on said shaft, a driving-rope engaging the pulley, a movable breast carrying the shaft, and means for simultaneously raising the breast and slackening the driving-rope.

2. In a machine of the class described, a movable breast, a float-feed, a shaft carrying the same and supported by the breast, a pulley on said shaft, a driving-rope engaging the pulley, a belt-tightening pulley, and means for imposing the weight of the breast on said pulley to tighten the rope.

3. In a machine of the type described, a movable breast, a float-feed, a shaft carrying the same and journaled in the breast, a pulley on said shaft, a driving-rope, a belt-tightening pulley, and a system of levers extending between the breast and the tightening-pulley to utilize the weight of the breast in tightening the rope.

4. In a machine of the type described, a movable breast, a float-feed, a shaft carrying the same, and journaled in the breast, a pulley on the shaft, a driving-rope engaging the pulley, a rope-tightening pulley, and a breast-raising means connected to said tightening-pulley and serving to move the same to effect slackening of the rope when the breast is raised.

5. In a machine of the type described, a movable breast, a float-feed, a shaft carrying the same and journaled in the breast, a pulley on said shaft, a saw-shaft, a pulley carried thereby, a rope-driving pulley, and a tightening-pulley, a rope engaging all of said pulleys, a rock-shaft journaled at the front of the frame, an arm carried thereby and serving to elevate the breast, a second arm extending from the rock-shaft, a lever having a linked connection with the second arm, a slidable block supporting the tightening-pulley, a slotted bar depending from said block, a weight connected to the bar, said block serving to receive the inner end of the lever, and means for adjusting the slotted bar with relation to the block.

6. In a machine of the type described, a movable breast, a float-feed, a shaft supporting the same and journaled in the breast, a pulley on said shaft, a rope engaging the pulley, a rope-tightening pulley, a guide-block supporting the same, a bar depending from the block, a guard partly encircling the pulley to prevent detaching the rope when the latter is slack, and means for connecting the bar to the breast.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JACOB WHEELER KIMBROUGH.

Witnesses:
CHARLES HOWARD,
ROBT. M. HARDEMAN.