

F. C. GAMMONS.
COTTON SEED LINTER AND CONDENSER.
APPLICATION FILED JUNE 22, 1908.

948,274.

Patented Feb. 1, 1910.

2 SHEETS—SHEET 1.

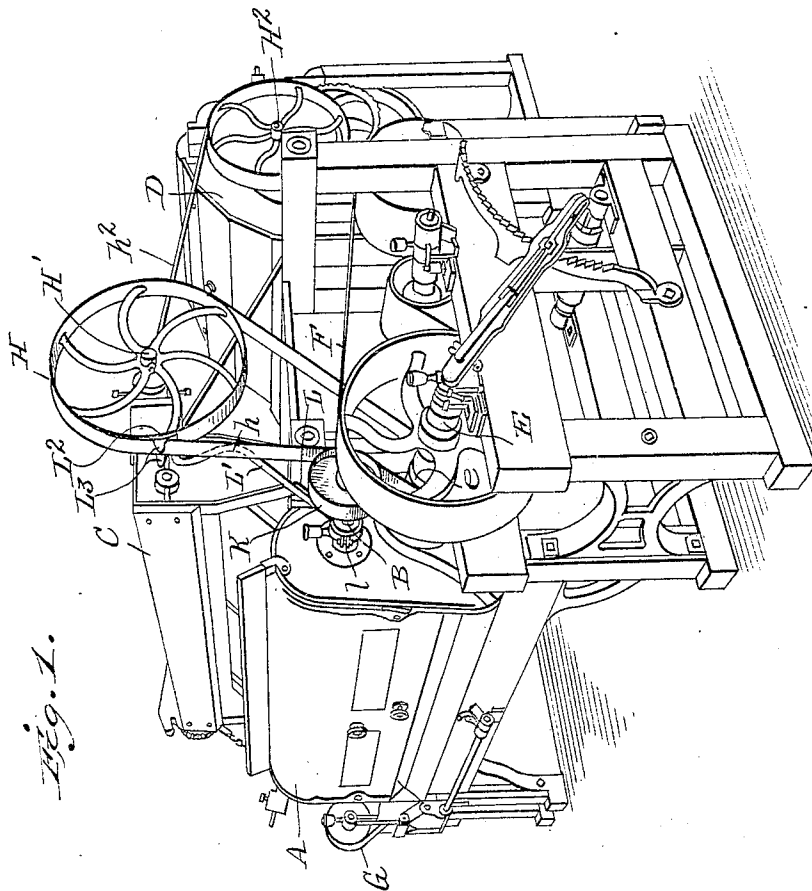


Fig. 1.

Witnesses

Thomas Durant
Paul Orshnell

Inventor

Ferdinand C. Gammons

By

Church & Church
his Attorneys

F. C. GAMMONS.
COTTON SEED LINTER AND CONDENSER.
APPLICATION FILED JUNE 22, 1908.

Patented Feb. 1, 1910.
2 SHEETS—SHEET 2.

948,274.

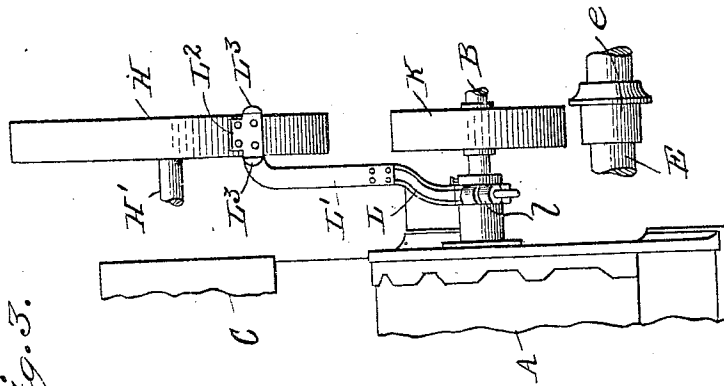


Fig. 3.

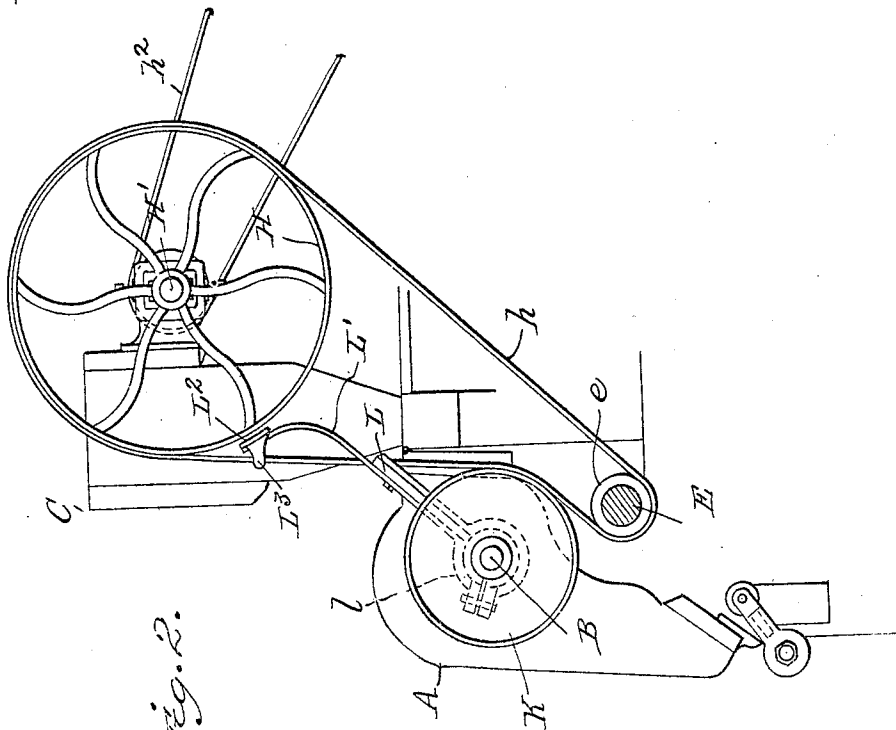


Fig. 2.

Inventor

Frederick C. Gammons

Witnesses

Thomas Durant
Paul Owsnell

By

Chas. R. Church

his Attorneys

UNITED STATES PATENT OFFICE.

FERDINAND C. GAMMONS, OF BRIDGEWATER, MASSACHUSETTS, ASSIGNOR TO CONTINENTAL GIN COMPANY, OF BIRMINGHAM, ALABAMA, A CORPORATION OF DELAWARE.

COTTON-SEED LINTER AND CONDENSER.

948,274.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed June 22, 1908. Serial No. 439,855.

To all whom it may concern:

Be it known that I, FERDINAND C. GAMMONS, a citizen of the United States, residing at Bridgewater, Plymouth county, Massachusetts, have invented certain new and useful Improvements in Cotton-Seed Linters and Condensers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates particularly to cotton ginning or linting machines, the object of the invention being to provide a means for automatically starting and stopping the condenser, as well as the feeding mechanism when the breast is raised out of the saws, the raising of the breast, of course, operating to temporarily interrupt the direct ginning or linting operation.

For the purpose of illustrating the present invention, I have adopted a well known type of linting and condensing mechanism, and in the accompanying drawings; Figure 1 is a perspective view of such a mechanism with my present improvements applied thereto. Fig. 2 is a detail side elevation of a portion of the machine showing particularly the condenser and feed stopping and starting mechanism. Fig. 3 is an elevation of the parts illustrated in Fig. 2 with the belt for driving the counter omitted.

Referring particularly to Fig. 1, the machine illustrated therein will be recognized at once by those skilled in the art, the vertically swinging roll box being indicated by the letter A, the float roll shaft by the letter B, the feeder by the letter C, the condenser by the letter D, and the saw-shaft by the letter E. The saw shaft is adapted to be driven by a belt F, and the float roll by a driving mechanism indicated by G at the farther end of the gin breast. The mechanism of the feeder C is adapted to be driven from the saw shaft through the medium of a small pulley *e* on the shaft and a large pulley H on a counter-shaft H' with an intermediate belt *h*, as shown for instance in patent to Wilson No. 799,427, dated Sept. 12, 1905. The condenser is driven by pulleys on the counter-shaft H' and condenser shaft H² connected by a belt

*h*², all as is well understood and in common use at this time.

Heretofore when the linter has been stopped or the direct operation of linting has been suspended by raising the breast, the condenser and feeder have continued to run, the feeder discharging the seed into the roll box and the condenser screen has continued to run with the cumulative roll, which accumulates the lint resting upon the screen, thereby having a tendency to work the roll of lint out of shape and, furthermore, requiring, when the linter is again started, that some one shall properly start the bat through the condenser.

In accordance with the present invention both the condenser and the feeder are instantly stopped when the breast is raised and again automatically connected for operation when the breast is lowered into operative position. In order to accomplish this desirable result without a complication of mechanism and without requiring the changing or reorganization of the machine as now constructed, a pulley K is journaled loosely on the outer end of the roll-shaft B, said pulley being in position to contact with and tighten the belt *h* when the gin breast is down in its normal position, as indicated in Fig. 2, but when said breast is raised, the said belt tightener pulley K is moved in the arc of a circle away from the driving belt, thereby loosening the same, whereupon the saw shaft may continue its rotation without being in effective driving connection with the countershaft.

Obviously, by relieving the tension of the countershaft driving belt, the said countershaft will come to rest and inasmuch as the feeding mechanism and condenser are driven from said countershaft their movements will also be arrested. These parts, however, are of considerable weight and acquire considerable momentum when in operation, which momentum, together with the slight driving action exerted by the belt *h* might continue their movements for a brief period sufficient to interrupt the continuity of the bat, or to feed an undesirable quantity of seed to the roll box, and in order to overcome this defect a braking mechanism for the countershaft is provided, which braking mechanism is thrown into action by the movement of the roll-box in a direction to relieve the tension on the driving belt.

Various arrangements of the braking mechanism will at once suggest themselves to those skilled in the art, but in the accompanying drawings I have shown a brake arm L secured in adjustable position on the end of the roll box, the end of said arm being formed by a curved resilient member L', to which a brake shoe L² is suitably attached. The brake shoe L² normally extends into proximity to the pulley H at a point in rear and above the axis of the roll box, whereby the arc described by the brake shoe intersects the periphery of the pulley, and consequently as the breast is raised the brake shoe is moved into contact with the pulley, instantly arresting the movement of the latter when the tension on the driving belt is relieved.

The most convenient arrangement of the brake is to mount the brake arm on the bearing for the roll-shaft and to clamp the same firmly but adjustably in position by means of a split or clamping collar Z, as is well illustrated in Figs. 2 and 3. It is also convenient to provide the brake with projecting arms L³, adapted to embrace the belt L in order to hold the same in alinement with the pulleys when slack.

With the arrangement described it is obvious that the brake may be adjusted to contact with the pulley at the instant when the belt is sufficiently slack to permit of the drive-pulley slipping within the same, and a continued movement of the breast operates simply to further loosen the belt and to apply the brake with increased pressure. The resilient end of the brake arm permits of the raising of the breast to any desired height without requiring adjustment of the brake arm and without relieving the braking pressure on the pulley H of the counter-shaft.

Having thus described the invention, what is claimed as new and desired to be secured by Letters-Patent, is:

1. In a cotton seed linter and condenser, the combination of the following instrumentalities, to-wit;—the feeder for supplying cotton to the roll box, a roll box hinged to swing vertically, condenser receiving the lint cotton from the roll box, a counter shaft from which both the feeder and condenser are driven, a drive belt for the counter shaft, an idler pulley journaled loosely on one end of the hinged roll box and forming, when the box is down, a tightener for the counter

shaft drive belt, the arrangement being such that when the roll box is raised said drive belt is slack and a brake for arresting the movement of the condenser when the roll box is raised.

2. In a cotton seed linter and condenser, the combination of the following instrumentalities, to-wit: a hinged roll box, a float roll shaft journaled therein, an idler pulley journaled on said shaft outside of the roll box, a condenser to which lint is supplied from the roll box, a train of gearing for driving the condenser, a belt in said train passing in proximity to the end of the roll box and in engagement with the idler pulley on the float roll shaft, whereby said belt is tightened by the pulley when the box is down and is slack to allow the condenser to stop when the roll box is raised.

3. In a linter such as described, the combination with the hinged roll box, feeder for supplying seed cotton to said roll box, and condenser receiving lint from the roll box, of a driving mechanism for the feeder and condenser embodying a driving belt, and a tightener for said belt and an automatic brake moved by the roll-box, whereby when the roll box is elevated the feeder and condenser will be brought to rest.

4. In a linter such as described, the combination with the hinged roll box, feeder for supplying seed cotton to said roll box and condenser receiving lint from said roll box, of a driving mechanism for the feeder and condenser embodying a belt, a belt tightener controlled by the movement of the roll-box for rendering said driving belt effective, and a brake also moved by the said roll box and in position to arrest the movement of the feeder and condenser when the roll-box is elevated, substantially as described.

5. In a linter such as described, the combination with the hinged roll-box, float shaft journaled therein, feeder for supplying seed cotton to said roll box and driving belt for said feeder, of a tightener pulley for said belt journaled loosely on the float roll shaft, and a brake adjustably mounted on the float roll shaft bearing for arresting the movement of the feeder when the roll-box is elevated.

FERDINAND C. GAMMONS.

Witnesses:

J. MURRAY BAKER,
SAMUEL P. GATES.