Aug. 26, 1924. 1,506,150

J. T. BEATY

PRESS FEEDER

Filed July 27, 1923 4 Sheets-Sheet 1

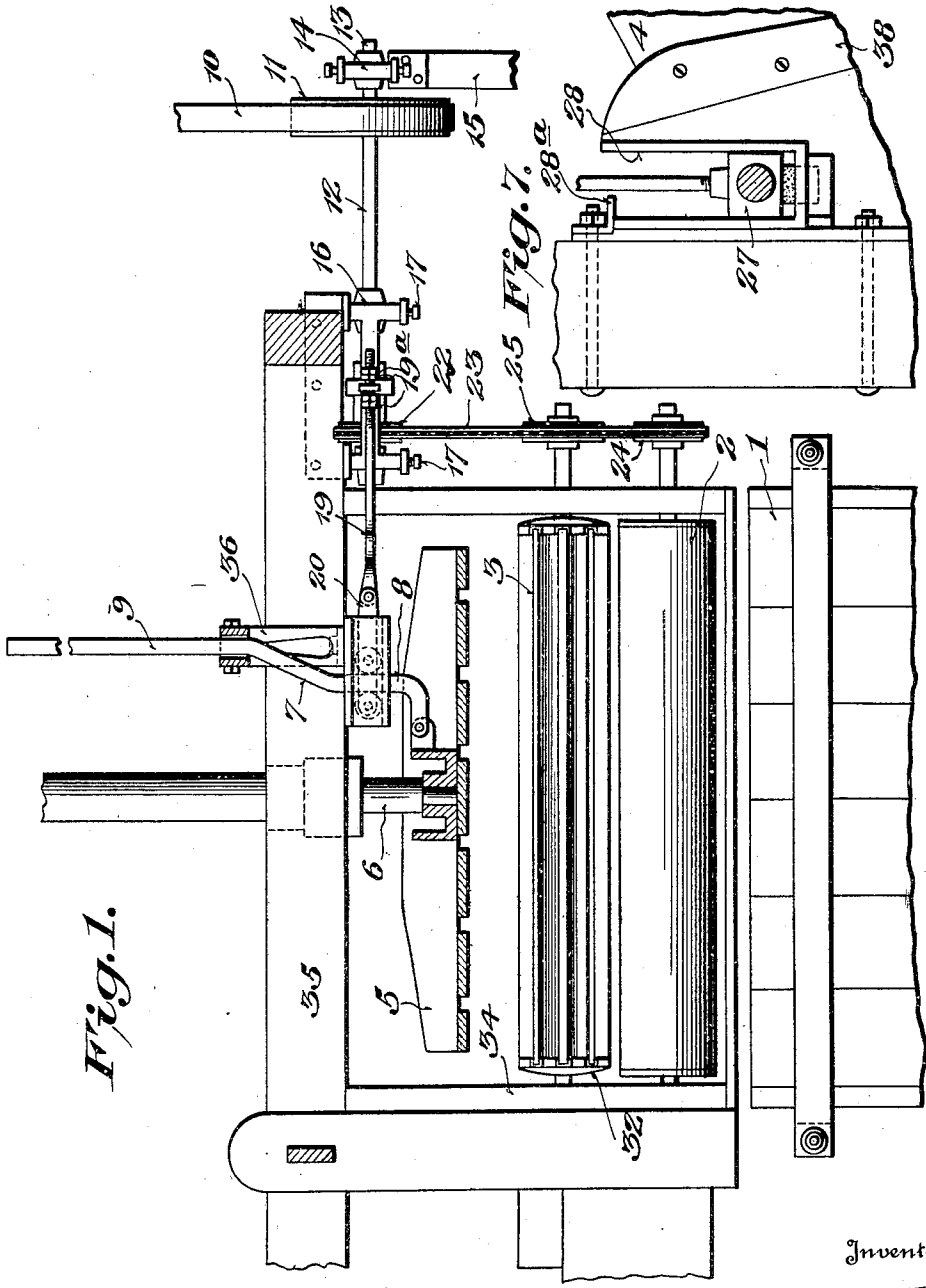

Fig. 1.

Fig. 7. a

Inventor

James T. Beaty,

By William L. Symmes

Attorney

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J. T. BEATY

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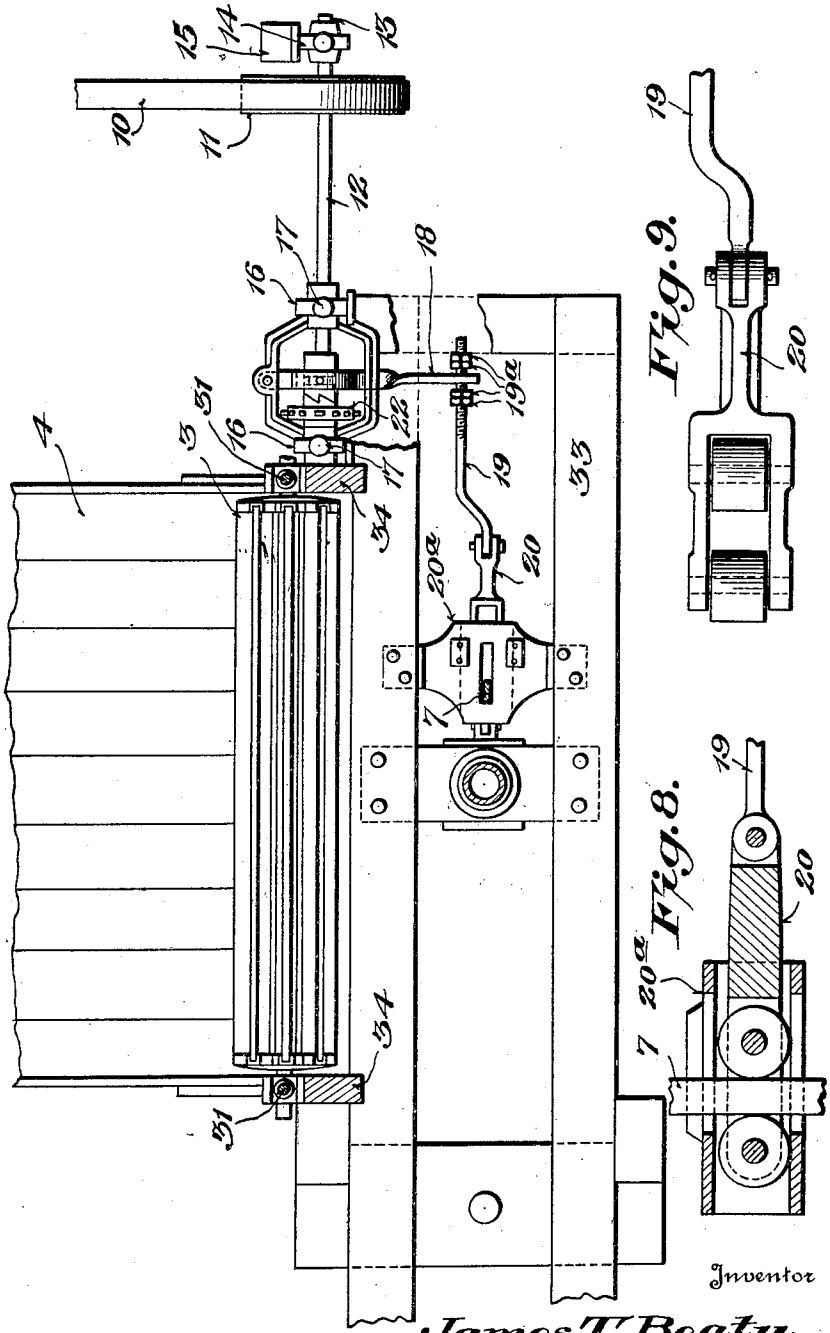

Fig. 2.

Fig. 9.

Fig. 8.

Inventor

James T. Beaty,

By William L. Symmes

Attorney

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J. T. BEATY

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Fig. 3.

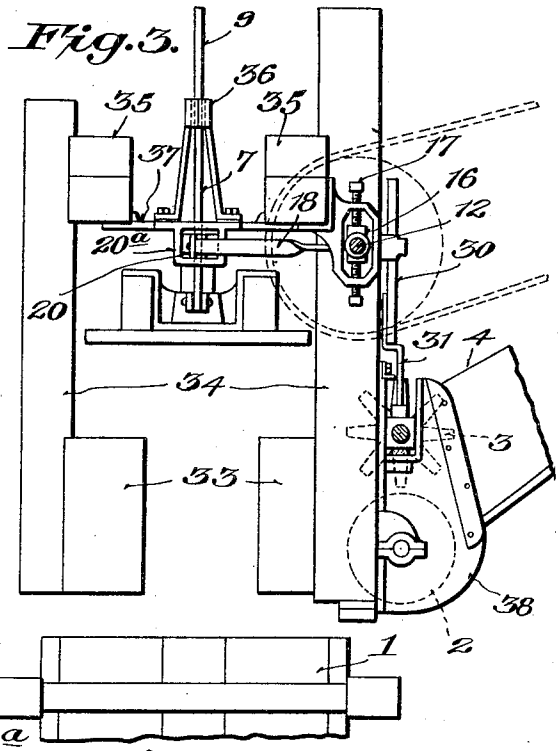
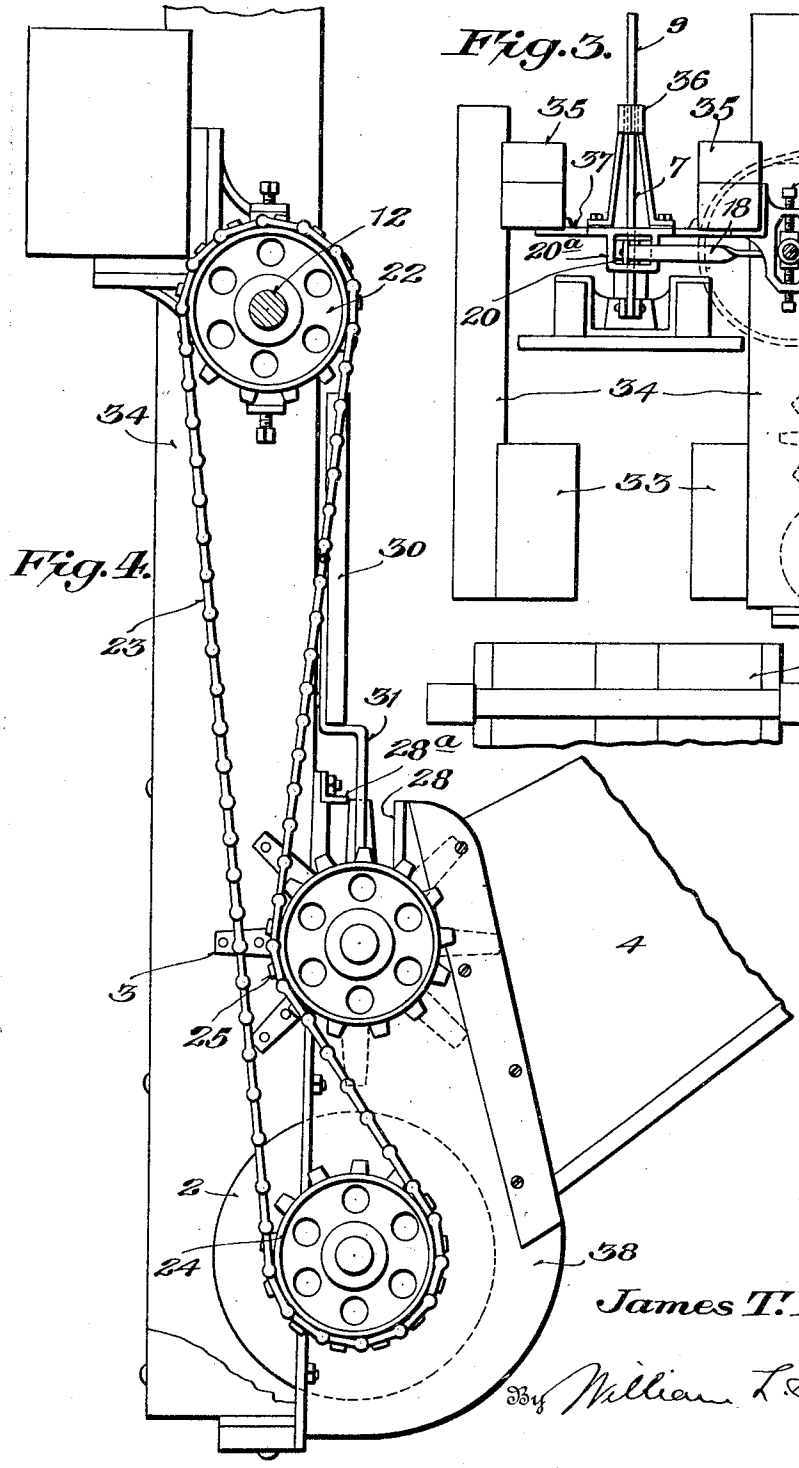


Fig. 4.



Inventor
James T. Beaty,
By William L. Symons
Attorney

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J. T. BEATY

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Fig. 6.

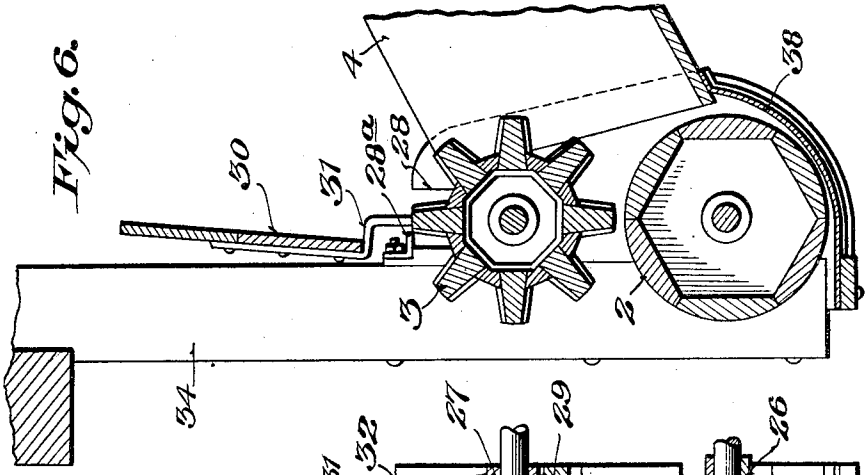
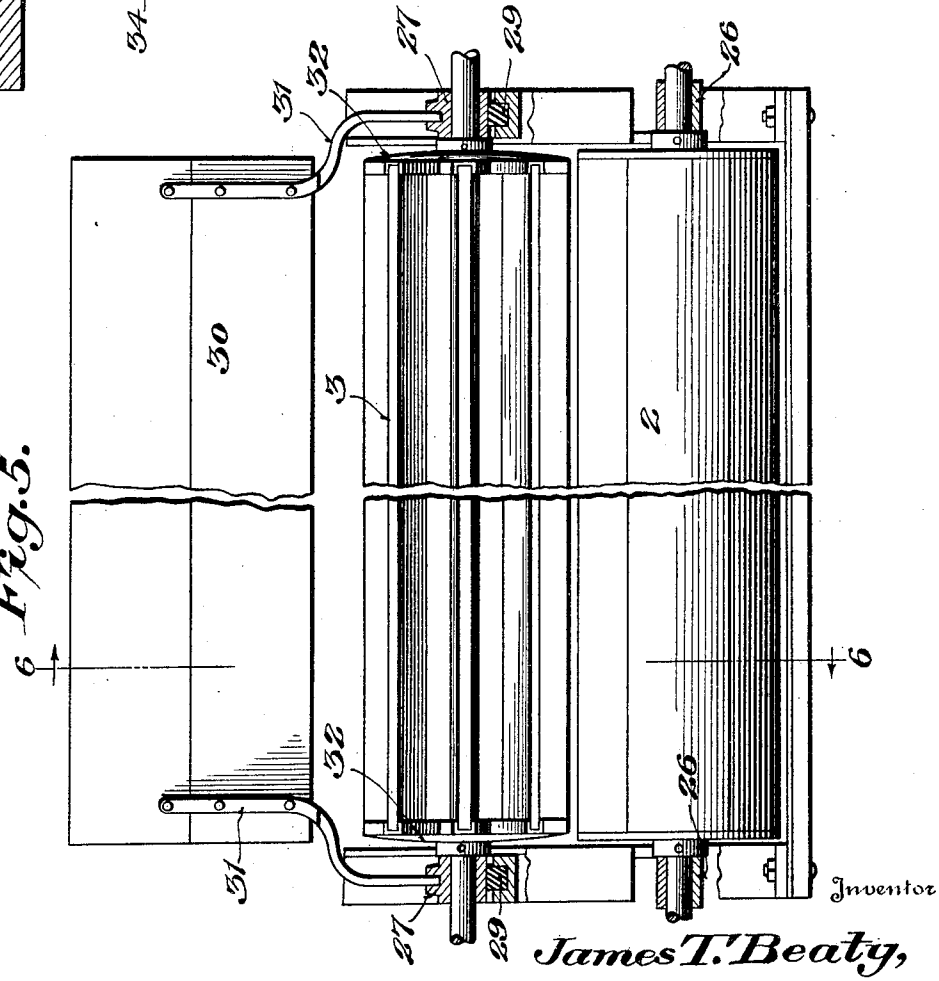


Fig. 5.



Inventor

James T. Beaty,

By William L. Symons

Attorney

Patented Aug. 26, 1924.

1,506,150

UNITED STATES PATENT OFFICE.

JAMES T. BEATY, OF CHARLOTTE, NORTH CAROLINA, ASSIGNOR TO LIDDELL COMPANY, OF CHARLOTTE, NORTH CAROLINA, A CORPORATION OF NORTH CAROLINA.

PRESS FEEDER.

Application filed July 27, 1923. Serial No. 654,200.

To all whom it may concern:

Be it known that I, JAMES T. BEATY, a citizen of the United States of America, residing at Charlotte, in the county of Mecklenburg and State of North Carolina, have invented certain new and useful Improvements in Press Feeders, of which the following is a specification.

My invention relates to improvements in press feeders and is adapted to be used in connection with cotton trampers.

My invention is adapted to be operated automatically by the movement of the tramper with which such feeders are usually used. An object of my invention is the construction of one of the press feed rollers in movable bearings to enable the cotton or other material which has accumulated in the slide leading from the condenser while the cotton is being pressed in the press box to be rolled readily into the press box when the rollers are started. Another object of my invention is the construction of an upper roller with curved end castings enabling the roller to rise at either end without binding and without the other end rising in case the cotton accumulates at one end in greater quantities than at the other end. A further object of my invention is the construction of a baffle board which moves with the up and down movement of the upper roller in its bearings. A further object is the provision of means to regulate the length of the sprocket chain on the clutch sprocket. A still further object is the construction of a shifting bar which operates efficiently to stop and start the rollers.

With these and further objects in view an embodiment of my invention is shown in the accompanying drawings in which,

Figure 1 is a side elevation of my device with some of the parts broken away in order to more clearly illustrate the main features;

Figure 2 is a top plan view with certain parts in section and other parts omitted;

Figure 3 is an end view;

Figure 4 is an elevation showing the construction and arrangement of the ends of the rollers, the sprockets and chain;

Figure 5 is a side elevation of the rollers and baffle board;

Figure 6 is a sectional view on line 6—6 of Figure 5;

Figure 7 is a fragmentary view showing the construction of the movable bearing for the upper roller;

Figure 8 is a sectional view showing the cross head and cross head support box; and

Figure 9 is a fragmentary top plan view of the cross head.

The top part of a conventional press box 1 such as is used with cotton trampers is shown positioned to receive cotton fed between a smooth roller 2 and a corrugated roller 3, it being understood that the cotton from a condenser, not shown, moves down the usual inclined slide 4 to be fed between the rollers. The usual tramper head 5, by means of which my press feeder is automatically operated, connected to its operating beam 6, is shown in conventional position. In Figure 1 the tramper head is shown in the position resulting in the revolution of the press feed rollers to fill the press box as will be more fully hereinafter explained. Attached to the tramper head is a shifting bar 7 having a part 8 in one vertical plane and a longer part 9 in another vertical plane.

Power to operate the press feed rollers is furnished in any desired way as by a belt 10 around a pulley 11 said pulley being attached to a countershaft 12 having one end 13 journaled in a suitable bearing 14, the support for said bearing being of any suitable form as a post 15. The other end of the shaft is supported in bearings 16, the latter being rendered adjustable by means of screws 17. This countershaft has thereon the usual ratchet clutch which is operated by a clutch lever 18. This lever is connected by a shifting rod 19 to a cross head 20 suitably supported in a cross head box 20^a. The nuts 19^a on the shifting rod 19 render the clutch adjustable. It will be apparent that the cross head is operated by the shifting bar, the movement of the cross head resulting in placing the clutch in operative and in inoperative positions. The part of the clutch 21, keyed to the countershaft, has on it a sprocket wheel 22, and passing around this wheel is a sprocket chain 23 which passes around a sprocket 24 on the end of the smooth roller and over a sprocket 25 on the end of the corrugated roller. This arrangement of the chain and sprocket results in the smooth roller turning counterclockwise and the corrugated roller turning clockwise.

The smooth roller has fixed bearings 26. The corrugated roller has movable bearings 27 capable of being moved in a vertical plane in sockets 28 and prevented from jumping out of the socket by a stop 28ª. This arrangement enables the corrugated roller to move vertically a sufficient distance to allow the cotton which has accumulated during the time the tramper head is in the press box to pass between the rollers. The movable bearings may have on them suitable resilient bumpers 29 to prevent shock if the corrugated roller suddenly drops into lower position. A baffle board 30 is attached to the movable bearings by curved bars 31. This construction causes the baffle board to move up and down with the corrugated roller. The upper roller has curved end flanges 32. I have found by experiment that the best results are obtained by making the length of the roller equal to the radius of the circle made by the curvature of the end of the roller. This construction permits the roller to swing from either end on its own radius without binding anywhere.

It will be apparent that the downward movement of the tramper head will release the clutch. This result is brought about by the shape of the shifting bar which causes the part 9 to place the clutch in inoperative position when it moves down and to cause the part 8 to place the clutch in operative position when it moves up.

These parts of my device which have been described may be suitably held in position in any of the well-known ways of supporting machinery. I have shown sills 33, uprights 34 and press members 35. The guide 36 for the shifting bar is attached to a connection 37 between the press members. The bearings for the rollers are attached in any suitable manner to the uprights. The slide is attached to a casting 38 attached in any suitable manner to the upright. The cross head box is suitably attached to the press members.

The operation of my device will be readily understood from the above description. It is evident that the downward movement of the tramper head will release the clutch and stop the action of the feed rollers. The cotton will then pile up against the rollers and the baffle board. When the tramper head reaches the highest point of its upward movement the shifting bar will shift the clutch into operative position and the cotton will be carried into the press box in a manner well understood.

Having described my invention, what I claim and desire to protect by Letters Patent is:

1. In a device of the character described, means to carry cotton from a condenser, upper and lower rollers located adjacent said means, the upper of said rollers having bearings permitting upward and downward movement of said roller, a baffle board operatively connected to said upper roller and means to operate said rollers.

2. In a device of the character described, means to carry cotton from a condenser, upper and lower rollers located adjacent said means, the ends of said upper roller being curved whereby either end of said roller may be raised without raising the other end thereof and means to operate said rollers.

3. In a device of the character described, means to carry cotton from a condenser, upper and lower rollers located adjacent said means, the ends of the upper roller being curved, the radius of the circle made by the curvature of the ends of the roller being substantially equal to the length of the roller.

In testimony whereof I affix my signature.

JAMES T. BEATY.