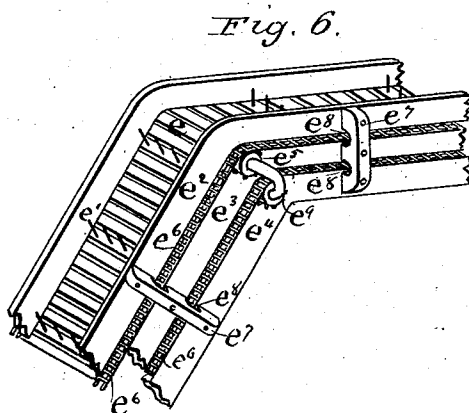
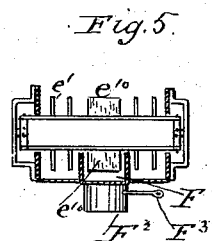
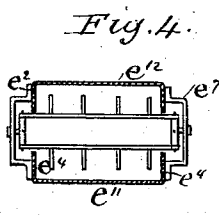
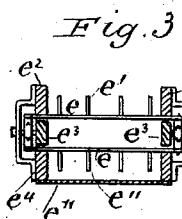
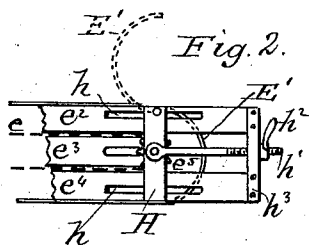
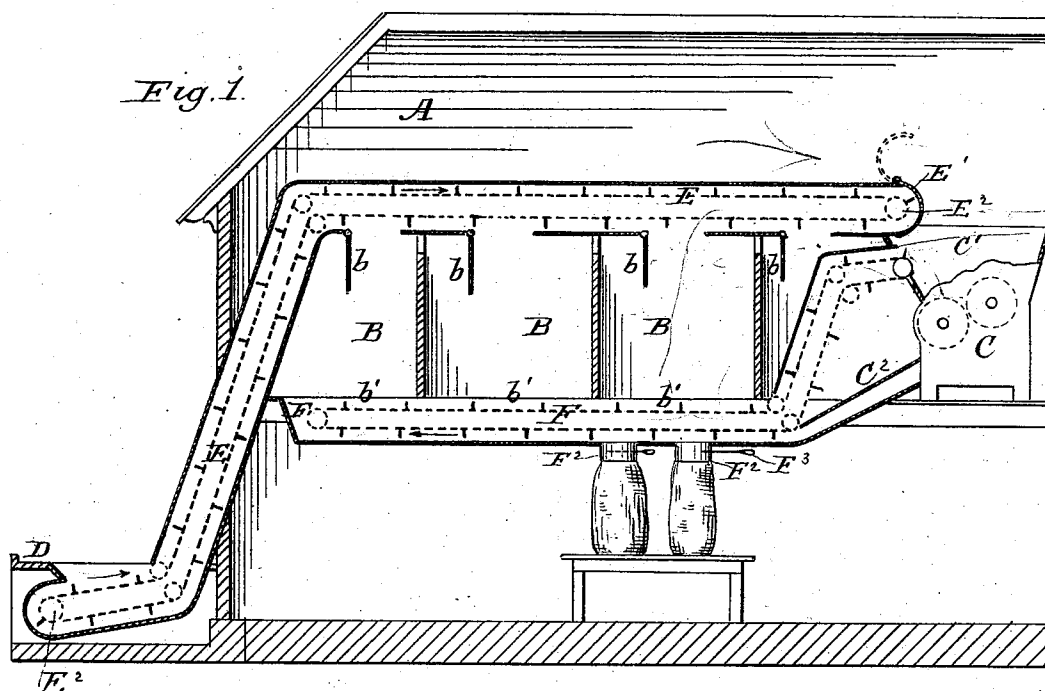


(No Model.)

A. D. THOMAS.
COTTON CONVEYER.

No. 281,319.

Patented July 17, 1883.



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UNITED STATES PATENT OFFICE.

ABNER D. THOMAS, OF MORRILLTON, ARKANSAS.

COTTON-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 281,319, dated July 17, 1883.

Application filed April 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, ABNER D. THOMAS, a citizen of the United States, residing at Morrillton, in the county of Conway and State of Arkansas, have invented certain new and useful Improvements in Cotton-Conveyers, of which the following is a specification.

The object of my invention is to provide mechanism for conveying and depositing any material, but is in this instance more especially adapted, as herein illustrated and described, for conveying cotton from a receiving-hopper to any desired floor of a storage or a gin house, and into any desired bin, room, or stall therein, or, if preferred, and at will, either directly to a cotton-gin stand, hopper, or feeder located in said gin-house, or from said bin, room, or stall to said gin or gin-feeder.

A further object of my invention is to provide means whereby a conveyer for cotton is adapted to operate simultaneously as a seed-conveyer.

Other objects will appear in the following description of the devices employed in the embodiment of my invention in a working machine, and its novel features will be specifically pointed out in the claims.

Referring to the accompanying drawings, forming a part hereof, Figure 1 is a vertical section of a gin-house provided with a conveyer constructed and arranged in accordance with my invention. Fig. 2 is an enlarged side elevation of an end portion of my conveyer. Fig. 3 is a vertical transverse section of the conveyer without a cover. Fig. 4 is a like section of the same with a cover. Fig. 5 is a section of a cotton and seed conveyer; and Fig. 6, an enlarged perspective of a portion of the conveyer, showing details of its construction.

Like letters refer to like parts in all the figures.

A represents a gin-house or any suitable building for the storage and ginning of cotton, and in this instance it is divided into bins, stalls, or rooms B on each side of a central passage, above which is suspended or otherwise secured at as great a height as possible an upper conveyer, which is provided with an inwardly-swinging, or it may have a sliding, door, *b*, in the bottom thereof, opposite

each pair of bins, and under each door a chute can be placed to lead the cotton in each bin. There is also in the floor of the passage, between the bins, an opening, *b'*, leading to a conveyer in the floor, upon which the cotton in the bins can be raked, and carried thereby to the gin. A cotton-gin, C, is in this instance located upon the same floor of the building, and in a suitable relative position to the bins or stalls B, so that cotton may be conveyed therefrom into the hopper *c'* of the gin. C² represents a trough for conducting the seed from the gin.

Outside of the building, or, if desired, it may be inside, or at any desired locality, is a platform, D, upon which wagons loaded with cotton in bulk may be driven for unloading.

Within or beneath the platform D is the lower section of my conveyer E, which section is substantially horizontal, but may be inclined, and is accessible by means of a trap-door, over which a team may be driven, and afterward said door may be raised and form, when open, a side of or a guide into a hopper, in which the said lower section is located and operated. From the lower section the conveyer is extended upward to the top of the bins B, and then along the same and over the hopper C' of the gin. A gate, E', is provided at the end of the conveyer, which projects over the hopper C' without any regard for the specific construction of the conveyer E. The arrangement thereof relative to the bins and gin adapts it to perform certain functions which are novel and useful, and such arrangement will therefore hereinafter be claimed as of my invention, without limiting myself to the exact construction of the conveyer itself, because a conveyer of usual construction, when so arranged, will produce the advantages of the arrangement—that is to say, an ordinary endless conveyer having the end shafts, E², and intermediate guiding means to direct it, as described and shown, will, when operated with its upper side ascending, convey cotton from the platform D up to and along over the bins B, and when the gate E' is open into the hopper of the gin, and when the gate E' is closed said conveyer, by means of its returning lower portion, will carry the cotton over said bins and deliver it into any

of the same, when the door *b* thereof is open, by means of a movable chute placed thereunder.

I am aware that an endless conveyer has been employed to elevate, conduct, and deliver cotton into bins from its upper surface; but I am not aware of any instance before my invention of the utilization of the returning side in the conveyer for the delivery of the cotton into desired separate bins, nor of means located at the end of the conveyer to be used at will to either deliver cotton therefrom or continue its conveyance thereby in an opposite direction.

F represents a second conveyer, arranged between the bins and within the opening *b'*, to receive and direct cotton upwardly and into the hopper *C'*. The bed of the conveyer *F* is centrally and longitudinally partitioned, to form a secondary conveyer-trough, *F'*, which communicates with the seed-trough *C'* of the gin. Now, by operating the conveyer *F* so that its upper side shall advance toward the hopper *C'*, cotton delivered in any manner thereupon from any of the bins *B* is conveyed to the gin, and by suitable devices attached to the conveyer the secondary conveyer-trough *F'* is utilized on the return movement of the conveyer *F* to carry or force the seed therein over the outlets *F''* into bags or other suitable receptacles. Gates *F'''* are provided to close said outlets, as desired, to deliver into a chosen bag or receptacle.

By the description thus far given it will be seen that without regard to the specific construction of either of the conveyers *E* or *F* cotton may be elevated from the platform *D* upward and over and at will into the hopper *C'*, or any of the bins *B*, and from any of the bins by the conveyer *F* into the hopper, and simultaneously the seeds are conveyed into the desired receptacles; and these results are attained by the novel arrangement of the conveyers relative to the bins and gin. Motion may be given each conveyer by any usual means, or by connecting them with the gin and in the direction described and shown by the arrows.

Referring now particularly to Figs. 2 to 6, inclusive, for a more particular description of my conveyer as constructed in this instance, it will be seen that there is an endless belt, which may be of canvas or leather, but preferably of transverse slats or strips *e*, secured at each end to the links of the drive-chains, upon some of which any desirable means—such as rakes, blades, or buckets *e'*—may be secured, so as to constitute a series of rakes equidistant from each other.

e'', *e'''*, and *e''''* represent side rails, the former of which constitute the side walls of the upper portion of the conveyer-trough, the latter forming its lower portion, and the strips *e'* forming a supporting frame-work for the means employed to direct the conveyer to maintain it in a strained and operative condition, and to serve as bearings for its end shafts when such are and may be used, and for sprocket-

wheels *e''*, over which an endless sprocket-chain, *e''''*, passes at each side, or, it may be, when shafts are used, at only one side thereof. By means of cleats *e'*, grooved, as at *e''*, the three strips of each side are held apart and parallel to each other, so as to form an endless slot, through which the strips *e* project, and are secured in this instance each at each of its ends to a link of the chain *e''*, or in any other suitable manner to any other suitable endless chain. It will be seen that by this construction none of the belt-propelling devices are located inside of the trough. A bracket or staple, *e''*, may be used as bearings for two of the sprockets whenever an angle occurs in the conveyer. A bottom, *e'''*, is formed by securing sheet metal or wood to the lower edges of the strips *e'*; or, as shown in Fig. 4, said bottom and strips *e'* may be formed of sheet metal and in one piece by turning flanges at the sides, and in like manner the strips *e''* and a top, *e''''*, may be formed in one piece to inclose the conveyer. Blades or blocks *e''''* are provided on the belt *F*, so that they act in connection with the teeth *e'* to convey the cotton, and in connection with the secondary trough *F'* to convey seeds.

Referring to Fig. 2, *H* is a sliding cleat supporting an end sprocket, *e'*, or, it may be, the shaft of an end roll for the conveyer, and said cleat is supported in slots *h*, and, by means of the screw-threaded rods *h'* and nuts *h''*, and a fixed cleat, *h'''*, secured to the strips at each side of the trough, said sliding cleat and its sprocket is drawn toward the end of the trough to tighten the endless chain, and the strips or conveyer-belts secured thereto. The curved end cover, *E'*, of the conveyer is pivoted to the cleat *H*, so that it retains its relative distance to the shaft therein, whatever may be its position as adjusted by the screw-rods *h'*.

Although I prefer to use the upper portion of the carrier-belt in the conveyer *E*, said belt can be run in the opposite direction of the arrow thereon, and the cotton be carried against the bottom of the belt-easing directly to the opening opposite the first bin, or, if the door is closed, to the second opening and bin, or directly into the hopper of the gin if all the doors *b* are closed and the curved end cover, *E'*, is open.

Having described my invention and its operation, what I claim as new is—

1. An endless conveyer-belt arranged in a trough having an end-gate adapted to allow at will the material conveyed to escape from said trough, or direct it backward in said trough by means of the returning side of said conveyer, substantially as and for the purposes set forth.

2. An endless conveyer-belt, *E*, arranged in a trough having doors over and opposite a series of bins, and adapted to deliver by means of its returning side, located, as well as the carrying side, above said bins, material in said bins, substantially as and for the purposes described.

3. An endless conveyer-belt arranged in a

trough having an end-gate, and located over a series of bins, and a cotton-gin hopper, whereby cotton may be delivered direct into said hopper, or by means of the returning lower side of said belt into any of the bins, substantially as and for the purposes set forth.

4. An endless conveyer-belt and trough having a lower section, an intermediate upwardly-extended section, and a terminal horizontal section arranged over a series of bins and over a gin-hopper, and adapted by means of a semicircular end-gate to deliver material received and conveyed by its upper advancing side directly from its terminal end, or at will to return said material and deliver the same in a desired bin of the series, substantially as and for the purposes set forth.

5. The combination of a series of bins, an upper conveyer having doors leading therein, and a lower conveyer having an open top, both conveyers leading into the same hopper, substantially as specified.

6. The combination of a series of bins, each having an open top and a lower discharge and conveyer, with an upper endless conveyer having an end-gate and a cotton-gin, each of said conveyers adapted to deliver cotton to said gin, substantially as specified.

7. The combination of a series of bins, each having an open top and a lower discharge or opening, with an upper and lower endless conveyer, each of which is adapted to deliver into a gin-hopper from its upper advancing side, and to operate to advance material rearwardly at its lower returning side, the said lower conveyer having communication with the seed-trough of the gin, substantially as specified.

8. The combination of the platform D, conveyer E, having end-gate E', bins B, having doors b, and gin C, substantially as shown and described.

9. The combination of conveyer E, having

end-gate E', and bins B, having open top and discharging-opening b', with conveyer F and gin C, substantially as shown and described. 45

10. The combination of the conveyer E, the curved end-gate E', and bins B with gin C, seed-trough C', and conveyer F, having secondary conveyer F', substantially as shown and described. 50

11. A conveyer-trough comprising sides formed of three parallel strips held in position by brackets to form two parallel slots, in combination with a conveyer having chains outside of said troughs, substantially as and for the purposes described. 55

12. A trough for an endless conveyer-belt, comprising in each side three parallel strips, secured by brackets and joined angularly to three other parallel strips secured by brackets, the two lower strips at each side being held in relative position by brackets, the legs of which serve as bearings for sprocket-wheels, substantially as specified. 60

13. The combination of the strips e² e³ e⁴ and bracket e', grooved, as at e³, with the endless belt e, and chains e', and sprockets e², substantially as shown and described. 65

14. The combination of the strips e² e³ e⁴, sprockets sliding bracket H, the conveyer-cover E', pivoted thereto, rod h', and fixed cleat h³, substantially as specified. 70

15. The combination of the endless conveyer-belt F, having the teeth e and blades e¹⁰, with the central trough, F', and discharge-pipes F², having gates F³, substantially as described, and for the purposes set forth. 75

In testimony whereof I affix my signature in presence of two witnesses.

ABNER D. THOMAS.

Witnesses:

N. W. Cox,
S. Z. HALL.