

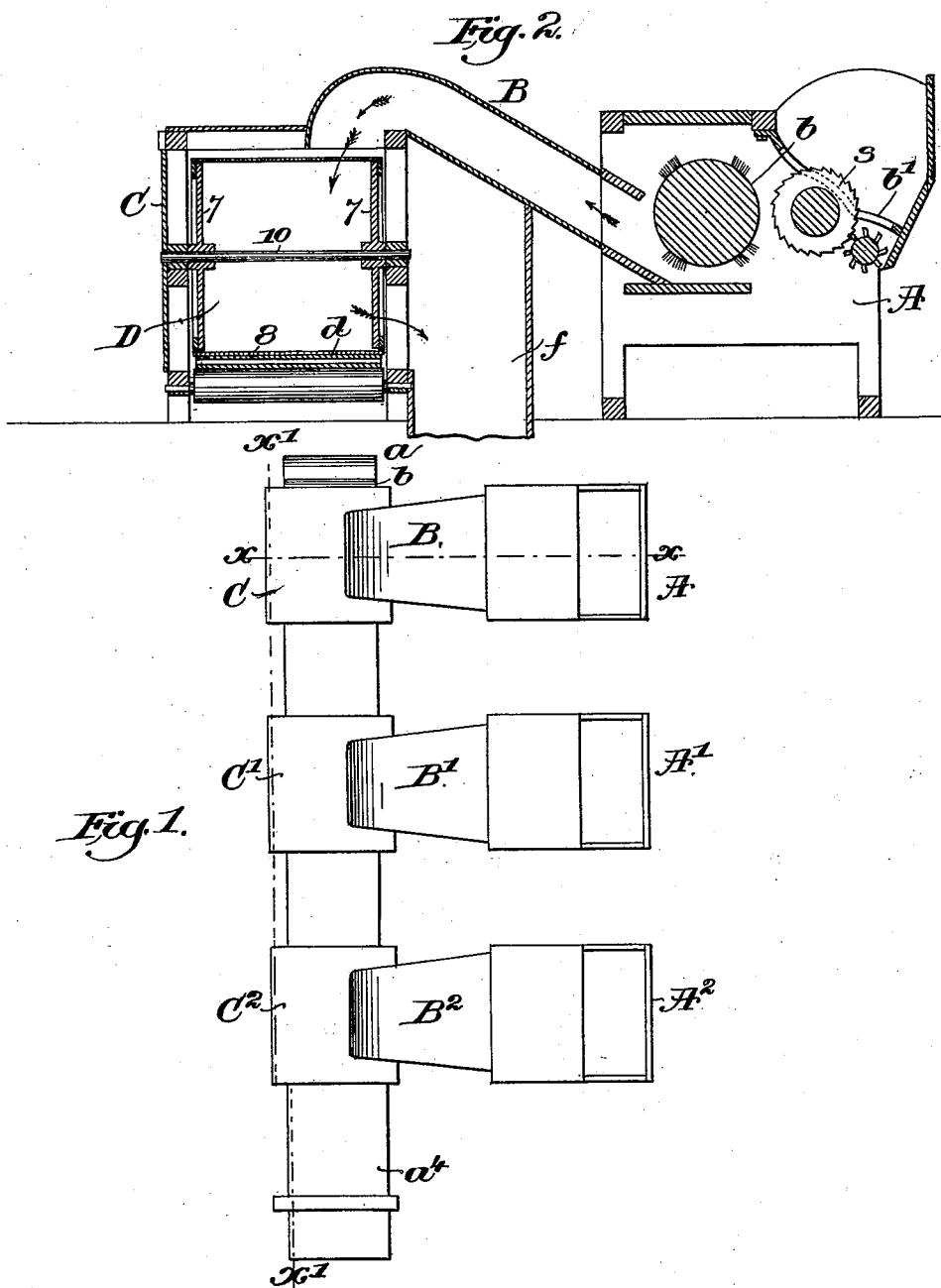
(No Model.)

2 Sheets—Sheet 1.

G. L. ROLLINS.
CONDENSER FOR COTTON GINS.

No. 513,732.

Patented Jan. 30, 1894.



Witnesses.
Louis N. Howell
Fred S. Grunkapf.

Inventor:
George L. Rollins.
by Crosby & Gregory Attys.

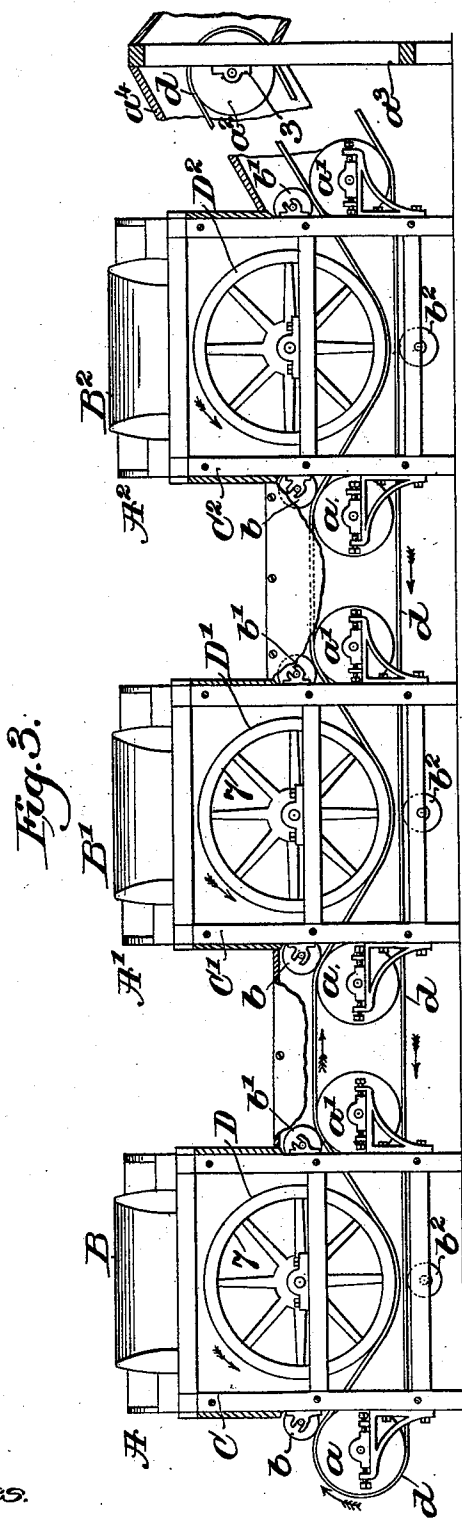
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UNITED STATES PATENT OFFICE.

GEORGE L. ROLLINS, OF BRIDGEWATER, MASSACHUSETTS, ASSIGNOR OF
ONE-HALF TO THE EAGLE COTTON GIN COMPANY, OF SAME PLACE.

CONDENSER FOR COTTON-GINS.

SPECIFICATION forming part of Letters Patent No. 513,732, dated January 30, 1894.

Application filed April 15, 1893. Serial No. 470,469. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. ROLLINS, of Bridgewater, county of Plymouth, State of Massachusetts, have invented an Improvement in Condensers for Cotton-Gins, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

10 This invention has for its object to improve the mechanism for handling lint cotton, whereby the fiber is better presented for baling or use, and whereby the short lint and flyings which are very deleterious to health when
15 breathed, and which are very explosive in the presence of a spark or fire, and consequently very dangerous to life, are lessened in the gin house.

20 Prior to my invention cotton fiber detached from its seeds in a cotton gin has been discharged from the delivery mouth of the gin into a flue common to a number of gins, and the cotton from two or more gins has been made to pass through the flue and under a
25 condensing roll and made into a lap suitable to be delivered to a press or for baling.

In accordance with my invention, I take a plurality of gins, each having a condensing attachment, and condense the fiber from each
30 gin on a belt common to all the gins, the said belt receiving one condensed layer of cotton after another, the accumulated layers being preferably compressed one on the other, and all being preferably finally compressed before delivery from the apparatus to go to the
35 press or bale.

By the use of my improvements, it is possible to get a very compact strong lap for delivery to the press or bale.

40 Figure 1 is a plan view showing several gins collected to form a "battery," and all delivering their product on one belt; Fig. 2, a section in the line x , Fig. 1; Fig. 3, a section on the line x' , Figs. 2 and 3 being on a larger
45 scale.

I have shown a series of cotton gins A, A', A², which may be all alike or different, or of any usual size or type, the gin shown best in Fig. 2 being supposed to be one of the class
50 using suitable saws s and a brush or fan b ,

the lint cotton detached from the saws and drawn through the breast b' , being blown into the trunks B, B', B². These trunks lead respectively into casings C, C', C², each containing a perforated or reticulated cylindrical screen or condenser D, D' or D², the shafts of which are mounted in suitable bearings of said casings. I have shown each casing as having co-operating with it preferably two like drums a, a' , and suitable nipping or press rolls b, b' , and sustaining rolls b^2 , the drums a, a' , and the drum a^2 carrying and moving a belt d common to the said screens or condensers, the shaft of the drum a^2 being supposed to be located in suitable bearings 3 of uprights a^3 located at, it may be, some distance from the last casing and screen of the series, and being preferably protected in a trunk a^4 which may be part of a press, the accumulated fiber in the form of a lap being delivered from said belt into said trunk or onto the floor as may be desired.

The screens or condensers rotated by the belt may be composed of wire cloth or other suitable reticulated material 8 suitably confined to heads 7, 7, preferably made as wheels or disks having arms radiating from a hub, said wheels being mounted on a shaft 10.

The casing at one end of each screen is closed by a wall, shown best in Fig. 2 in section, but at their inner ends, as herein shown, the side walls of the casings are omitted and the casings are put into open communication with dust trunks f , which lead the dust and the fine floating fiber, which is so dangerous and liable to be ignited by the least spark and cause an explosion, out into the open air, said dust trunks being connected if desired with any usual or suitable air exhausting means.

In my invention it will be noticed that the cotton fiber is delivered from the fiber trunk of each gin onto the upper side of the revolving screen, and the fiber is deposited thereon, but the dust and loose fine particles are made to pass through the holes in the periphery of the screen, and thence out through one end of the screen into the proper dust trunk. Each screen co-operates with the belt d .

In practice the fiber deposited on screen D from trunk B of gin A, is in the rotation of

the screen deposited in a moderately thin film or layer onto belt *d* and is carried by said belt under screen *D'* receiving cotton from gin *A'*, and the layer of cotton from screen *D'* of gin *A'* is laid on the layer furnished by gin *A*. In like manner the layers of cotton laid on belt *d* from gins *A*, *A'*, receive on them the layer of cotton from gin *A*². In this way, one layer of cotton after another is deposited on the belt,—one layer on another layer, and each layer is condensed as it is first laid on the belt, and is again compressed while one layer is being laid on another, and the final lap is well compacted, which adapts it to be used more economically in the press and other places. The belt *d* may be driven positively in any usual or suitable manner. It will therefore be understood that the axis of rotation, (see Fig. 2) of the screen is substantially parallel with the longitudinal center of the trunk *B* leading the cotton from the gin into the casing and onto the screen; and also that the axis of rotation of the screen is substantially at right angles to the axis of rotation of the saw shaft of the gin, and that the belt co-operates with two or more screens and hence passes entirely through the casings under the screens. By putting the axes of rotation of the screens at right angles to the axes of rotation of the gin shaft, it makes it possible for several screens to co-operate with one belt and thus enable the bats coming from several gins to be superimposed.

My invention is not for feeding cotton gins, and I disclaim a belt to feed a cotton gin.

I am also aware that cotton has been applied to the rear side of a screen, has been carried over said screen, and detached at the other side of the screen, and deposited on a belt, the end of which meets substantially the screen, but prior to this invention I am not aware that a belt to receive cotton from a screen has ever been passed directly under the screen from side to side of the casing containing the screen, so that said screen has been

able to by contact with the belt give up its cotton.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A plurality of cotton gins, a plurality of casings having each a rotating screen or reticulated cylinder, combined with a belt co-operating with two or more screens and receiving one layer of fiber after another, one layer on top of another, each layer being condensed, and the combined layers being compressed one or more times before its delivery from said belt, substantially as described.

2. A plurality of cylindrical reticulated screens; surrounding casings for each screen; and a belt or apron arranged to travel through said casings from side to side and under said screens; combined with a plurality of cotton gins, and connecting flues arranged between said gins and said casings to conduct fiber into said casings and onto said screens, the screens delivering the cotton deposited upon them upon said belt, substantially as described.

3. A plurality of cylindrical reticulated screens; surrounding casings for each screen; and a belt or apron arranged to travel through said casings from side to side and under said screens; combined with a plurality of cotton gins and connecting flues arranged between said gins and said casings to conduct fiber into said casings and onto said screens, the screens delivering the cotton deposited upon them upon said belt, and with a dust trunk to lead dust and light floating particles of cotton away from said casings, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE L. ROLLINS.

Witnesses:

GEO. W. GREGORY,
EMMA J. BENNETT.