T. W. FELTON.

COTTON CLEANER.

APPLICATION FILED DEC. 18, 1908.

949,627. Patented Feb. 15, 1910.

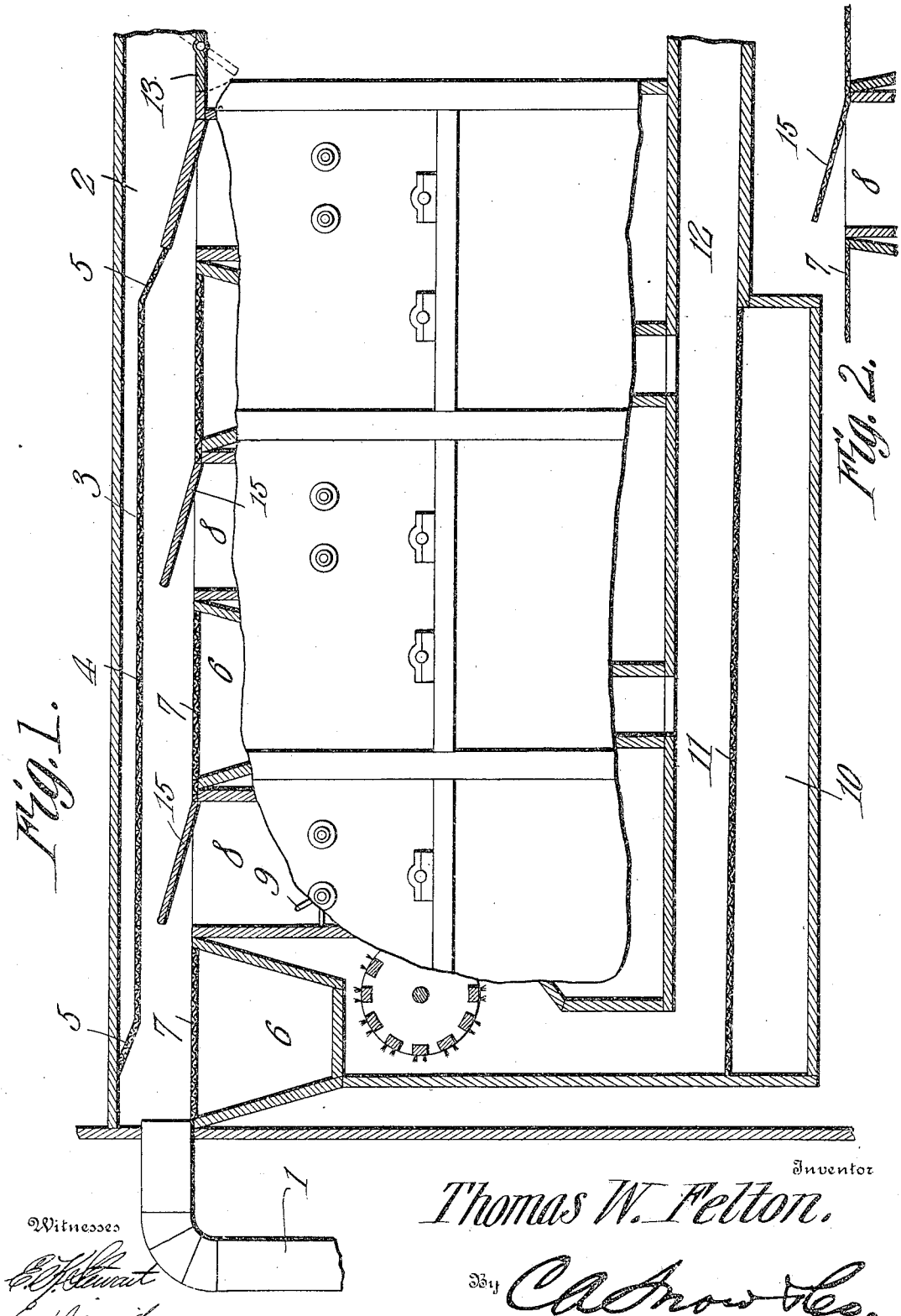


Fig. 1.

Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS W. FELTON, OF SAN GABRIEL, TEXAS.

COTTON-CLEANER.

949,627. Specification of Letters Patent. Patented Feb. 15, 1910.

Application filed December 18, 1908. Serial No. 468,211.

To all whom it may concern:

Be it known that I, THOMAS W. FELTON, a citizen of the United States, residing at San Gabriel, in the county of Milam and State of Texas, have invented a new and useful Cotton-Cleaner, of which the following is a specification.

This invention has relation to cotton cleaners and it consists in the novel construction and arrangement of its parts as hereinafter shown and described.

The object of the invention is to provide an apparatus the parts of which are so arranged as to effectually and economically remove grit, leaves and other trash from the cotton at the time that it is distributed for ginning.

With this object in view, the cleaner embodies a conveyer trunk through which an air suction is created. A screen is located within said trunk and is provided with an intermediate horizontal section and inclined end sections. Trash receptacles are connected with a horizontal distributer flight provided in said trunk and the said receptacles are covered at their tops by screens and are closed at their sides and bottoms. Feeder chutes are located between the said receptacles and are adapted to receive the cotton. Feeder rolls are journaled in the lower portion of each of said feeder chutes and the lower portion of each chute communicates with a gin. A well is located below the gin and is covered by a perforated plate or screen. The said plate or screen is adapted to separate trash from the cotton which passes through the gin, and means is provided for removing the cotton from the last said screen or plate.

In the accompanying drawings, Figure 1 is a side elevation of the invention with parts in section. Fig. 2 is a sectional detail view of a modified structure which might be used in the apparatus.

The apparatus consists of a trunk which includes a vertical flight 1 and a horizontal distributer flight 2. Means (not shown) for creating a suction draft through the said trunk is connected with the horizontal distributer flight 2. Said means may be a fan or suction pump or its equivalent. A screen 3 is located in the horizontal flight 2 of the conveyer trunk and is provided with an intermediate substantially horizontal section 4 which is spaced from the top of the flight 2 and the inclined end sections 5 the forward one of which extends to the top of the flight 2. Trash receptacles 6 are located under the screen 3 and communicate at their upper ends with the interior of the horizontal flight 2. The sides and bottoms of the said receptacles are closed so that the said receptacles form what is termed "dead air" spaces, or spaces in which the contained air is not in motion. Screens 7 are located over the upper ends of the receptacles 6. Feeder chutes 8 are arranged alternately between the receptacles 6 and communicate at their upper ends with the interior of the horizontal flight 2. The upper ends of the said feeder chute 8 are also located under the screen 3. Rotary feeder rolls 9 are located in the lower portions of the chutes 8 and the lower portions of the chutes communicate with gins in the usual manner. A well 10 is located under the outlets of the gins and a screen 11 is located over the top of the said well. A trunk 12 communicates with the space between the top of the well 10 and the lower ends of the gins and may lead to a cotton press (not shown). The horizontal flight 2 of the wind trunk is provided with a valve 13 which is located behind the final chute 8. Inclined sections 15 are located in the flight 2 at points above the feeder chutes 8 and obstruct the passage through the flights 2 at such points. The rear section 5 of the screen 3 joins with the forward edge of the final section 15 of the series of sections 15.

The operation of the apparatus is as follows: A suction draft is created through the flights 1 and 2 of the trunk and the cotton containing the leaves and sticks is drawn up through the flight 1 into the horizontal flight 2. As the cotton strikes the first inclined section 5 of the screen 3 the cotton is deflected downward toward the first chute 8, while much of the sand, grit, leaves, etc., will pass through the first section 5 of the screen 3 into the body of the flight 2 lying behind the final chute 8. At the same time sticks, leaves and heavier foreign matter will fall upon the screen 7 of the initial receptacle 6, and as the air contained within the said receptacle is quiescent the said material will fall through into the receptacle and remain there. Substantially the same operation is performed throughout the entire series of chutes 8 and receptacles 6. The seed cotton as it passes from the first inclined section 5 toward the

last said section of the screen 3 brushes or wipes along the under side of the screen and hence grit and other objectionable matter that is held by the fiber is loosened and eventually separated from the same and passes either through one of the screens 7 or follows the draft of air through the screen 3 and the horizontal flight of the wind trunk. The inclined sections 15 which lie over the upper ends of said chutes 8 afford means for preventing the draft of air which is passing through the flight 2 from having a tendency to suck the cotton up out of the chutes 8. The cotton that falls into the lower portions of the chutes 8 is operated upon by the rolls 9 and fed to the gins in the usual manner. From the gins the cotton enters the trunk 12. Suction draft is created through the trunk 12 and the cotton which falls upon the screen 11 is drawn out through the said trunk 12, while any remaining grit which the cotton may contain falls down through the said screen 11 into the well 10 where it remains until removed at the time the apparatus is cleaned.

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

A cotton cleaner comprising a distributing trunk, spaced feeder chutes connected with said trunk, a trash receptacle located in advance of each feeder chute and connected with said trunk, a screen located over each trash receptacle, an inclined section located over each feeder chute and obstructing the passage through the trunk at points above the feeder chute, said inclined sections extending from the rear edges of the feeder chutes and disposed toward the trash receptacle, a screen located in the upper portion of the feeder chute and extending from the initial trash receptacle to the final chute, said screen being spaced from the upper side of the trunk and having at its forward end an inclined section which extends to the upper side of the trunk and at its rear end an inclined section which joins with the forward edge of the final inclined section of the series of inclined sections located over the feeder chutes.

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

THOS. W. FELTON.

Witnesses:
F. M. AMASON,
HOWARD AMASON.