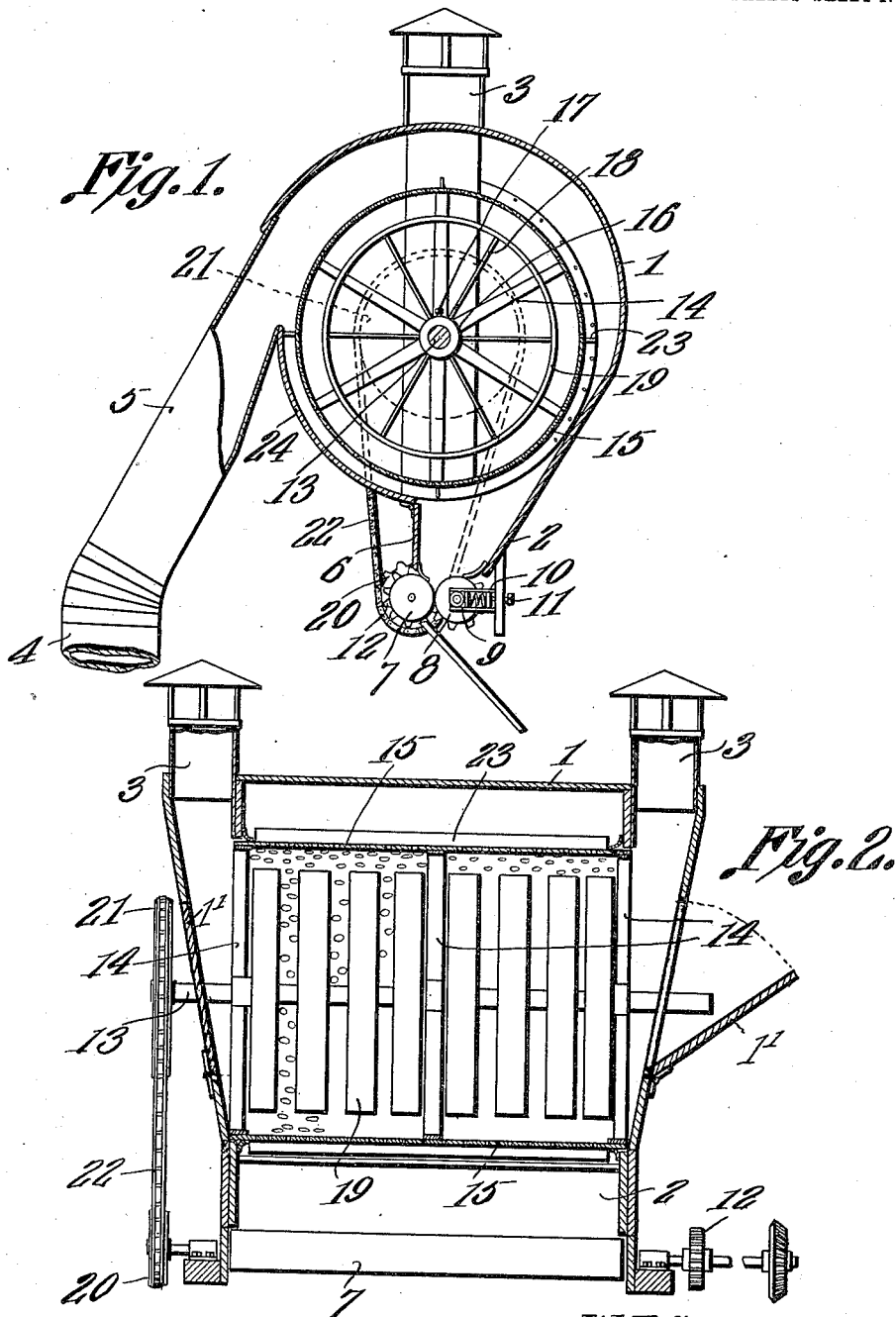


W. P. SUMMERROW.
COTTON CONDENSER AND LINT FLUE.
APPLICATION FILED MAY 18, 1911.

1,023,772.

Patented Apr. 16, 1912.

2 SHEETS—SHEET 1.



Witnesses

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by

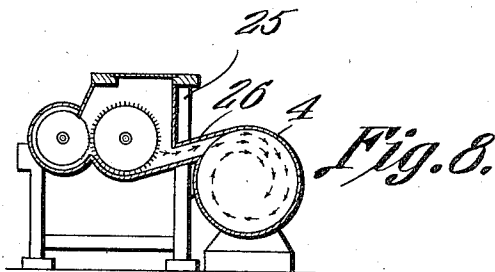
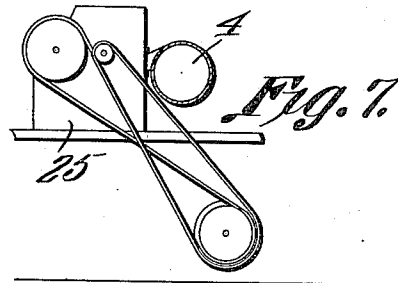
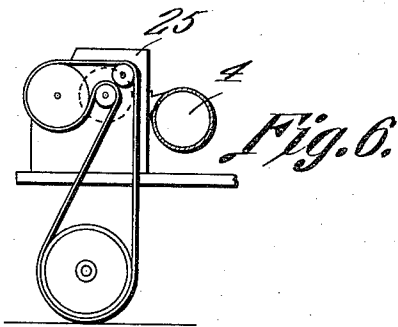
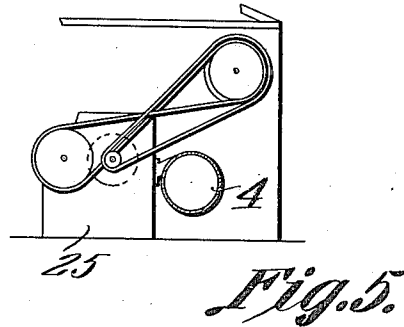
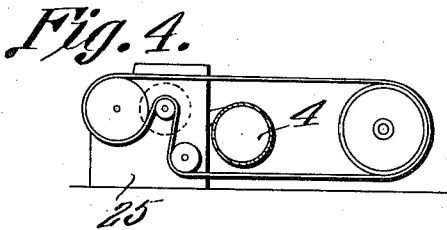
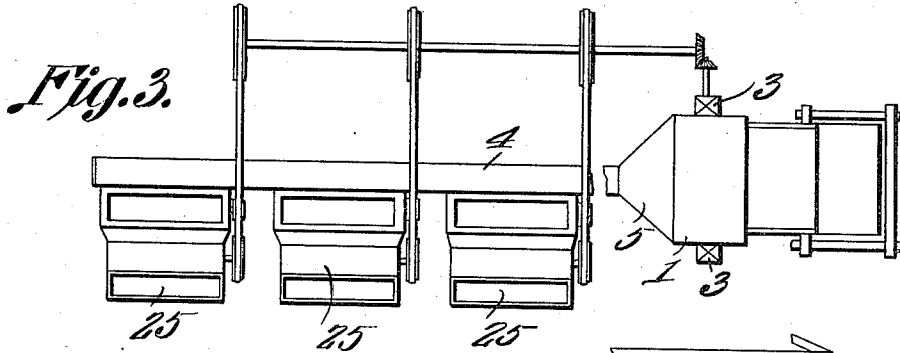
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Attorneys

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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIE PRICE SUMMERROW, OF AUSTIN, TEXAS.

COTTON-CONDENSER AND LINT-FLUE.

1,023,772.

Specification of Letters Patent.

Patented Apr. 16, 1912.

Application filed May 18, 1911. Serial No. 627,955.

To all whom it may concern:

Be it known that I, WILLIE PRICE SUMMERROW, a citizen of the United States, residing at Austin, in the county of Travis and State of Texas, have invented a new and useful Cotton-Condenser and Lint-Flue, of which the following is a specification.

This invention relates to a cotton condenser and lint flue and consists in the novel construction and arrangement of its parts as hereinafter described and claimed.

The object of the invention is the provision of a condenser, having a perforated drum to assist in guiding the lint from the gin flues to the bat rolls, the lint conducted from the flues entering at a tangent to the drum, so that the centrifugal tendency of the lint is to follow closely the inner curved portion of the casing, over and around the drum to the bat rolls, thus preventing the lint from obstructing free egress of the air through the perforations of the drum.

A further object of the invention is to provide in combination with the condenser a lint flue which may be easily and quickly connected with the discharge outlets of a battery of gins and having its parts so arranged that the lint is admitted into the flue at the top or upper portion thereof and at a tangent to the periphery of the flue in order to prevent the accumulation of sand and trash at the bottom of the flue. Another advantage of this arrangement is that the flue may be located in close proximity to the floor of the gin house and is out of the way of the belt which drives the gin whether the gin is belted with an engine upon the same floor or with an engine upon the floor below.

In the accompanying drawings:—Figure 1 is a transverse sectional view of the condenser. Fig. 2 is a longitudinal section view of the same. Fig. 3 is a top plan view of a ginning system showing the condenser and lint flue connected with a battery of gins. Fig. 4 is a diagram illustrating the manner in which the gin may be belted to pulleys or a line shaft upon the same floor when the hereinafter described flue is used. Fig. 5 is a diagram showing the saw shaft and doffing brush shaft connected by separate belts with an engine upon the same floor. Fig. 6 is a diagram showing a gin belted with an engine located on a floor below. Fig. 7 is a diagram showing a gin having its saw shaft and doffing brush shaft connected

by separate belts with an engine located on the floor below. Fig. 8 is a transverse sectional view of a wood incased gin showing the lint flue connected therewith.

The condenser consists of a casing 1 the upper portion of which is semi-cylindrical and the lower portion of which contracts toward its discharge outlet 2. Clean out doors 1' and 1^a, are provided in the ends of the casing and permit the access of a person to adjust the interior mechanism without dismantling the machine. Vertically disposed shaft discharge flues 3 are connected with the ends of the casing 1 and communicate with the interior thereof at the ends of a hollow perforated drum journaled in the casing and which will be described hereinafter. A lint flue 4 is provided with a flared nozzle 5 which is connected with the upper semi-cylindrical portion of the casing 1 and is disposed upwardly and at a tangent to the said semi-cylindrical portion of the said casing. A section 6 is hingedly connected at its upper edge to the body portion of the casing 1 and normally hangs in a vertical position as shown in Fig. 1, the said section 6 forms a wall of the discharge chute of the casing 1 which terminates at the outlet 2. Bat rolls 7 and 8 are journaled below the outlet 2, the roll 7 being located directly below the hinged section 6 and journaled upon a fixed shaft while the roll 8 is journaled in boxes 9 slidably mounted in guides 10 which are pressed by springs 11 so that the roll 8 is held toward the roll 7. The shafts of the rolls 7 and 8 are provided with intermeshing gear wheels 12 which have relatively long gear teeth so that the roll 8 may at times move away from the roll 7 or toward the same and at the same time the teeth of the said wheels 12 will remain in mesh so that the rolls will continue to turn toward each other. Any suitable means may be employed for rotating the roller 7 and its shaft.

A shaft 13 is journaled in the casing 1 and is provided at suitable intervals with spiders 14. A perforated hollow lint guiding drum 15 is supported upon the intermediate portion of the shaft 13 and is located beneath the casing 1. A plurality of air blast controlling devices 18—19 are adjustably mounted upon the shaft 13 within the condensing drum 5 and each of said members consists of a hub 16 which snugly receives the shaft 13 and which is provided

with a set screw 17 whereby it may be secured in an adjusted position upon the shaft. Spokes 18 radiate from the hub 16 and a relatively broad but thin annular band 19 is supported at the outer ends of the spokes 18. The band 19 is spaced from the inner surface of the perforated drum 15 and the air blast controlling devices of which the said bands form parts are spaced from each other along the shaft 13.

A sprocket wheel 20 is mounted upon the shaft of roller 7 and a sprocket wheel 21 is mounted upon the shaft 13. A sprocket chain 22 is trained around the sprocket wheels 20 and 21 and is adapted to transmit rotary movement from the shaft of the roller 7 to the shaft 13 and the parts mounted thereon. Radially disposed baffles 23 are mounted upon the periphery of the perforated drum 15 and extend approximately the length thereof. An arcuate section 24 forms a portion of the bottom of the casing 1 and is located at such a distance from the center of the drum 15 that the outer edges of the baffles 23 will sweep along the same as they pass over the said section. All of the parts of the sides of the casing 1 are spaced from the outer edges of the flights 23. The bottom section 24 is slightly less in length than the distance between the adjacent baffles 23 upon the perforated cylinder 15 so that but one of the said baffles will be upon or against the bottom section 24 at any time. A casing 1 as shown is provided at opposite ends with the doors 1 and 1^a, and by reason of the fact that the casing is made of such a size that man can readily enter the opening closed by the respective doors, to the interior of the perforated drum and thereby adjust the respective air controlling devices upon the main shaft. This can therefore be done without dismantling the machine.

The operation of the condenser is as follows. At the time that the lint is carried into the casing upon a draft passing through the flue 4 and the nozzle 5, the drum 15 and rolls 7 and 8 are rotating, the lint strikes the upper curved portion of the casing 1 and is deflected in a downward direction upon the periphery of the drum 15 and is carried around until it is at the lower side of the drum from whence it falls down along the section 6 and lodges between the rolls 7 and 8 and is compressed in the form of a bat and passed out of the casing 1 through the opening 2 thereof. At the same time the air passes through the perforations in the drum 15 and passes through the spaces between the air blast controlling devices of which the bands 19 are parts and out through the ends of the drum 15 and into the discharge flues 3 at the ends of the casing 1. Should the bat increase or diminish in thickness the roll

8 may move slightly away from the roll 7 to compensate for such increase in thickness for the parts of material passing between the said rolls. The air blast controlling devices of which the bands 19 form parts may be spaced from each other so that the lint may be deposited upon the casing 1 by the blast of air which is escaping through the spaces between the said bands so that the said bat will be of uniform thickness throughout its breadth or the said air blast controlling devices may be so placed that the bat will be thicker at one edge portion than at the other if desired. By reason of the fact that the outer edges of the baffles 23 sweep along the inner surface of the bottom section 24 as they pass over the same, the passageway of air between the lower portion of the condensing drum 15 and the section 24 is interrupted and the entire quantity of the air blast must discharge over the upper portion of the drum; that is to say none of the air can pass down between and through the section 24 and the drum. Again by reason of the fact that the section 24 is shorter in length than the distance between the adjacent baffles 23 upon the drum 15 but one of the said flights will be against the bottom section 24 at any time and therefore the drum 15 will have a maximum number of its perforations exposed to the draft of air and the material that it carries and the said material is more promptly and regularly assembled for action of the rolls 7 and 8. From the condenser hereinbefore described the lint flue 4 descends and extends along the floor of the gin house or in close proximity to the same behind the gins indicated at 25. The discharge outlets 26 of the gins are connected with the top of the lint flue 4 and are arranged to discharge the material into the upper portion of the flue 4 at a tangent to the same. This has the effect of keeping all of the material in the flue 4 moving so that sand or trash cannot accumulate along the bottom of the said flue and reduce the carrying capacity of the same. By having the flue 4 so located it is out of the way and the operating parts of the gins may be belted with the engine or main shaft in any desired manner as indicated in the diagrams 4 to 7 in the drawings.

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

1. A condenser comprising a casing, a lint guiding drum journaled for rotation therein, and circular air blast controlling devices spaced apart and adjustably mounted within the drum.

2. A condenser comprising a casing, a shaft journaled therein, a lint guiding drum mounted upon the shaft, a plurality of cir-

cular air blast controlling devices supported upon the shaft and each consisting of a hub, spokes radiating from said hub, and a circular band mounted at the outer ends
5 of said spokes.

3. A condenser comprising a casing, having an upper semi-cylindrical portion and a lower chute portion provided with an outer opening, a hinged section forming one
10 of the walls of said chute, said casing also having at its bottom an arcuate section, a lint flue arranged to discharge its contents in the upper portion of the casing at a tangent to the same, a hollow perforated
15 drum journaled for rotation in the casing,

baffles mounted upon the periphery of the drum and adapted to sweep across the inner surface of the said arcuate section of the casing as they pass over the same, said arcuate bottom section being less in length
20 than the distance between the adjacent flights upon the drum.

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

WILLIE PRICE SUMMERROW.

Witnesses:

F. L. LONG,

J. O. CREIGHTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
