

No. 667,362.

Patented Feb. 5, 1901.

F. L. DYER.

APPARATUS FOR BALING COTTON.

(Application filed Dec. 13, 1900.)

2 Sheets—Sheet 1.

(No Model.)

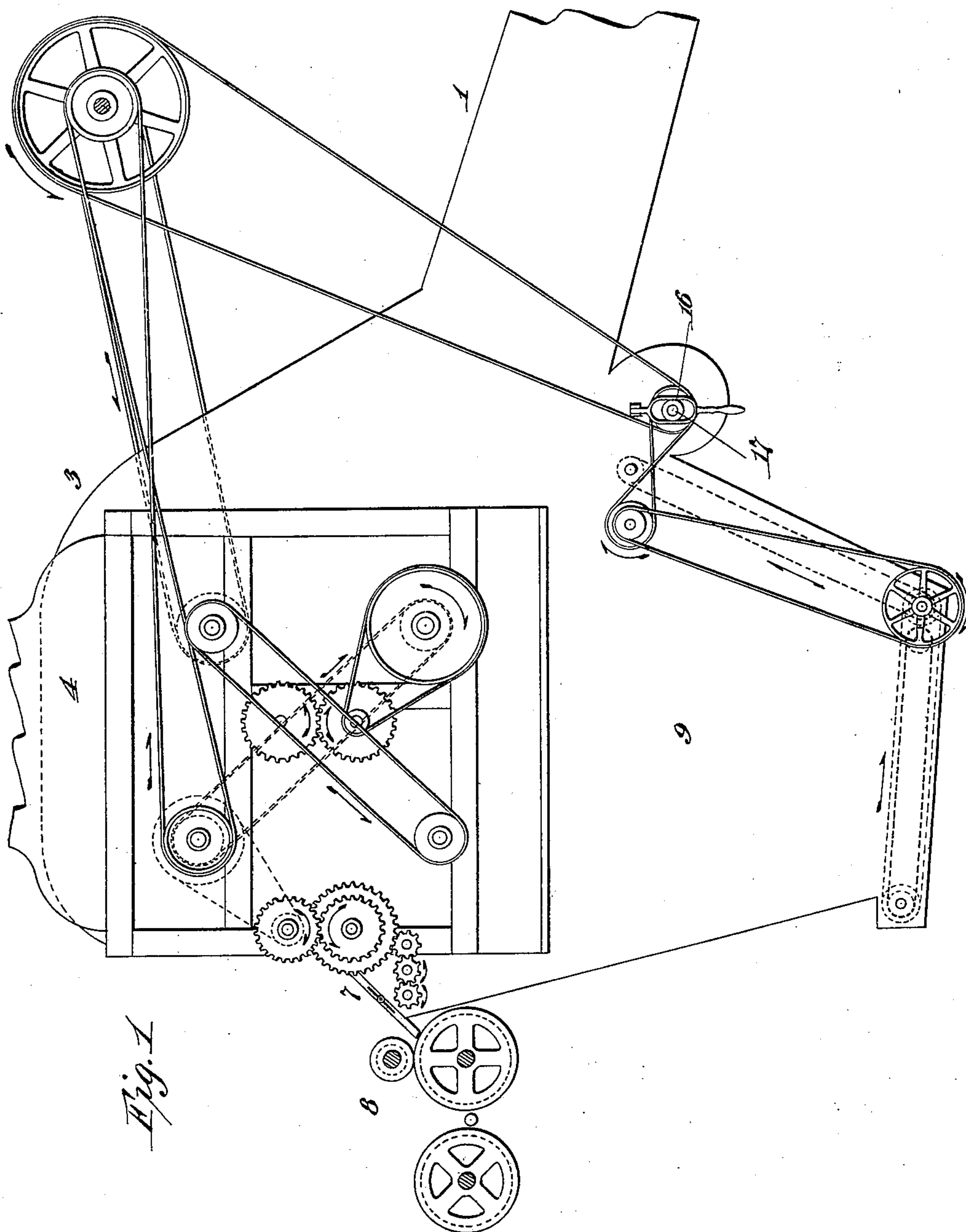


Fig. 1

Witnesses:

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Inventor

*Frank L. Dyer*

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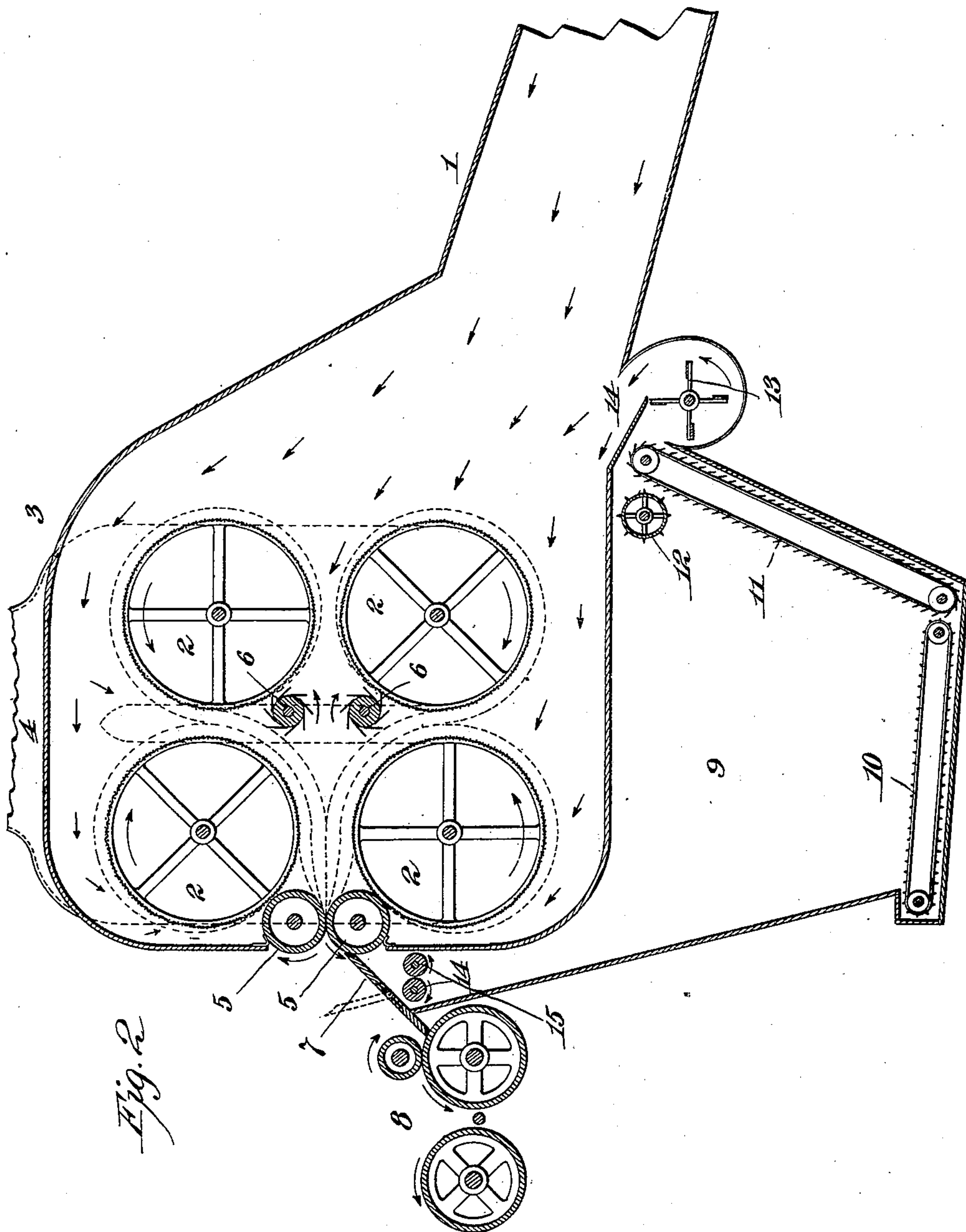
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(Application filed Dec. 13, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

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# UNITED STATES PATENT OFFICE.

FRANK L. DYER, OF MONTCLAIR, NEW JERSEY, ASSIGNOR TO THE  
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## APPARATUS FOR BALING COTTON.

SPECIFICATION forming part of Letters Patent No. 667,362, dated February 5, 1901.

Application filed December 13, 1900. Serial No. 39,659. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK L. DYER, a citizen of the United States, residing at Montclair, in the county of Essex and State of New Jersey, have invented a certain new and useful Apparatus for Baling Cotton, (Case No. 41,) of which the following is a specification.

My invention relates to apparatus for baling cotton of the type wherein the bales are formed of a substantially continuous sheet or bat; and the invention preferably relates to apparatus of this type wherein a substantially continuous sheet or bat is wound under pressure around a spindle or core to form a cylindrical bale.

The invention specifically relates to cotton-baling apparatus of the kind wherein a sheet or bat is formed in a suitable bat-former, from which it is directed into the baling apparatus.

The object of my invention is to provide a cotton-baling apparatus of this type which while permitting the bat-former to operate continuously, and therefore under the most favorable conditions, will allow the pressing mechanism to be stopped periodically when desired, as for the covering of the bales or for the making of small repairs.

To this end the invention consists in the combination, with a bat-former and a baling-press, of an accumulating device between the bat-former and press for receiving the cotton fed from the bat-former when the press is not running and means for returning the cotton which thus accumulates in the accumulator to the bat-former, by which it is again formed into a sheet or bat to be fed to the press when the latter is once again started.

The invention also preferably consists in a bat-disintegrating device interposed between the accumulator and the bat-former and by means of which the bat-like form of the sheet delivered by the bat-former may be destroyed, so that the cotton will be deposited in the accumulator in a light, fluffy, and unmatted condition to permit it to more readily be returned to the bat-former, when desired, to be again formed into a sheet or bat.

The preferred form of accumulator which I use in my present apparatus is analogous to

an automatic feeder as now used in the opening-rooms of modern cotton-mills, combined with a fan or other blast-creating device for blowing the cotton fed from the accumulator into the bat-former.

In order that my invention may be better understood, attention is directed to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a side elevation of my improved cotton-baling apparatus in its preferred form, and Fig. 2 a longitudinal sectional view of the same.

In both of the above views corresponding parts are represented by the same numerals of reference.

1 represents a flue or trunk leading from one or more gins and through which the ginned cotton is blown in the usual way. The bat-former shown comprises a plurality of wire-gauze-covered cylinders 2, mounted in a suitable casing 3 and connecting at their ends in the usual way with an escape-flue 4. A sheet or bat will be formed on each condenser-roll, and the several layers thus produced will be compressed into a single homogeneous bat between the compression-rollers 5 5, which also act as doffer-rolls for the two condenser-cylinders with which they coöperate. The other condenser-cylinders may be provided with ordinary doffer-rolls 6 6. From the compression-rollers 5 5 the sheet or bat passes down a hinged chute 7 to a suitable baling-press 8, which preferably is of the type designed for winding the sheet or bat convolutionally around a spindle or core to form a cylindrical bale. The press illustrated diagrammatically is an ordinary horizontal two-roll baling-press of the type now in extensive and successful use in this country.

Mounted below the casing 3 of the bat-former is an accumulator 9, which preferably comprises a hopper having a belt 10 at the bottom and a spiked belt 11, forming one of its inclined sides. Near the top of the spiked belt 11 is an evening-roller 12, which throws back any surplus of cotton elevated by the belt 11, so as to regulate the quantity of the cotton removed from the accumulator.



13 is a fan which blows the cotton removed from the accumulator by the belt 11 through an auxiliary flue 14, leading to the bat-former, as shown.

5 I preferably interpose between the accumulator 9 and the bat-former a device for destroying the bat-like condition of the sheet leaving the bat-former, whereby the cotton will be deposited in the accumulator in a  
10 light, fluffy, and unmatted condition, and this device preferably comprises a pair of rollers 15, preferably faced with rubber and driven at a high speed.

The parts comprising the bat-former, the  
15 fan, the belts 10 and 11, and the evening-roller 12 of the accumulator, as well as the rollers 15, are all driven by any suitable arrangement of belts or gears, or both, to rotate in the proper directions and at the correct  
20 speeds. The arrangement of belts and gears shown in the drawings will be readily obvious to skilled persons. I preferably, however, interpose a clutch 16 between the main shaft 17 and the fan 13, so that by operating said  
25 clutch the fan and the elements of the accumulator can be stopped or started when desired.

The operation of the device will be as follows: Normally the hinged apron 7 will occupy the position shown in full lines. Cotton being blown through the trunk 1 into the bat-former will be formed into a substantially continuous sheet or bat, which will be directed down the apron 7 into the press 8 to be formed  
30 into a bale of the desired kind. When it is necessary to stop the press—as, for example, during the covering of the bales—the apron 7 is moved to the position shown in dotted lines, so that the sheet or bat formed between  
40 the compression-rollers 5 5 will be passed through the rollers 15 when used, which are driven at a high speed and which disintegrate the bat, so as to deposit it into the hopper or accumulator in a light, fluffy, and unmatted  
45 state. During this time the fan, the belts 10 and 11, and the evening-roller 12 are stationary. When the press 8 is once again started and is ready for operation, the apron 7 is returned to its original position to again direct  
50 the sheet or bat from the bat-former into the press. When it is desired to return the cotton accumulated in the accumulator to the bat-former, which may be at any time during the formation of the bale, the clutch 16  
55 is operated to start the fan, the belts 10 and 11, and the evening-roller 12. The spiked belt 11 will remove the cotton from the accumulator, any surplus being thrown back into the accumulator by the evening-roller 12, and  
60 by the fan 13 this cotton will be blown through the auxiliary passage 14 into the bat-former to be again formed into a sheet or bat with the cotton coming directly from the gins. In this way it will be possible to operate the bat-former at all times, and hence under the most  
65 favorable conditions, while at the same time

it will be possible to return the cotton from the accumulator to the bat-former at any time desired.

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

1. In a cotton-baling apparatus, the combination with a bat-former for forming a sheet or bat and a cotton-press for compressing the  
75 sheet or bat into bales, of an accumulator between the bat-former and the press for receiving the bat formed in the bat-former, and means for returning the cotton accumulated in the accumulator to the bat-former in a  
80 light, fluffy and unmatted condition, substantially as set forth.

2. In a cotton-baling apparatus, the combination with a bat-former and a press for compressing the sheet or bat formed in the  
85 bat-former, of an automatic feeder between the bat-former and the press for receiving the sheet or bat formed in the bat-former, and means for returning the cotton accumulated in the automatic feeder to the bat-former in  
90 a light and fluffy state, substantially as set forth.

3. In a cotton-baling apparatus, the combination with a bat-former and a press for compressing the sheet or bat formed in the  
95 bat-former, of an automatic feeder between the bat-former and the press for receiving the sheet or bat formed in the bat-former, and a fan for returning the cotton accumulated in the automatic feeder to the bat-former in  
100 a light and fluffy state, substantially as set forth.

4. In a cotton-baling apparatus, the combination with a bat-former and a baling-press for forming the sheet or bat formed in the  
105 bat-former into bales, of an accumulator between the bat-former and the press, means for disintegrating the sheet or bat delivered by the bat-former and for depositing the disintegrated sheet in the accumulator in a light,  
110 fluffy and unmatted condition, and means for returning the cotton accumulated in the accumulator to the bat-former, substantially as set forth.

5. In a cotton-baling apparatus, the combination with a bat-former and a baling-press for forming the sheet or bat formed in the  
115 bat-former into bales, of an accumulator between the bat-former and the press, means for disintegrating the sheet or bat delivered by the bat-former and for depositing the disintegrated sheet in the accumulator in a  
120 light, fluffy and unmatted condition, and a fan for returning the cotton accumulated in the accumulator to the bat-former, substantially as set forth.

6. In a cotton-baling apparatus, the combination with a bat-former and a baling-press for forming the sheet or bat formed in the  
130 bat-former into bales, of an automatic feeder between the bat-former and the press, means for disintegrating the sheet or bat formed in



the bat-former and for depositing the disintegrated sheet in the accumulator, and means for returning the cotton accumulated in the accumulator to the bat-former, substantially as set forth.

7. In a cotton-baling apparatus, the combination with a bat-former and a baling-press for baling the sheet or bat formed in the bat-former, of an automatic feeder between the bat-former and the press, a pair of disintegrating rollers for receiving the sheet or bat formed in the bat-former and for depositing the cotton in the automatic feeder in a light, fluffy condition, and means for returning the cotton from the automatic feeder to the bat-former, substantially as set forth.

8. In a cotton-baling apparatus, the com-

ination with a bat-former and baling-press for baling the sheet or bat formed in the bat-former, of an automatic feeder between the bat-former and the press, a pair of disintegrating rollers for receiving the sheet or bat formed in the bat-former and for depositing the cotton in the automatic feeder in a light, fluffy condition, and a fan for returning the cotton from the automatic feeder to the bat-former, substantially as set forth.

This specification signed and witnessed this 22d day of November, 1900.

FRANK L. DYER.

Witnesses:

S. O. EDMONDS,  
JNO. R. TAYLOR.