

No. 662,688.

Patented Nov. 27, 1900.

F. L. DYER.
APPARATUS FOR BALING COTTON.

(Application filed Nov. 18, 1897.)

(No Model.)

2 Sheets—Sheet I.

Fig. 1

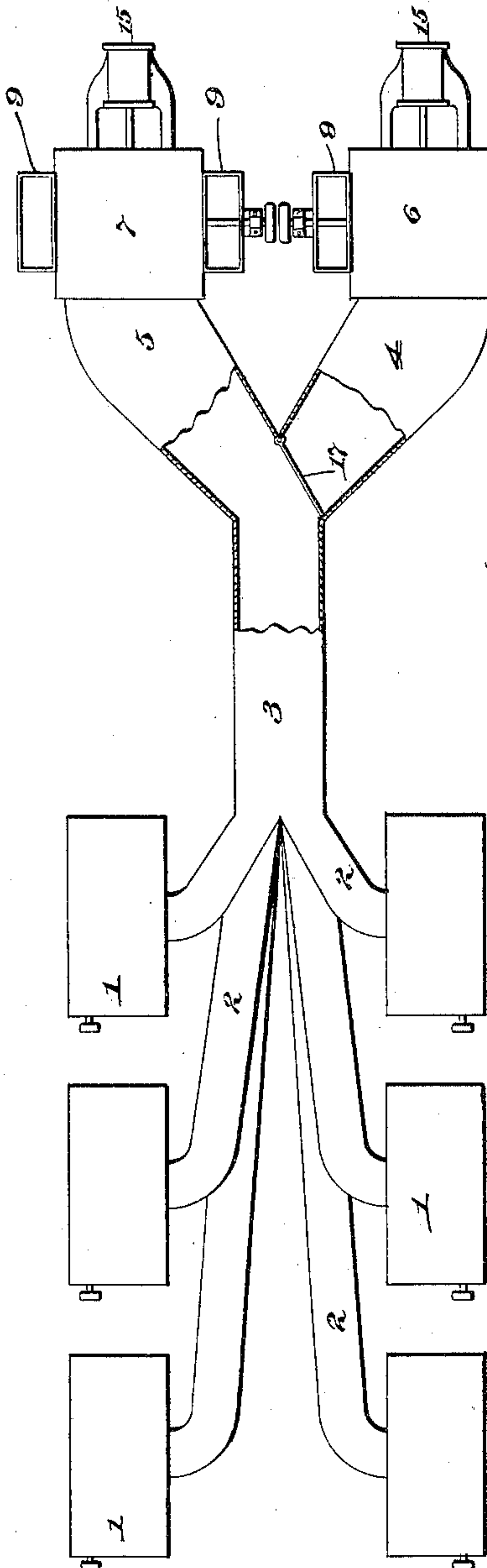
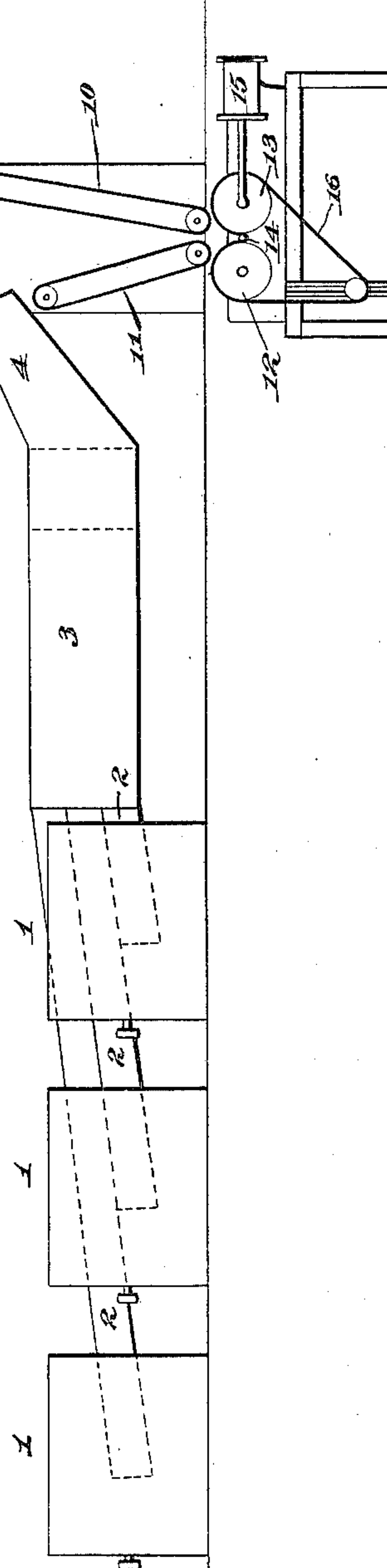


Fig. 2



Witnesses.

Jas. F. Coleman

Jno. R. Saylor

Inventor

Frank L. Dyer

No. 662,688.

Patented Nov. 27, 1900.

F. L. DYER.
APPARATUS FOR BALING COTTON.

(Application filed Nov. 18, 1897.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 3

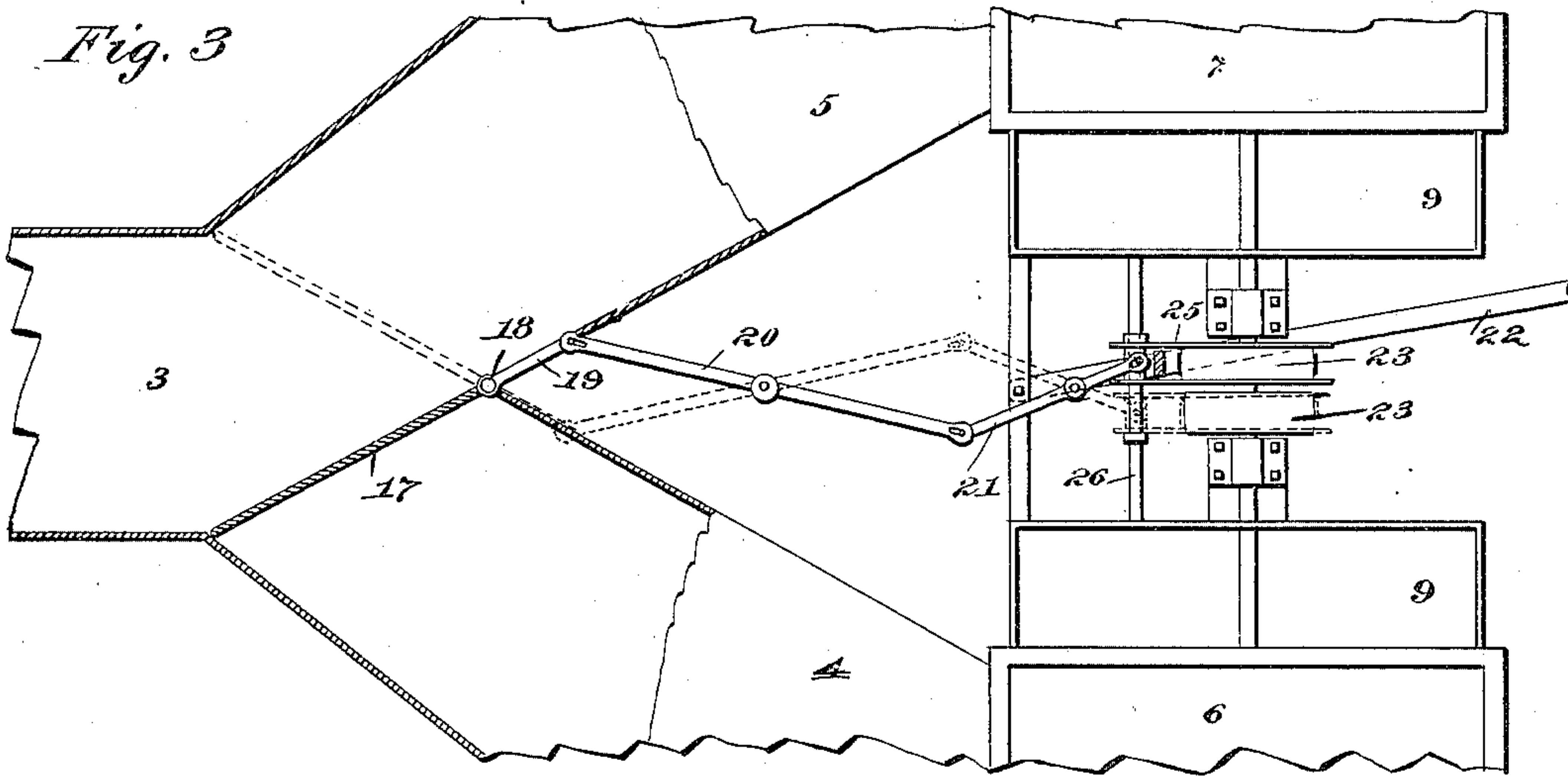
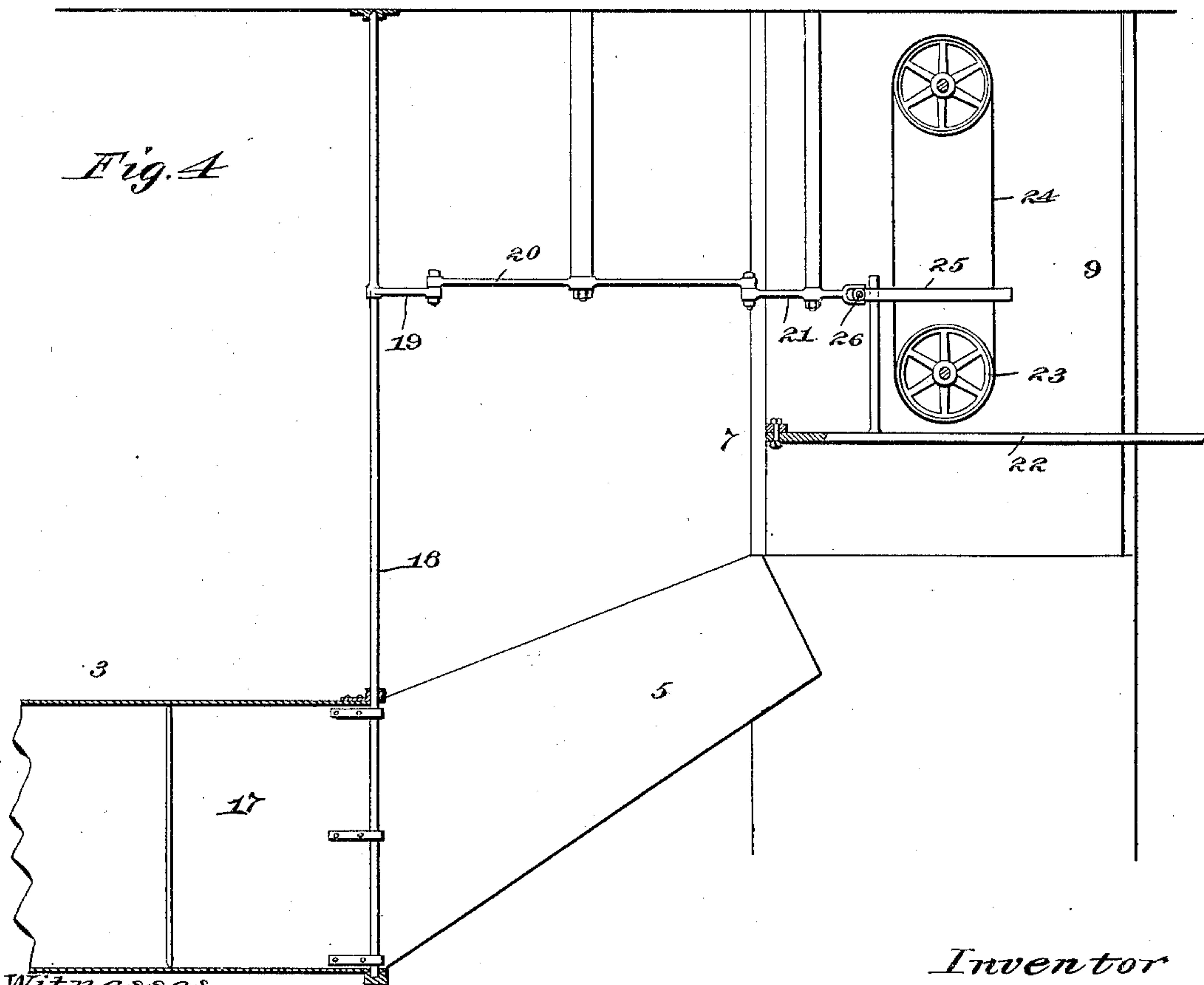


Fig. 4



Witnesses.

Just. Coleman
Geo. R. Taylor

Inventor

Frank L. Dyer

UNITED STATES PATENT OFFICE.

FRANK L. DYER, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO
THE AMERICAN COTTON COMPANY, OF NEW YORK, N. Y.

APPARATUS FOR BALING COTTON.

SPECIFICATION forming part of Letters Patent No. 662,688, dated November 27, 1900.

Application filed November 18, 1897. Serial No. 658,895. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. DYER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Apparatus for Baling Cotton, (Case No. 28;) and I do hereby declare the following to be a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in apparatus for making cylindrical cotton-bales, and the particular type of such apparatus to which the invention relates is that employing a so-called "continuous operation."

Broadly considered, the improved apparatus comprises a gin or a battery of gins which under normal conditions operate continuously, two presses for making cylindrical bales preferably arranged side by side, a condenser or other bat-forming apparatus for each of said presses, and means for directing the cotton from the gin or gins into either bat-forming apparatus, whereby after a bale has been formed by one press the cotton from the gin or gins may be directed into the bat-forming apparatus of the other press and a new bale started therein. With my apparatus it will be seen that in the event of either of the presses or its condenser becoming disabled bales may still be formed by means of the other press and condenser, and, further, that during the formation of such bales the inactive press and bat-forming apparatus may be cleaned, inspected, lubricated, &c.

The essential object of the invention is to provide an apparatus possessing the advantages above stated.

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 plan view; Fig. 2, a side elevation showing one of the presses and a part of its bat-forming mechanism in section; Fig. 3, an enlarged detail view illustrating convenient mechanism for operating the two bat-forming devices, and Fig. 4 a vertical section of Fig. 3.

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

In carrying out my invention any construction or kind of gins, presses, and bat-forming devices may be made use of, and said elements may be variously arranged without departing from the essential spirit of the invention. The drawings, however, illustrate a desirable arrangement and location of the elements which make up the apparatus and show very generally the type of press and bat-forming device which I prefer to make use of.

1 1 represent cotton-gins, six of which are shown arranged in two rows of three each, the gins of both rows being back to back and constituting a common and desirable battery arrangement. The gins are of course provided with the usual feeding devices, (not shown,) and each is arranged so as to be independently stopped without affecting the others, as is also the accepted custom. Leading from each gin is a flue 2, the flues from all the gins joining a main or trunk flue 3, which is generally provided with longitudinal partitions therein corresponding to the flues 2, but which are not strictly necessary. The main flue 3 is formed at its forward end with two branch flues 4 and 5, which lead, respectively, to two bat-forming devices 6 and 7. The latter are of any suitable type and may each be an ordinary condenser. The type of bat-forming illustrated is that invented by Magnus Swenson and described in his patent numbered 621,951, dated March 28, 1899. Said bat-forming consists, essentially, of a rapidly-revolving screen 8, onto which the cotton is blown and through the ends of which the air escapes to flues 9 9, two movable endless converging belts 10 and 11 beneath the screen and between which the cotton is thrown from off the screen by the centrifugal action, and mechanism (not shown) for driving the belts to carry out the cotton accumulated between them and to compress it into a continuous homogeneous and thick bat.

Located beneath each bat-forming apparatus is a press for winding the sheet or bat produced thereby into cylindrical cotton-bales. I show the type of press invented by me and described in my patent numbered

601,806, dated April 5, 1898. Said press comprises, essentially, a baling-roll 12, mounted in fixed bearings, a second baling-roll 13, mounted in sliding bearings, a core 14, mounted in sliding bearings between the baling-rolls, and a compression-cylinder 15, the piston of which connects with the movable roll. The press is also preferably provided, as shown, with an endless apron 16, arranged as described in patent to Swenson, dated October 5, 1897, and numbered 591,304. When the bat-forming devices are arranged as shown, the two presses will be located side by side slightly below the level of the floor.

Suitable means are to be provided for directing the cotton from the trunk-flue 3 into either branch flue 4 or 5—such, for example, as a flap-valve 17, pivoted at the apex of the two branch flues. The pivoting of this flap may be upon a vertical shaft 18, which extends above the flues, so that the flap may be operated by mechanism outside of the flues. Appropriate mechanism for this purpose is illustrated. The shaft 18 is provided with a short arm 19, keyed thereto, and coöperating with said arm is a lever 20, which in turn is adapted to be operated by a shorter lever 21. The lever 21 is operated by a shifting-handle 22, arranged so as to be reached by the operator. A convenient arrangement is to control by this shifting-handle the two bat-forming devices, whereby the same movement which directs the cotton into one bat-former will start the same and arrest movement of the other. In order that this may be accomplished, the driving-pulleys 23 of the two screens 8 are arranged side by side, either being operated by a belt 24, the latter being shifted to either pulley by a belt-shifter 25, movable longitudinally on a guide 26.

With an apparatus such as I have described the operation, assuming the parts to be in the positions shown, will be as follows: Cotton from all the gins passes through the flues 2 and 3 into the trunk-flue 3, thence into the branch flue 5, and finally into the bat-former 7, by means of which it is formed into a continuous sheet or bat. This sheet or bat is fed out of the bat-former 7 into the press beneath the same and by the latter is formed into a cylindrical bale in the usual way. As soon as this bale is finished, the shifting-handle 22 is moved, so as to simultaneously swing the flap 17 to the position shown in dotted lines and shift the belt 24 onto the driving-pulley of the bat-former 6. The cotton therefore now passes through the branch flue 4 into the bat-former 6, where it is formed into a sheet and fed in the same way to the press beneath said bat-former. During this time the bale in the other press is being cov-

ered and removed and the press put in condition for starting a new bale. These operations are repeated, the cotton being alternately directed to the two bat-formers and the gins operating continuously.

When the bale is being made in either press, the other press and its bat-former can be examined, repaired, and lubricated, the parts can be cleaned, and the branch flue 4 or 5 freed of accumulated dirt, all of which are important advantages. If either press or bat-former should become disabled, the operation of baling can still proceed with the other bat-former and press.

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

1. In a cotton-baling apparatus, the combination of two rotary cotton-pressing appliances, two bat-formers arranged adjacent to each other and connected respectively with the cotton-pressing appliances, means for depositing cotton in said bat-formers in a light and fluffy state, and means for operating said bat-formers to form first in one a bat which is directed to one of the cotton-pressing appliances and then in the other a bat which is directed to the other cotton-pressing appliance, whereby such cotton-pressing appliances will be operated in alternation, substantially as set forth.

2. An improved apparatus for making cylindrical bales, comprising one or more continuously-operating gins, two bat-forming devices, and a single hand-operated element operating devices for directing the cotton from said gin or gins into, and for simultaneously starting, either bat-forming device, and a press adjacent to each bat-forming device for winding the sheet or bat produced thereby into a cylindrical bale, substantially as set forth.

3. An improved apparatus for making cylindrical bales, comprising one or more continuously-operating gins, a main flue connected therewith, two branch flues, a flap for directing cotton into either branch flue, a bat-forming device connected with each branch flue, means for operating said flap and for simultaneously starting the bat-former to which the cotton is directed, and a cylindrical baling-press adjacent to each bat-forming device and receiving the sheet or bat therefrom, substantially as set forth.

This specification signed and witnessed this 16th day of November, 1897.

FRANK L. DYER.

Witnesses:

EUGENE CONRAN,
JNO. R. TAYLOR.