

No. 659,432.

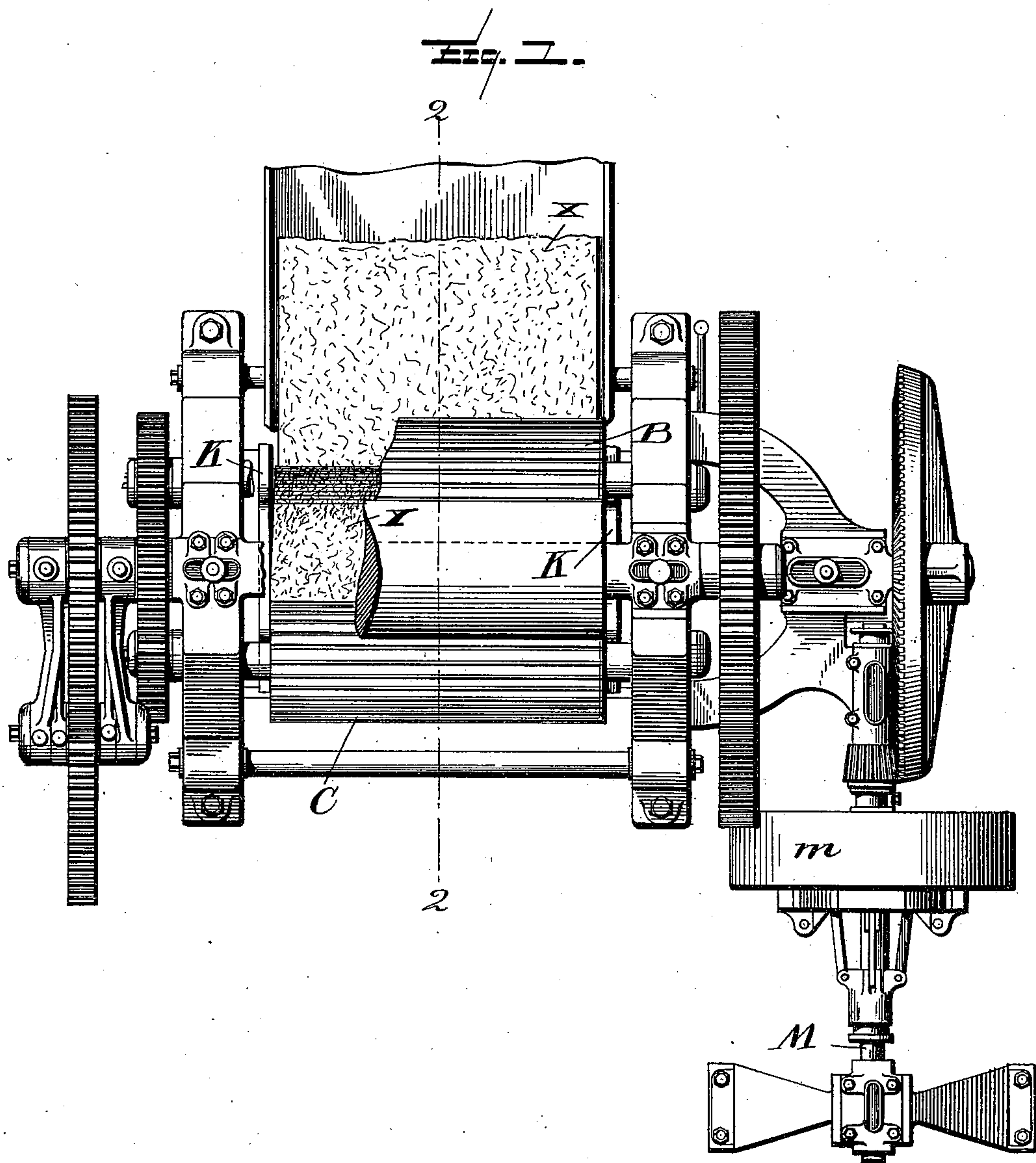
Patented Oct. 9, 1900.

C. L. BESSONETTE.  
PROCESS OF BALING COTTON.

(Application filed Dec. 11, 1899.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:

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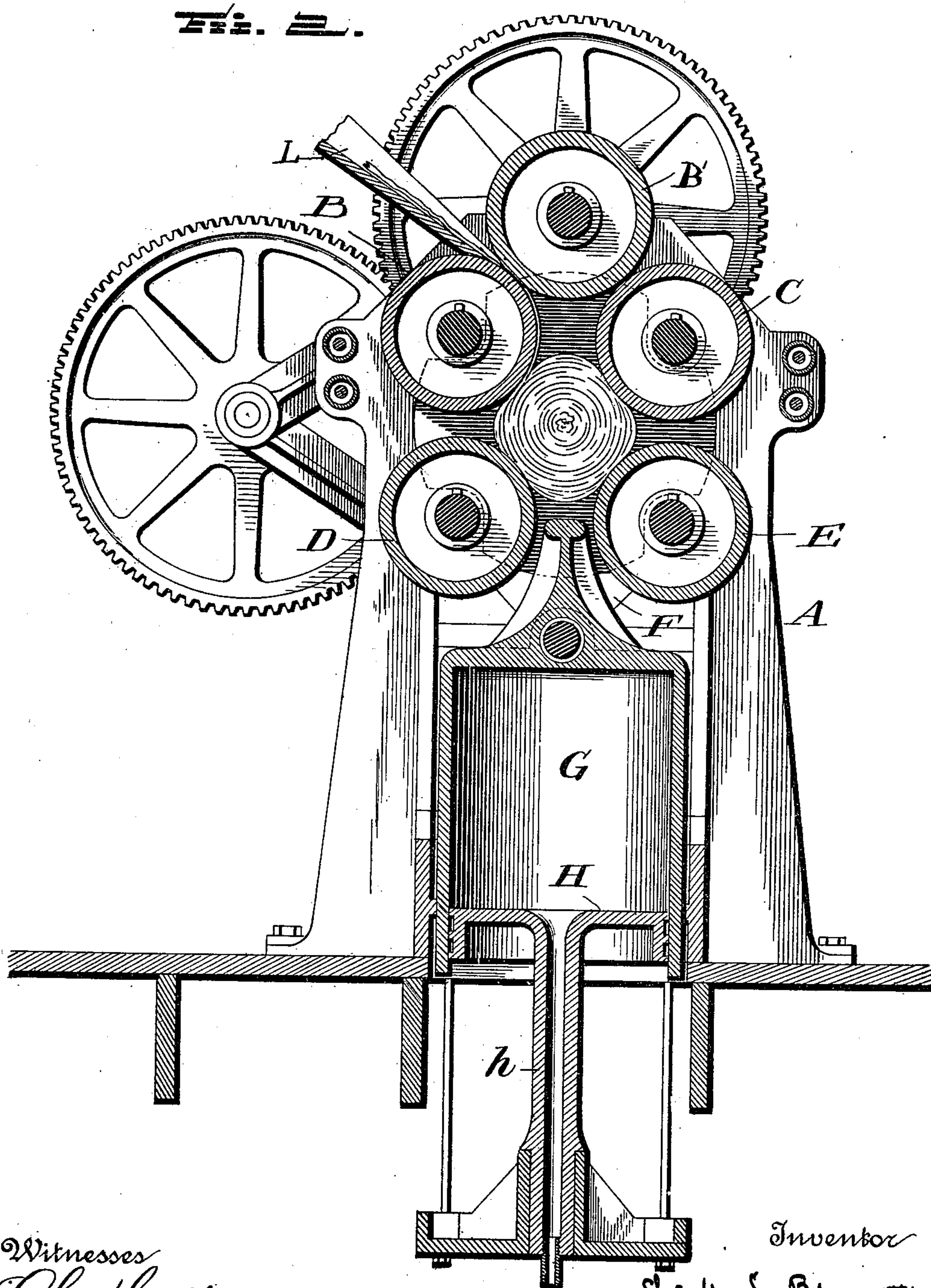
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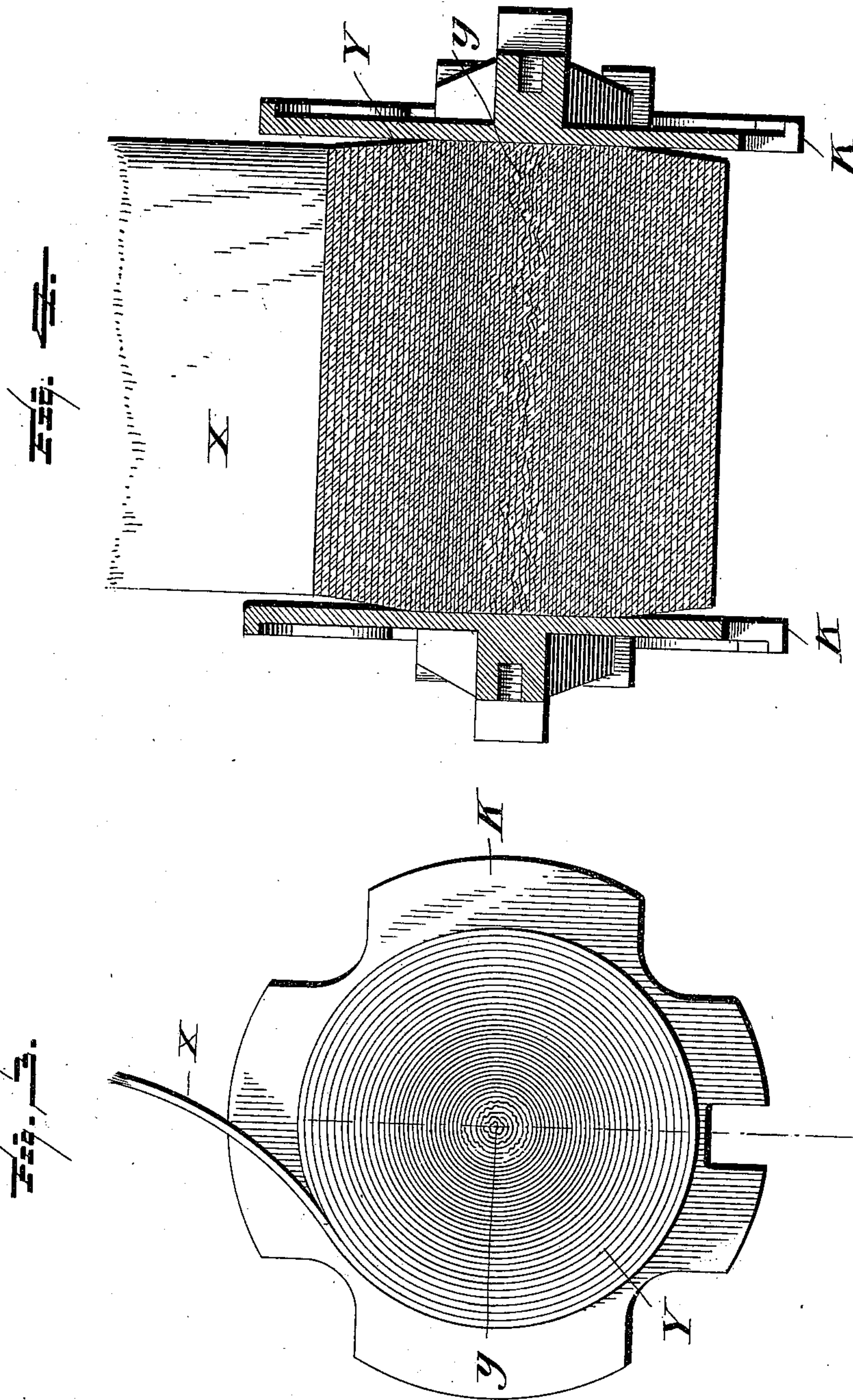
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3 Sheets—Sheet 3.



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# UNITED STATES PATENT OFFICE.

CHARLES L. BESSONETTE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE GINNERS  
COMPRESS COMPANY, OF SAME PLACE.

## PROCESS OF BALING COTTON.

SPECIFICATION forming part of Letters Patent No. 659,432, dated October 9, 1900.

Application filed December 11, 1899. Serial No. 739,903. (No specimens.)

*To all whom it may concern:*

Be it known that I, CHARLES L. BESSONETTE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Processes of Baling Cotton; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same:

My invention is an improvement in processes of baling cotton; and it consists in the novel features hereinafter described, reference being had to the accompanying drawings, which illustrate one form of apparatus which I have devised for carrying out my improved process, and my invention is fully disclosed in the following description and claim.

Referring to the drawings, Figure 1 represents a top plan view of a form of apparatus for carrying out my improved process. Fig. 2 represents a vertical sectional view of the same, taken in a plane transverse to the longitudinal axis of the bale. Fig. 3 is an end view of a bale formed by my improved process, showing one of the retaining-plates for retarding the rotation of the bale, the other plate being removed. Fig. 4 represents a longitudinal sectional view of the bale as it would appear if a section were taken on line 4 4 of Fig. 3 and showing both of the retaining-plates.

The object of my invention is to form cotton or analogous material into a cylindrical bale of very even density by winding a bat or sheet spirally; and it consists first in winding in spiral form a number of coils of the bat loosely to form what I term a "cushion-core," compressing the core transversely of its axis of rotation, retarding the rotation of the core or the central portion of the bale, and winding on successive layers under great pressure, thereby stretching on said layers in a very thin and even condition to complete the bale.

In the drawings, I have shown a form of roller baling-press which I find it advantageous to employ in carrying my process into effect, which baling-press forms the subject-matter of another application for Letters Pat-

ent of the United States, issued to me June 26, 1900, and given No. 652,506, and therefore the construction and operation of said press will only be described with sufficient detail to enable my present invention to be understood.

For rolling on the bat under pressure to form the bale I preferably employ a series of bale-forming rollers, part of which are stationary and part movable toward and from the stationary rolls, the movements of the movable rolls being controlled by fluid-pressure.

In the form of apparatus herein shown I employ two stationary bale-forming rollers B C, mounted in a suitable frame A, and two movable rolls D and E, mounted in a sliding head F, to which is connected a cylinder G, which fits over a stationary piston H, provided with a hollow stem *h*, to which a pipe leads from a supply of fluid under pressure, water, or other liquid, steam, air, or gas, which is under the control of the operator, so that the pressure within the cylinder G can be accurately controlled at all times. The bale is formed in the central space between the four rollers B, C, D, and E, and at each side of the press I provide a non-rotatable retaining-plate K, which serves the double purpose of preventing the end portions of the bale from escaping and also of retarding the rotation of the core or central portion of the bale by reason of the frictional contact of the said core or central portion therewith.

L represents a chute which receives the bat X and delivers it between one of the stationary rolls, as B, and a top roll B', which revolves in the opposite direction from and close to the roll B, so that the bat is compressed in passing between the two rolls. The chute L is preferably provided with lateral guides *l l* to guide the bat, and the bat is of less width than the distance between the plates K K. The rolls B C D E are all rotated in the same direction, and motion is imparted to these rolls and the roll B' by suitable gearing, which I will not describe in detail, from a driving-shaft M, provided with a band-wheel *m*, which is driven by belt or otherwise from any suitable source of power.



In carrying out my process with this form of apparatus the movable rolls D E are raised into close proximity to the stationary rolls B C by supplying the cylinder G with fluid under pressure, and the desired pressure is maintained in said cylinder. The machine is then started and the bat X fed into the machine. The bat will first be loosely wound spirally upon itself to form what I term a "cushion-core" *y* until the space between the four rollers is filled, when this core will gradually be compressed in a direction transverse to its longitudinal axis, and thereby slightly expanded longitudinally as further laps are rolled on. When the cushion-core is first formed, it is of less length than the distance between the plates K K; but when it is compressed, as just described, and expanded longitudinally its end portions will be forced against the plates K K, which, as they do not revolve, will act by frictional contact with the ends of the core to retard the rotation of the core. The effect of this retarding of the core is to cause the bale-forming rollers to stretch the successive layers of the bat onto the core, thus laying them on very tightly and in very thin and uniform layers. As the rolling of the bale continues the core will become greatly compressed, and as the bale increases in diameter the pressure it exerts upon the bale-forming rollers will increase until the desired pressure is attained, when the operator will relieve the pressure within the cylinder G gradually and permit the rollers D E to move gradually away from the rollers B C, maintaining the desired pressure until the bale is of the size desired in a finished bale, when the bale will be bound in the usual or any desired way and removed. It will be obvious that the central portion of the bale including more than the cushion-core will, as the bale increases in

diameter, be gradually forced outward at the ends, so as to gradually increase the amount of frictional contact between the ends of the bale and the plates K K as the bale is formed. When finished, the bale will be somewhat convex at each end, as indicated in Fig. 4. 45

By my improved process of forming a bale a very great quantity of cotton can be compressed into a bale of given size, and the cotton can be unwound from the bale with ease and without loss. Even the cushion-core can be unwound without loss or trouble, as it expands to nearly its original diameter as soon as relieved from the restraint of the confining outer layers. 50 55

What I claim, and desire to secure by Letters Patent, is—

The herein-described process of forming a cylindrical bale which consists in rolling a portion of a bat in helical form, to form a cushion-core, rotating the core by external friction therewith and winding on the core a portion of the bat under great pressure to compress the core transversely and expand it longitudinally beyond the width of the bat, thereby causing the central portions of the ends of the partly-formed bale to project beyond the outer portions, then winding on the remaining portion of the bat to complete the bale and applying frictional resistance to the said central projecting portions, only, of the partly-formed bale, to retard its movement while the said remaining portions of the bat are wound on without frictional resistance at the edges of the same, substantially as described. 60 65 70 75

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES L. BESSONETTE.

Witnesses:

EDWY LOGAN REEVES,  
WILLIAM H. REEVES.