No. 630,368. Patented Aug. 8, 1899.

G. A. LOWRY.

PRESS FOR COTTON, WOOL, HAIR, &c.

(Application filed June 19, 1897.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

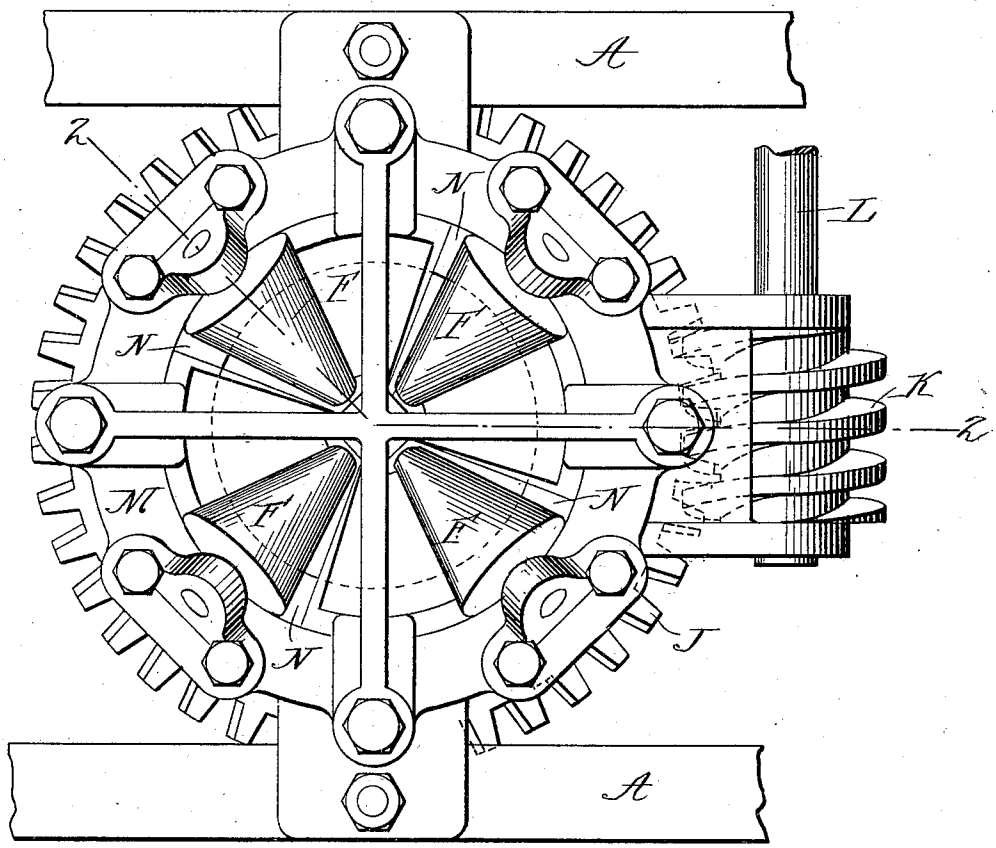
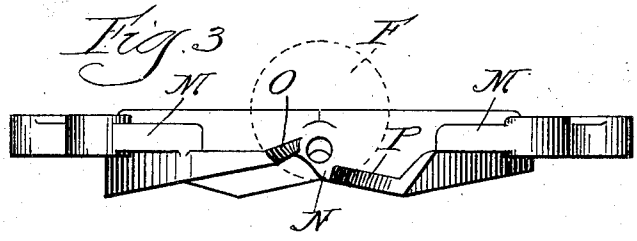


Fig. 3



Witnesses
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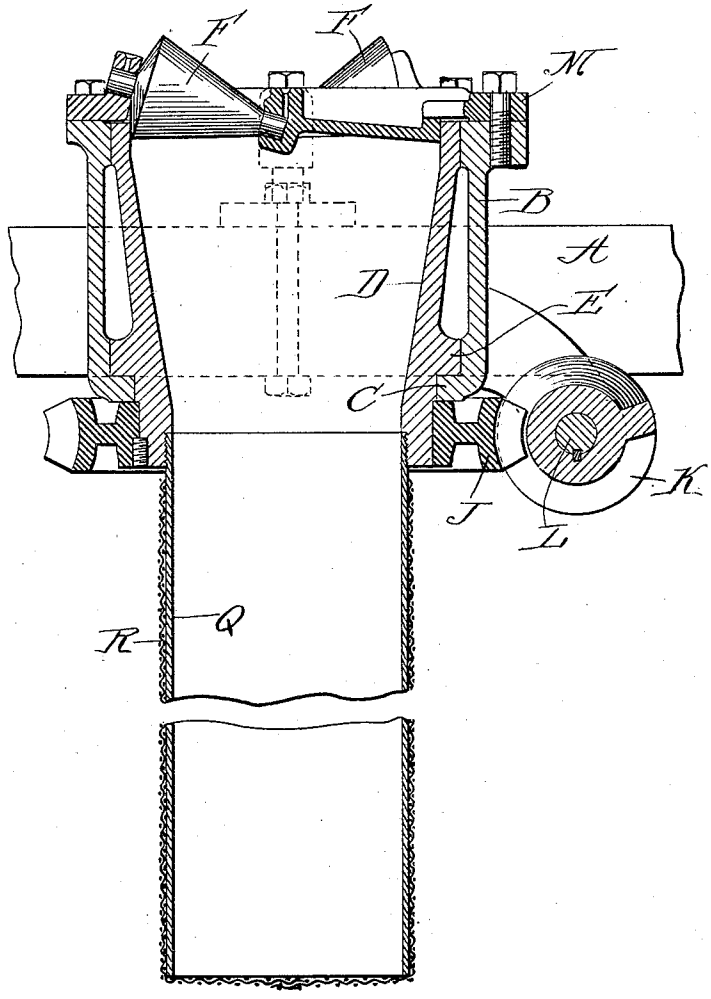
Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE A. LOWRY, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE PLANTERS COMPRESS COMPANY, OF WEST VIRGINIA.

PRESS FOR COTTON, WOOL, HAIR, &c.

SPECIFICATION forming part of Letters Patent No. 630,368, dated August 8, 1899.

Application filed June 19, 1897. Serial No. 641,530. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. LOWRY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Press for Cotton, Wool, Hair, and the Like, of which the following is a specification.

This invention relates to presses for cotton, wool, hair, and the like, and is designed as an improvement on the construction shown, described, and claimed in my Patent No. 581,600, dated April 27, 1897.

The object of the invention is to provide a construction for increasing the capacity of the construction shown in my prior patent to receive the material to be pressed into bales, whereby the bales may be formed more speedily.

The invention consists, substantially, in the construction, combination, location, and relative arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally specifically pointed out in the appended claim.

In the drawings, Figure 1 is a plan view of a press embodying the principles of my invention, parts of the supporting-framework and driving-shafts being broken away. Fig. 2 is a central longitudinal sectional view of the same on the line 2 2, Fig. 1. Fig. 3 is a view in side elevation of the cap-plate.

The same part is designated by the same reference-sign wherever it occurs throughout the several views.

In the drawings, reference-sign A designates a suitable framework, upon which is mounted a casing B, having an inwardly-projecting rim or flange C. A receiving-chamber D, in which the formation and compression of the bale take place, is arranged to be received and supported within casing B. This may be accomplished by providing said chamber with a projecting rim or flange E, adapted to rest upon the flange or rim C. The chamber D is open at both ends, and the internal diameter thereof is contracted from one end toward the other, and formed with or secured to the contracted end thereof is a cylindrical extension Q, over which the cover R for the completed bale is adapted to be slipped preparatory to receiving the bale.

The parts so far described, together with the gearing hereinafter to be referred to, may be substantially the same as set forth in my prior patent, and no specific claim is made thereto in the present case.

M is a cap-plate for the larger end of the chamber D. This cap-plate and the chamber are mounted for relative rotation. For instance, in the particular form shown the cap-plate M is rigidly bolted to the casing B, and a gear J is mounted on the chamber D and is arranged to be engaged and driven by a gear K, carried by a shaft L and rotated from any suitable source of power.

In my prior invention I have shown the cap-plate provided with a single radial slot or opening through which the material to be compressed into bale form is introduced to the chamber D, and the under surface of the cap-plate is shown provided with a surface which projects to an increasing depth into the chamber from the far edge of said radial slot all the way around to the near edge of said slot, substantially after the fashion of a spiral surface. In order to increase the rapidity and speed of the machine, I have in the present case provided the cap-plate with a plurality of radial slots or openings N—say four—through each one of which the material to be pressed into bales is adapted to be introduced to the receiving-chamber D. The far lip O of each radial slot or opening is slightly upturned, as shown, in order to facilitate the introduction of the material therethrough to the chamber, and the inner surface of the cap-plate projects to an increasing depth into chamber D from the far edge of one radial slot or opening to the near edge P of the next adjacent slot or opening. In order to still further guide and facilitate the introduction of the material through the slots or openings N into the chamber, I mount an antifriction-roller adjacent to the far edge of each slot or opening. In order that these rollers may properly serve the purpose required of them, they are preferably conical, the small ends being suitably journaled—as, for instance, in

suitable bearings formed at or adjacent to the center of the cap-plate M—and the larger ends being similarly journaled in bearings carried by or formed with the cap-plate at or adjacent to the outer rim thereof, as clearly shown in the drawings. The lower surfaces of these rollers project into the slots or openings N and serve to impart to the cotton a preliminary compression between such rollers and the top surface of the material previously introduced to the chamber, and which compression enables the cotton to be drawn into the chamber with greater facility. If desired, the spiral under surface of the cap-plate may be omitted and the rollers employed to effect the entire compression.

The operation will be fully understood from the foregoing description. The chamber D is first preliminarily filled with the material to be pressed into a bale. The cap-plate and chamber are then assembled, and a relative rotation is then imparted to said chamber and cap-plate, and additional material is introduced through the several openings N and being caught between the material previously introduced and the inner surface of the cap-plate is not only thereby continuously drawn into the chamber D by the relative rotation of said chamber and the cap-plate, but is subjected to increasing pressure against the previously-introduced material. Thus the material is introduced simultaneously in four or a plurality of bats, and the bale produced is built up endwise by successive layers of the material, each succeeding layer being compressed upon the preceding layers, each complete relative rotation of the chamber D and cap-plate M advancing the bale through the chamber D and extension Q to the extent of the thickness of the several bats or webs of the material drawn into the chamber by such relative rotation. The desired compression is secured by the resistance offered to the advancement of the material through the chamber by the friction of the material against the internal conical surface of the chamber and the extension Q, and hence the longer said extension the greater the compression, and, similarly, the more conical the inner surface of chamber D the greater the degree of compression secured. The antifriction-rollers F revolve freely on thin pintles during the passage of the bats or webs of the material through the slots or openings N, and hence facilitate such passage.

Having now set forth the object and nature of my invention and the manner of carrying the same into practical operation, what I claim herein as new and useful, and desire to secure by Letters Patent of the United States, is—

In a cotton or other press, a chamber open at both ends and contracting in internal diameter from the larger toward the smaller end, a cap for the larger end, said cap provided therethrough with a plurality of radially-arranged slots, a conical roller loosely journaled in bearings carried by said cap and arranged adjacent to the far edge of each slot, the lower or under surface of each roller lying parallel to its adjacent slot and projecting slightly into said slot, and means for relatively rotating said chamber and cap, as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 11th day of June, 1897, in the presence of the subscribing witnesses.

GEORGE A. LOWRY.

Witnesses:
H. H. HUMPHREY,
S. E. DARBY.