(No Model.)

5 Sheets—Sheet 1.

P. L. & W. BRADY.

COTTON PRESS.

No. 378,570. Patented Feb. 28, 1888.

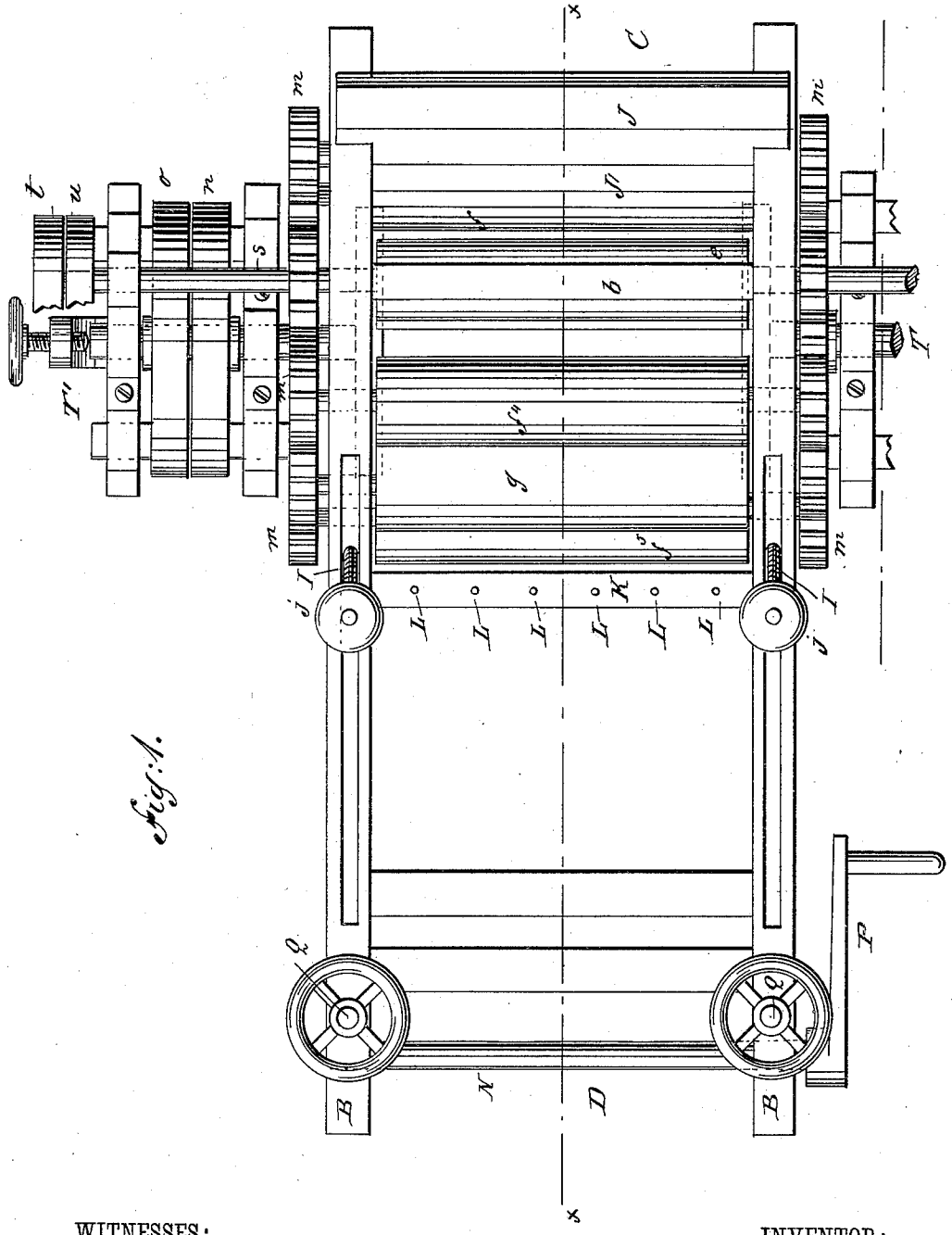


Fig. 1.

WITNESSES:

Chas. Nida

C. Sedgwick

INVENTOR:

P. L. Brady,
W. Brady

BY Munn & Co.

ATTORNEYS.

N. PETERS. Photo-Lithographer. Washington, D. C.

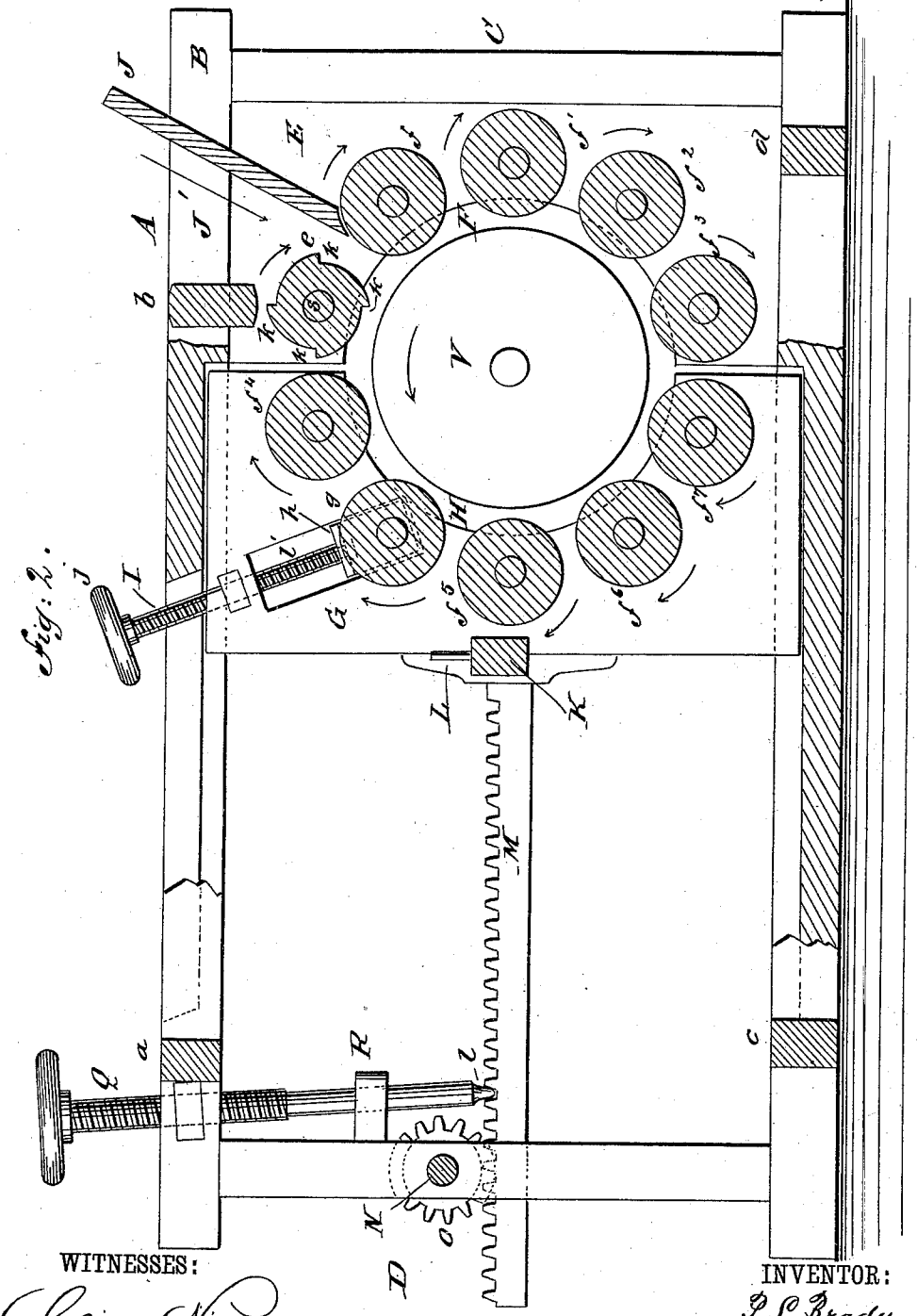
(No Model.)

5 Sheets—Sheet 2.

P. L. & W. BRADY.

COTTON PRESS.

No. 378,570. Patented Feb. 28, 1888.



WITNESSES:

Chas. Neaa.

C. Sedgwick.

INVENTOR:

P. L. Brady.

W. Brady.

BY Munn & Co

ATTORNEYS.

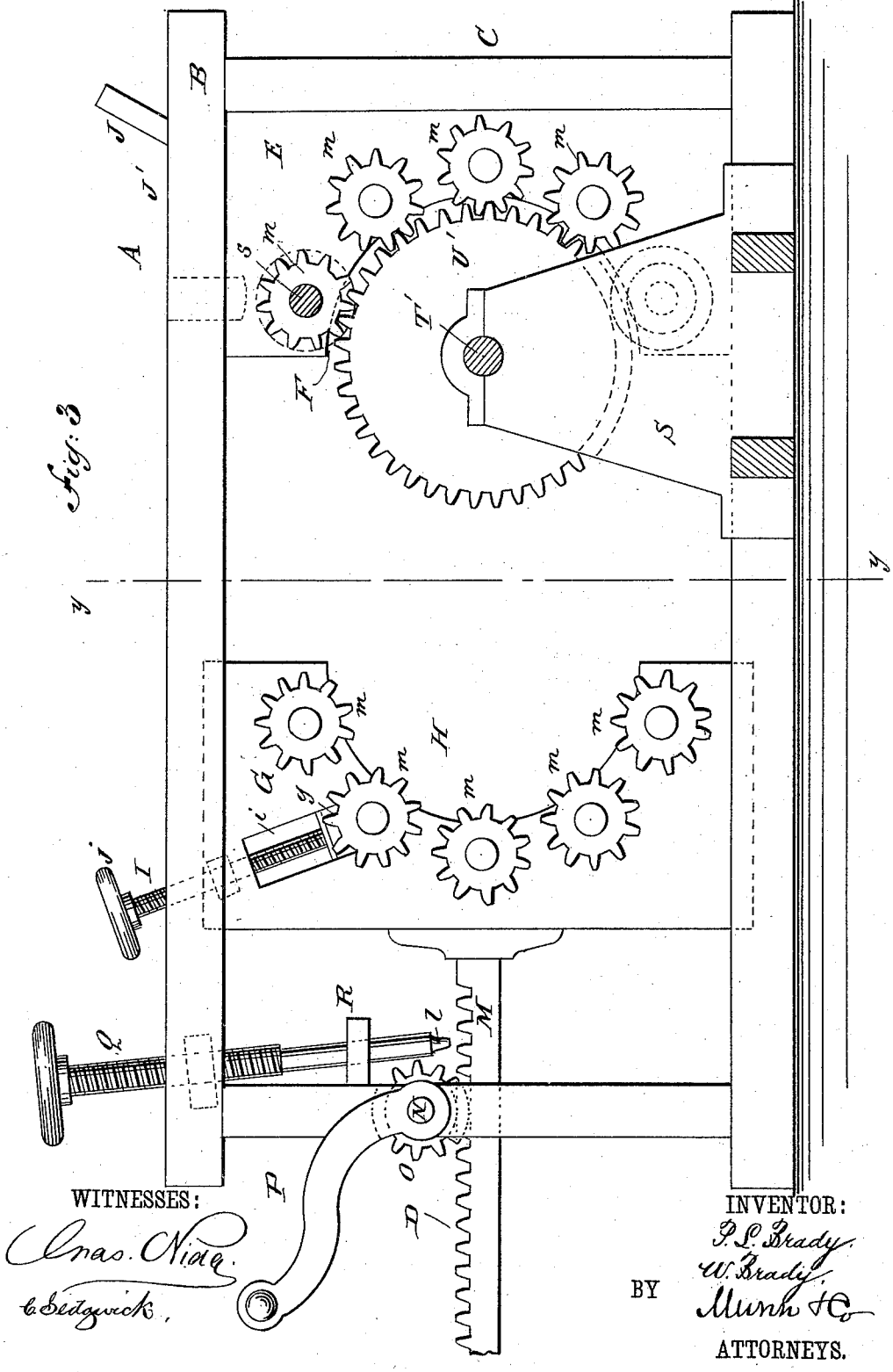
N. PETERS, Photo-Lithograp . Washington, D. C.

(No Model.) 5 Sheets—Sheet 3.

P. L. & W. BRADY.

COTTON PRESS.

No. 378,570. Patented Feb. 28, 1888.



WITNESSES:

Chas. Nida.

C. Sedgwick.

INVENTOR:

P. L. Brady.

W. Brady.

BY Munn & Co

ATTORNEYS.

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 5 Sheets—Sheet 4.

P. L. & W. BRADY.

COTTON PRESS.

No. 378,570. Patented Feb. 28, 1888.

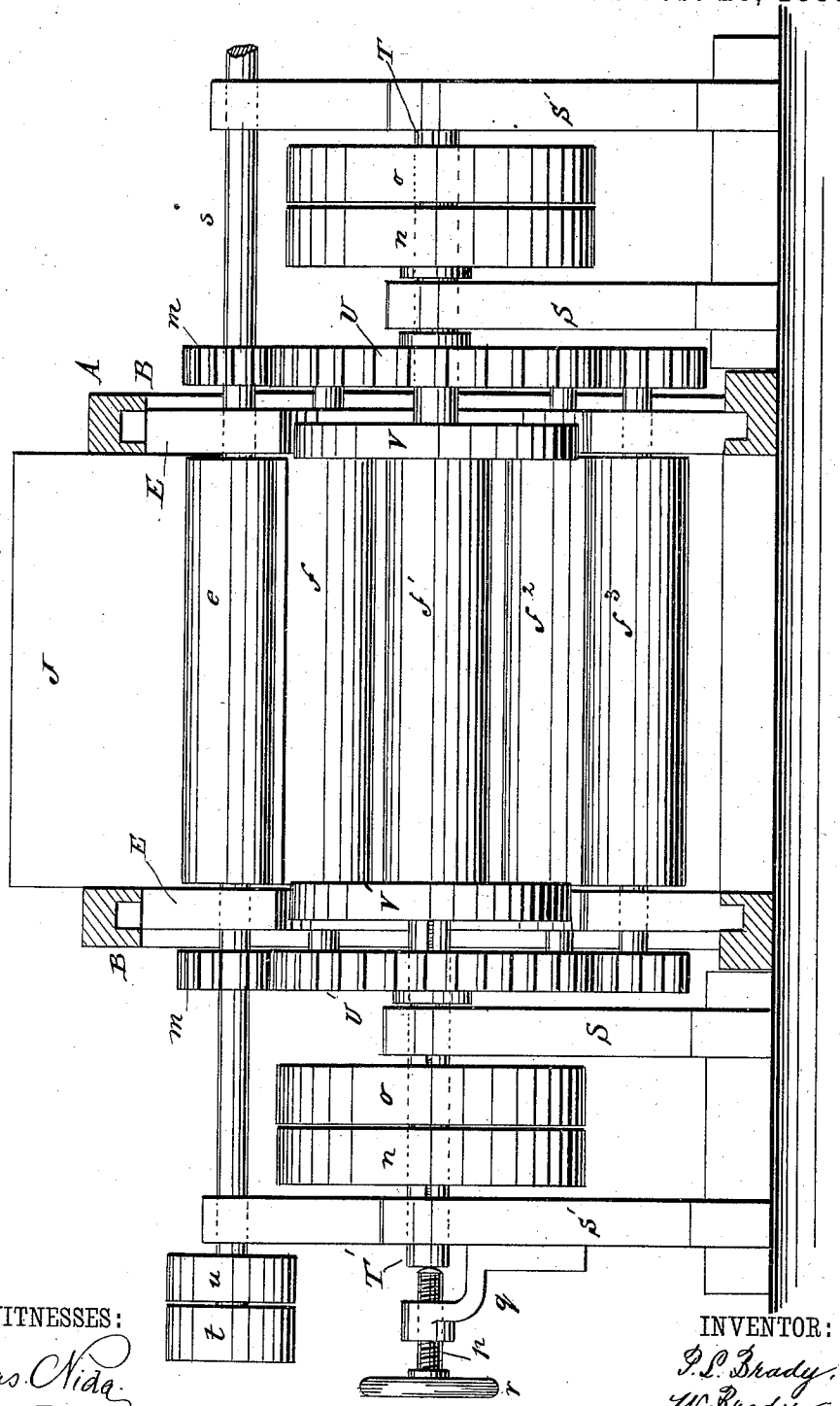


Fig. 4.

WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR:

P. L. Brady.

W. Brady.

BY Munn & Co

ATTORNEYS.

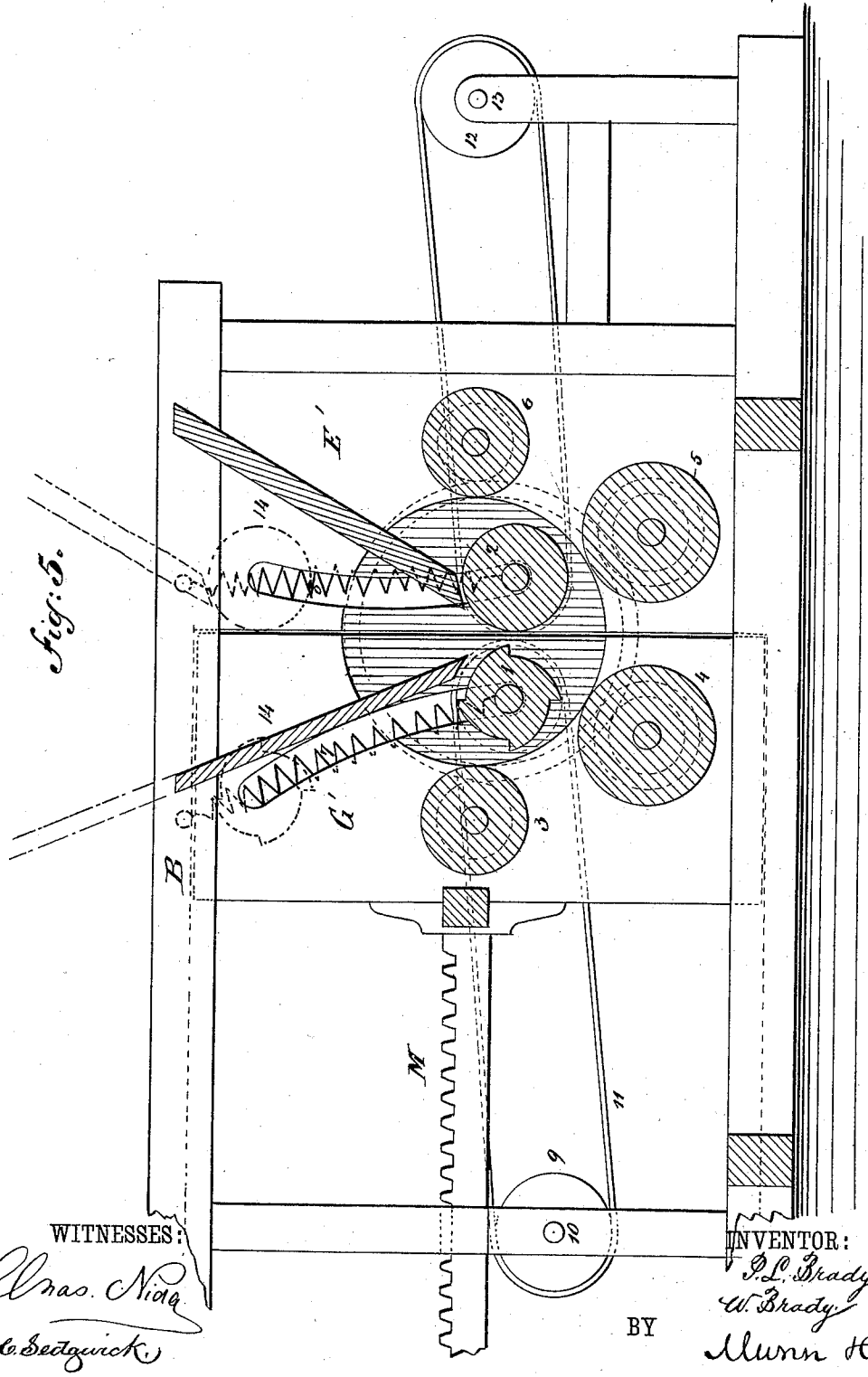
N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 5 Sheets—Sheet 5.

P. L. & W. BRADY.

COTTON PRESS.

No. 378,570. Patented Feb. 28, 1888.



N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

PETER LEWIS BRADY AND WILLIAM BRADY, OF HEARNE, TEXAS.

COTTON-PRESS.

SPECIFICATION forming part of Letters Patent No. 378,570, dated February 28, 1888.

Application filed April 16, 1887. Serial No. 235,069. (No model.)

To all whom it may concern:

Be it known that we, PETER LEWIS BRADY and WILLIAM BRADY, both of Hearne, in the county of Robertson and State of Texas, have invented a new and Improved Cotton-Press, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a plan view of our improved cotton-press. Fig. 2 is a longitudinal section taken on line *x x* in Fig. 1. Fig. 3 is a side elevation, partly in section, showing the parts of the press drawn apart to allow of the discharge of a bale. Fig. 4 is a vertical transverse section taken on line *y y* in Fig. 3. Fig. 5 is a vertical longitudinal section of a modified form of our improved press.

Similar letters of reference indicate corresponding parts in all the views.

The object of our invention is to construct a cotton-press in which the cotton will be compressed by a continuous operation as it is received from the cotton-gin, and in which the bale-cover may be wrapped around the bale and fastened by ties when the bale is wholly inclosed by the press.

Our invention consists in two series of rollers arranged in a circle, one series being journaled in a movable carriage and both series being arranged to receive motion from drive-wheels on opposite sides of the machine, all as hereinafter more fully described.

The main frame A is formed of the rectangular side frames, B B, connected by cross-beams *a b c d*. For the sake of clearness, I will call the end of the frame marked C the "front" end, and the end marked D the "rear" end. In the front end of the frames B are secured heads E, each having a semicircular notch, F, opening toward the rear end of the frame. In grooves in the upper and lower timbers of the frames B are inserted the heads G, having in their forward edges semicircular notches H opening toward the front of the machine.

In the heads E are journaled the rollers *e f f′ f² f³*, at equal distances from each other and at equal distances from the concave edges of the heads, the peripheries of the rollers projecting slightly beyond the edges of the heads.

In the heads G are journaled rollers *f⁴ g f⁵ f⁶ f⁷*, also at equal distances from each other and at equal distances from the concave edges of the heads, the peripheries of the rollers projecting beyond the edges of the heads. The journal-boxes *h* of the roller *g* are arranged to slide in slots *i*, formed in the heads G, and adjustable by screws I, which project through the upper edges of the heads and through slots in the upper timbers of the frames B. The said screws I are provided with hand-wheels *j*, for convenience in turning. The roller *e* is fluted longitudinally, so as to form beveled ribs *k*. The feed-roller *e* is located underneath the cross-bar *b* of the frame A, which forms the back of the chute leading to the press, and above the roller *f* is arranged an inclined board, J, which projects above the top of the frame A and is fitted to the upper surface of the roller *f*. The board J serves to guide the cotton fed to the machine so that it will enter between the rollers *e f* to the space inclosed by the series of rollers.

To the rear edges of the heads G is secured a bar, K, provided with a series of pins, L, for guiding the bale-tie to the bale being formed by the press. To the rear edges of the heads G are also secured rack-bars M, which extend through guides in the rear vertical posts of the frames B. In the said vertical posts is journaled a shaft, N, carrying two pinions, O, which engage the rack-bars M. The shaft N is provided with the crank P, by which it may be turned, and in the rear end of the frame A are inserted screws Q, which pass down through the top of the frame and through guides R, and are provided with points *l*, which are capable of engaging the teeth of the rack-bars M.

Upon opposite ends of the shafts of all the rollers and feed-roller *e* are placed pinions *m*, which are of the same diameter on the pitch-line as the rollers, and in pillar-blocks S S′ S′ at opposite sides of the machine are journaled shafts T T′, axially in line with each other and axially arranged with respect to the series of rollers, and near the inner ends of the shafts T T′ are secured spur-wheels U U′, which mesh into all of the pinions *m*, so as to cause the rollers to rotate simultaneously in the same direction. Each shaft T T′ is provided with a tight pulley, *n*, and loose pulley *o*. The shaft T′ is held in its working position by the screw *p*, passing through the bracket *q*, secured to the outer pillar-block, S′.

The screw *p* is provided with the hand-wheel *r*, by which it may be turned. Upon the inner ends of the shafts T T′ are secured disks V V′, which are a little less in diameter than the space inclosed by the rollers. These disks serve to confine the ends of the bale. The shaft T′, carrying the disk V′, is connected with the tight pulley *n* and spur-wheel U′ by a groove-and-feather connection, so that the shaft may be slid lengthwise in order to carry the disk V′ forward or withdraw it without moving the pulley *n* and spur-wheel U′ laterally. The shaft *s* of the feed-roller *e* projects beyond the sides of the frame A, and is journaled in an upward extension of the outer pillar-blocks, S′ S′, and provided at opposite ends with tight and loose pulleys *t u*.

The heads G, with their series of rollers being in their forward position, motion is imparted to the shafts T T′ and *s* in the manner already described, and the cotton is delivered to the hopper J′ from the cotton-gins, and is carried by the feed-roller *e* into the cylindrical space surrounded by the rollers. When enough cotton has been fed into the space to fill it and to touch all the rollers, the cotton begins to be compressed, and as layer after layer of cotton is wound upon the cotton-roll it is more or less compressed until the bale is complete, when the bale-ties are introduced between the pins L on the bar K and between the rollers f^5 and *g*, and when the bale-ties are carried entirely around the bale between the rollers and the outside of the bale the machine is stopped and the roller *g* is withdrawn by loosening the screw I, leaving a space between the rollers f^5 and f^4, in which the bale-ties are fastened. After the bale is tied the screws Q are withdrawn from the rack-bars M, and the heads G, with their rollers, are withdrawn from the bale a sufficient distance to allow the bale to drop through the bottom of the frame A. The roller *g* is then replaced, and the heads G, with their series of rollers, are moved forward by the racks and pinions, and the rack-bars are fastened by means of the screws Q, when the operation just described is repeated.

Although our press is designed particularly for cotton, it may be used for compressing various other articles, such as wool, hay, rags, bagging, paper, and fibrous substances. Our press will compress cotton without breaking the fiber. The constant revolution of the bale brings it into contact with the rollers again and again and tends to beat out sand and dust. The removing of the impurities in baling and the compression of the cotton without breaking the fiber increase the value of the product, and as our improved machine requires but one man to operate it a great saving of labor is effected.

In the modification shown in Fig. 5 the bale is formed between rollers 1 2 3 4 5 6, the journals of the rollers 1 2 being arranged to slide in curved slots 7 8 in the heads E′ G′. The feed-roller 1 receives its motion from pulley 9 on the shaft 10 through belt 11, and the roller 2 receives motion from the pulley 12 on the shaft 13 through the medium of a similar belt.

Motion is imparted by means of gearing, or in any suitable way, to one of the rollers 3 4 5 6, and communicated to the other rollers by gearing or endless chains. The bale is formed between the rollers 1 2 and the rollers 3 4 5 6, the rollers 1 2 rising as the bale enlarges. To insure the desired compression of the cotton, the rollers 1 2 are made heavy or provided with springs for forcing them downward.

By means of this construction pressure is exerted on the cotton first introduced, thereby making the center of the bale as solid as other portions. The feed-boards 14 rise with the rollers 1 and 2. The heads G′ are arranged to be withdrawn from the heads E′ whenever it is desired to discharge a bale, as in the other case.

In carrying out our invention we may use as the equivalent of the rack M a screw or an arrangement of levers. The bales produced by our improved press, being cylindrical, are more easily handled than the ordinary rectangular bales, and the bales, being wound in spiral layers, are capable of being unwound from the outside in case they take fire, so that only the outer layers of the bale will be injured.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, with the frame having the fixed heads and the opposing sliding heads, each having a series of rollers, the baling-space between which is central, divided by the meeting edge of the two sets of heads, of a rack or its stated equivalent for adjusting the movable heads, and means for rotating the series of rollers in the same direction, substantially as set forth.

2. In a cotton-press, the combination, with the frame A and the fixed heads E, having a series of rollers, one of which is a feed-roller, of the sliding heads G, having slots and adjustable bearings therein, and a series of rollers journaled in said sliding heads, one of the rollers being journaled in the said adjustable bearings, substantially as set forth.

3. The combination, with the frame and the series of rollers journaled therein, of a disk closing the space between said rollers at one end, and a second disk adjustable toward and from the first-named disk to regulate the width of the baling-space between the two said disks, substantially as set forth.

4. The combination, with the frame and the series of rotating rollers journaled therein, of a disk closing the space between the rollers at one end and rotating independently thereof in the same direction, and a second disk at the opposite end adjustable into and out of said space and rotating independently of said rollers and in the same direction therewith, substantially as set forth.

5. In a cotton-press, the combination of the frame A, heads E, rollers f f' f^2 f^3, and the fluted feed-roller e, the hopper J', the movable heads G, the rollers f^4 f^5 f^6 f^7, and the movable roller g, and means for withdrawing the heads G, with their rollers, from the heads E, with their rollers, substantially as described.

6. The combination, with the heads G, with their series of rollers, one of which is outwardly-adjustable, of the bar K, provided with pins I for guiding the bale-tie to the bale, substantially as described.

7. The combination, with the frame A, the heads G, and rollers carried thereby, of the rack-bars M, pinions O, the shaft N, and the fastening-screws Q, substantially as described.

8. The combination, with the frame, the fixed heads E, the sliding heads G, and the series of rollers journaled in said heads G E, and having pinions m at their opposite ends, of the aligned shafts T T', provided with disks closing the space at the ends of the rollers, and gears engaging the series of pinions, one shaft being longitudinally adjustable in its bearings and passing freely through the gear-wheel upon it, substantially as set forth.

PETER LEWIS BRADY.
WILLIAM BRADY.

Witnesses:
J. G. ADAM,
R. A. ALLEN.