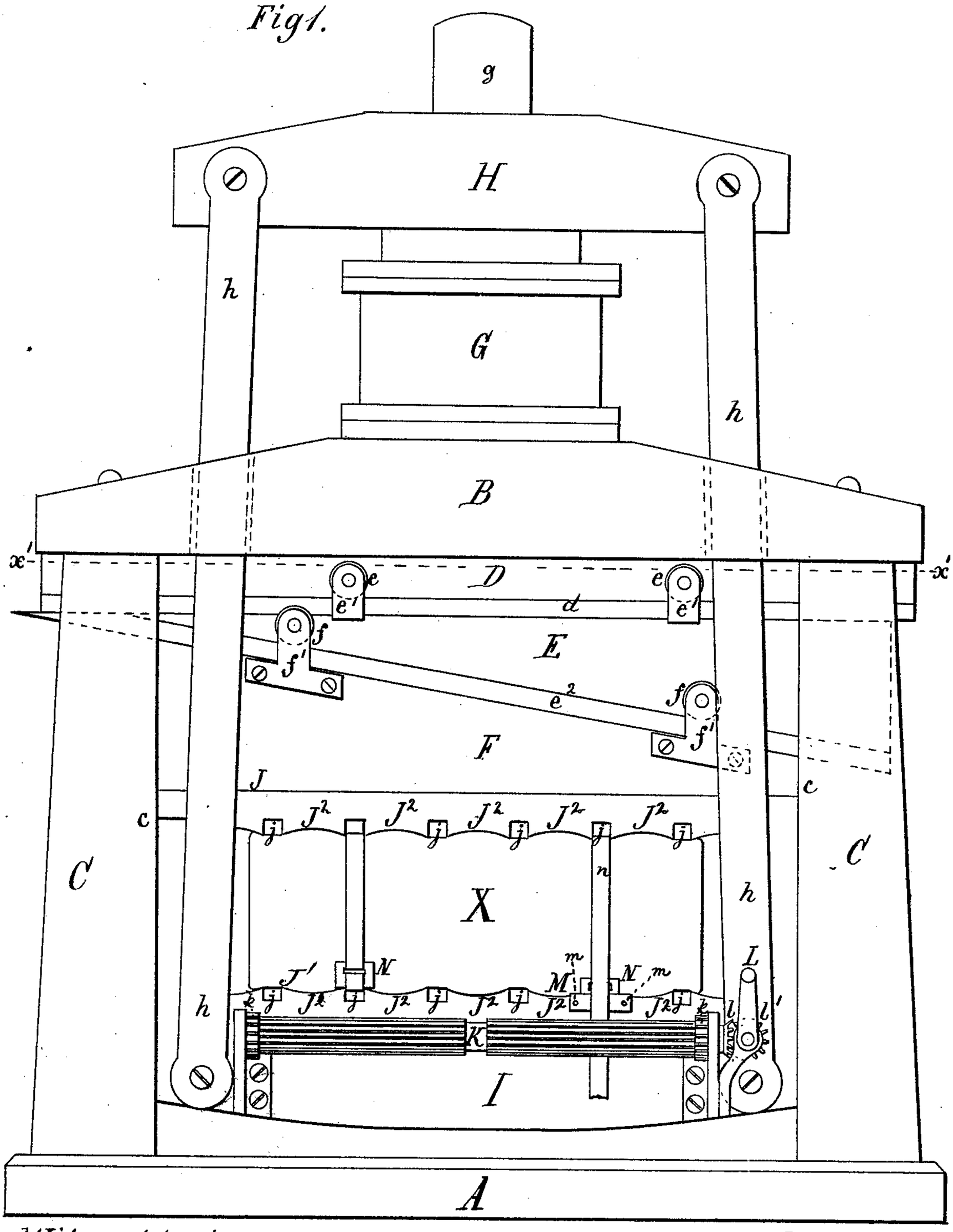
2 Sheets—Sheet 1.

J. C. HODGES, Jr.

BALE-BAND TIGHTENERS.

No. 195,280. Patented Sept. 18, 1877.

Fig 1.



Witnesses:
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James Martin Jr.

Inventor:
John C. Hodges Jr.
by
Mason, Fenwick & Lawrence

2 Sheets—Sheet 2.

J. C. HODGES, Jr.

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Fig 2.

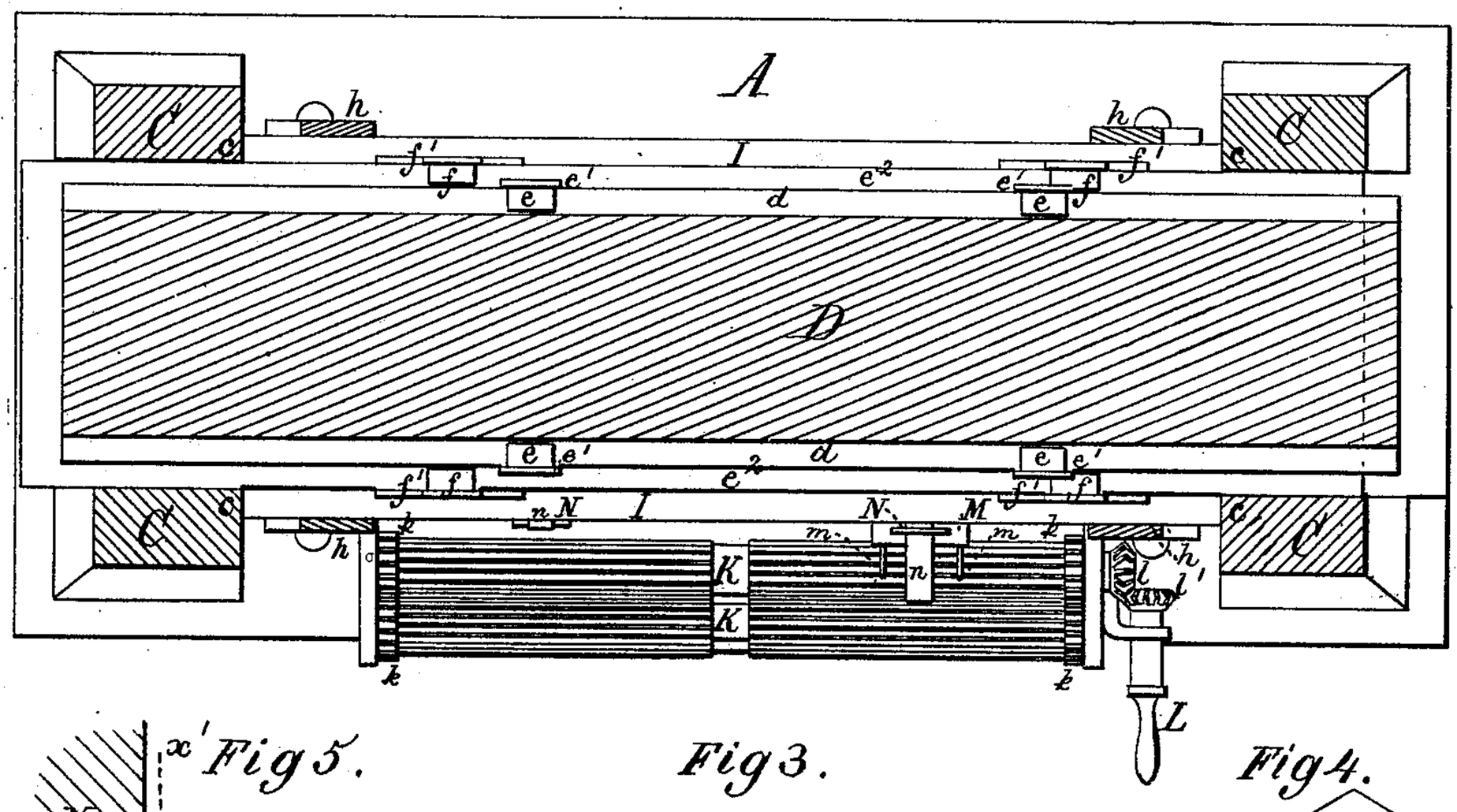


Fig 5.

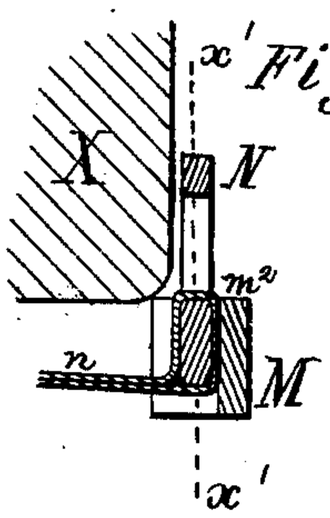


Fig 3.

Fig 4.

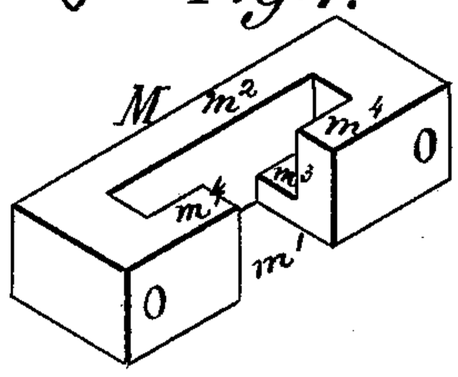
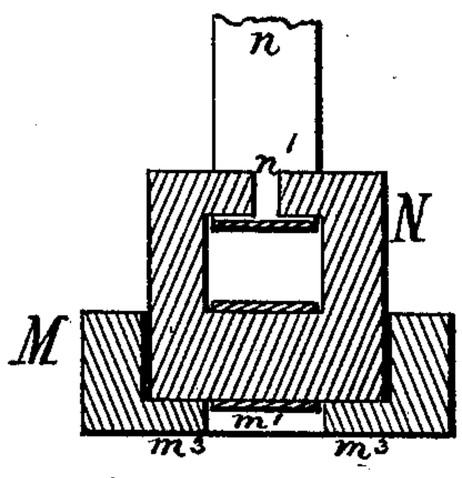


Fig 6.



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UNITED STATES PATENT OFFICE.

JOHN C. HODGES, JR., OF GALVESTON, TEXAS.

IMPROVEMENT IN BALE-BAND TIGHTENERS.

Specification forming part of Letters Patent No. **195,280**, dated September 18, 1877; application filed August 3, 1877.

To all whom it may concern:

Be it known that I, JOHN C. HODGES, Jr., of the city and county of Galveston, and State of Texas, have invented new and useful Improvements in Bale-Band Tighteners, which improvements are fully set forth in the following specification and accompanying drawings, in which latter—

Figure 1 is a front elevation of a cotton-press having my improvements applied to it. Fig. 2 is a horizontal section of the same in the line *x x* of Figs. 1 and 3. Fig. 3 is a vertical cross-section through a portion of a cotton-press, taken in the vertical plane of one set of the tie-channels of the platens. Fig. 4 is a perspective view of a removable tie-plate socket used in drawing the band tight around the bale. Fig. 5 is a broken or detail section, showing the said tie-plate socket in the act of holding the clasp, to which one end of the band is attached while the other end is being drawn tight around the bale. Fig. 6 is a vertical longitudinal section of the same in the line x^1 x^1 of Fig. 5.

The nature of my invention consists in certain constructions, combinations, and arrangements of parts, as hereinafter fully described and specifically claimed, whereby the operation of tightening baling-bands and tying the same around a bale of cotton is facilitated, and at the same time a considerable saving in the length of the metal bands for a given size bale effected.

In the drawings, A represents the base-plate of the frame of a cotton-press; B, the top plate, and C the supporting standards or columns thereof. Below the top plate B an inverted T-shaped bearing-plate, D, is either attached to, or cast in one piece with, the top plate B. The T-shaped plate D affords two horizontal flanges, *d*, below the top plate B, which serve as supports for a wedge, E, by means of rollers *e*, pivoted to arms e^1 of the wedge E, and traveling upon said flanges.

The wedge E is provided with inclined side flanges e^2, which have the same degree of inclination as the lower surface of the wedge, and which support the upper wedge-shaped platen F by means of rollers *f*, pivoted to arms *f'* of the said platen, and traveling upon said flange e^2.

The platen F has its upper side inclined to the same degree as the wedge, and is provided at its corners with angular bearings *p*, which slide up and down upon and between the inner corners *c* of the standards or columns C as vertical guides.

On the top plate B a steam-cylinder, G, is fastened in a central position, and the piston-rod *g* of which is provided with a cross-head, H, to which the rods *h* of the lower platen I are attached.

The platen I is fitted between the corners of the columns C in a similar manner, and for a similar purpose, as the upper platen F.

The channel-bars J J^1 of both platens are made with a series of corresponding transverse concaves, J^2, so that the bale X, in being pressed, crowds toward the center or lowest parts of the concaves of the channel-bars, and stretches tightly over the spaces *j* between the channel-bars. This insures a saving of band in comparison with the old straight channel-bar, in which the bale invariably bulges into the channels or spaces *j*. The said saving of metal band is considerable, as it amounts already in our first few trials to about three inches for each band, or eighteen inches for a bale with six bands.

The lower platen I is at its front provided with a band-tightening device, which consists of two fluted feed-rollers, K, coupled by means of two pairs of matching gear-wheels, *k*, and suitably attached to the said platen.

The rollers K are fluted, so as to bite or nip the band *n*, and prevent it from slipping while being drawn between them.

One of the rollers K is revolved by means of a pair of bevel-gears, one of which, *l*, is attached to the end of the roller, and the other, *l'*, to a shaft, which may be moved by a hand-crank, L, or by power.

In connection with the said band-tightening device I use a removable tie-plate socket, M, into which the lower part of the band tie-plate N is inserted, and which is thereby prevented from being drawn between the channel-bars when the band *n* is drawn tight.

The said tie-plate socket M may be kept in position by steady-pins *m*, fastened to the lower platen.

To facilitate the insertion of the tie-plate N

and the thereto-attached band *n*, the socket M is provided with an open channel, m^1, about the width of the band *n*, and extending downward through the middle of the socket M and to its front wall m^2, so that the band *n* may enter or leave the socket at any angle without interfering with the entrance or exit of the tie-plate.

The two horizontal shoulders or parts m^3 of the bottom of the socket M, right and left of the open channel m^1, prevent the tie-plate N from slipping downward, and the two vertical shoulders or parts m^4 of the back wall of the said socket, right and left of the said open channel, keep the said tie-plate from being pulled horizontally from the socket.

The upper part of the tie-plate N projects free above the socket M, so that the band *n* can easily be inserted edgewise into it by means of an opening, *n'*.

Operation: The lower platen I being in its lowest and the upper platen F in its highest elevation, the bale X is placed upon the lower platen, and the upper platen is brought down upon it by forcing the wedge E home, and the bale having been pressed by power, as usual. The iron band *n* is now introduced from the back of the bale X, the upper end of the same passing through one of the upper channels *j*, and the lower end passing through a corresponding lower channel, *j*. To the said lower end of the band *n* the tie-plate N is fastened, and then inserted into the socket M in front of the bale X. The upper end of the band *n* is now introduced between the rollers K, which are turned, so as to draw the band tight around the bale, as shown in Fig. 3. A wedge, x^2, is now driven into the upper channel, whereby the band *n* is held tight around the bale X. The band *n* is now cut off to the proper length above the feed-rollers K, as seen in Fig. 5, and finally fastened, in the usual manner, to the tie-plate N. The lower platen I is then lowered, and the upper platen F is raised, in the manner described, and the bale X becomes free. A slight lifting movement in front will move the tie-plates out of their sockets, when the finished bale can be removed from the press to make room for another to be pressed and tied.

I am aware of the Letters Patent granted to Richard De Gray on August 15, 1876, and do not claim anything therein shown as my invention. I also am aware of the Letters Patent granted to George W. Grader, July 21, 1874, and do not claim anything therein shown as my invention.

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

1. In the band-tightening contrivance herein described, a pair of fluted or roughened feed and griping rollers applied to the platen, and geared together and operated simultaneously, for the purpose set forth.

2. The tie-plate socket M, constructed as described, and applied to the platen so as to be detachable therefrom when the tie is tightened around the bale, substantially as described.

3. The combination of the detachable tie-plate socket M, the fluted feed and griping rollers, and the platen of the press, substantially as and for the purpose described.

4. The channel-bars J J^1, constructed with concaved or waved pressure-surfaces J^2 and tie-channels *j*, the said bars being solid between the channels, and the channels being formed in the solid portions of the bars, all substantially as shown and described.

Witness my hand in the matter of my application for a patent for a cotton-press this 22d day of July, A. D. 1877.

JOHN C. HODGES, JR.

Witnesses:
W. S. LYBROOK,
T. C. CAIN.