

No. 819,741.

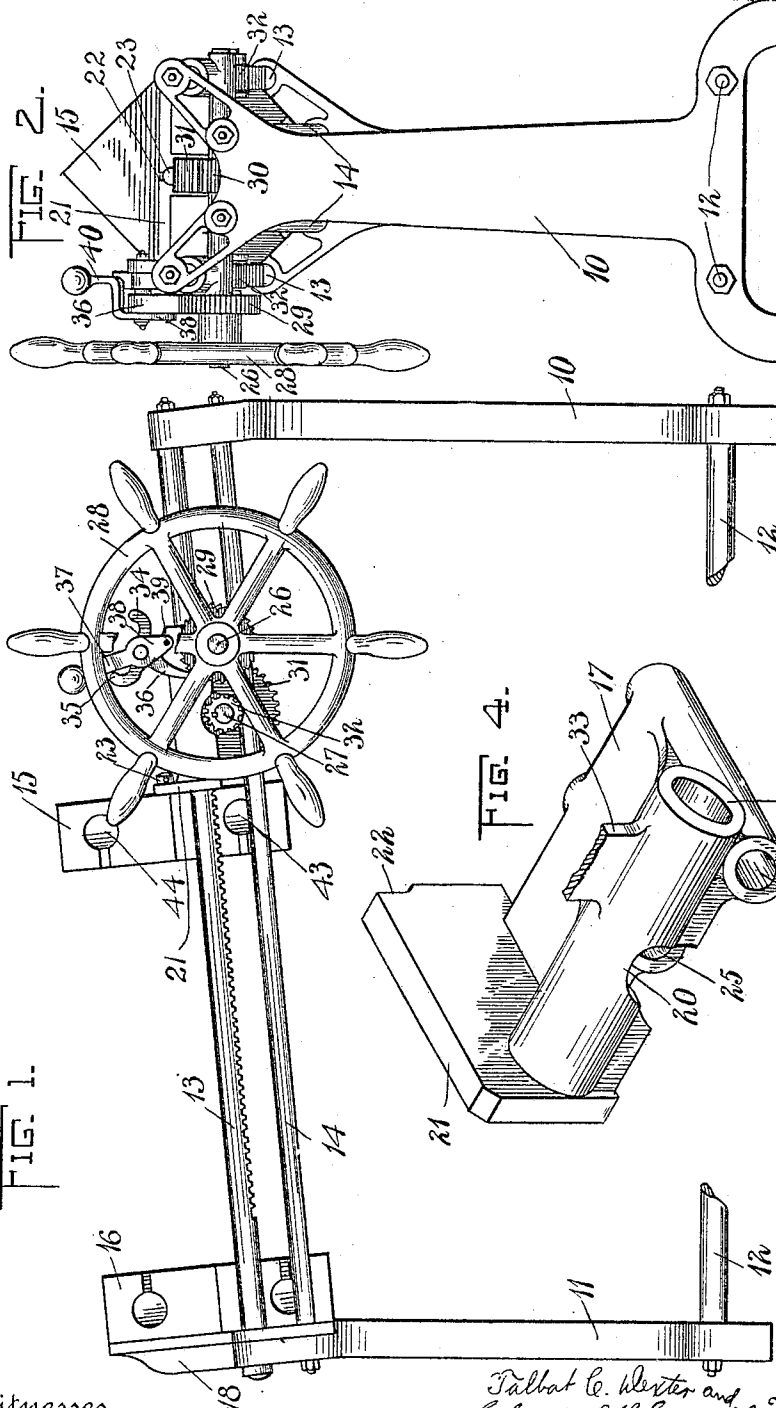
PATENTED MAY 8, 1906.

T. C. DEXTER & C. O. L. CARDELL.

BUNDLING PRESS.

APPLICATION FILED APR. 29, 1905.

2 SHEETS—SHEET 1



Witnesses
Elias Goddard
Aretta Flynn.

Talbot C. Dexter and
Charles O. L. Cardell Inventors.
By their Attorneys Knight & Boyer

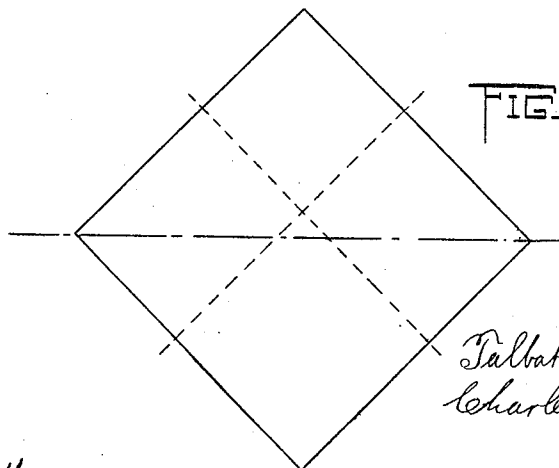
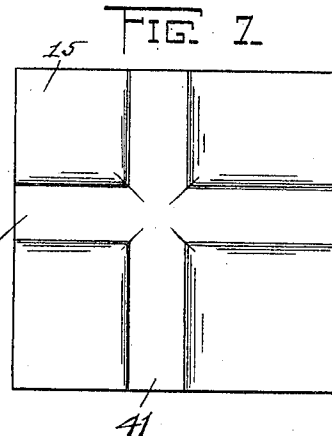
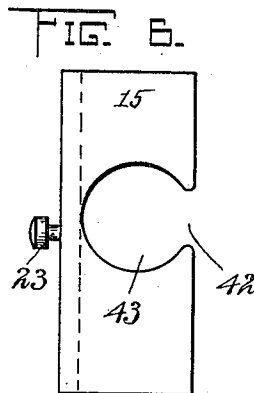
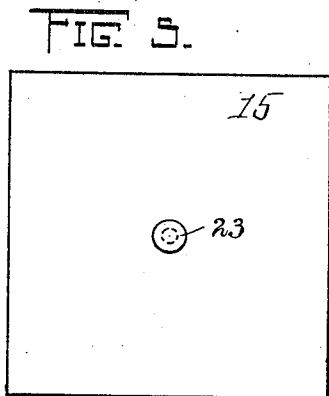
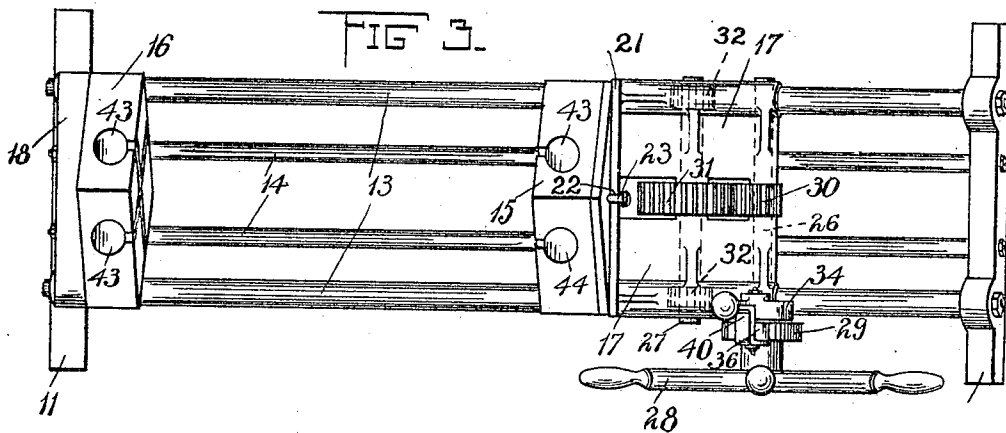
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2 SHEETS—SHEET 2.



Witnesses
Elias Goldstein
Arthur Lynn.

Talbot C. Dexter and
Charles O. L. Cardell
Inventors,
By their Attorneys *Smith & Bates*

UNITED STATES PATENT OFFICE.

TALBOT C. DEXTER AND CHARLES O. L. CARDELL, OF PEARL RIVER, NEW YORK; SAID CARDELL ASSIGNOR TO SAID DEXTER.

BUNDLING-PRESS.

No. 819,741.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed April 29, 1905. Serial No. 258,035.

To all whom it may concern:

Be it known that we, TALBOT C. DEXTER and CHARLES O. L. CARDELL, citizens of the United States, residing at Pearl River, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Bundling-Presses, of which the following is a specification.

Our invention relates to bundling-presses, and is more especially concerned with manually-operated bundling-presses.

One object of our invention is to provide a hand-power bundling-press for compressing into compact form bundles of signatures which are to be stored.

Another object of our invention is to provide a hand-power bundling-press in which a maximum amount of power is obtained and which will take up a minimum amount of space.

A still further object of our invention is to provide means for adjusting the machine to suit bundles of different-sized signatures. This object is accomplished by the invertible arrangement of the compression-heads.

Many features of novelty will be seen from the description of our invention in detail with reference to the accompanying drawings, and these will be more particularly pointed out in the annexed claims.

In the drawings like reference-numerals are used to indicate the same parts in the various views.

In said drawings, Figure 1 is a side elevation of the complete machine. Fig. 2 is an end elevation of the same. Fig. 3 is a top plan view of the same. Fig. 4 is a detail view of one side of the carriage which carries the movable head and its operating mechanism. Fig. 5 is a back view of one of the heads. Fig. 6 is a side view of the same. Fig. 7 is a face view of the same, and Fig. 8 is a diagrammatic representation of one of the heads, showing the eccentric arrangement of the grooves.

Referring now more particularly to said drawings, 10 is the front frame, and 11 the rear frame, of the machine. 12 designates a pair of bars securing the front and rear frames together near the base.

13 indicates a pair of rack-bars which secure the front and rear frames together near the top, and 14 indicates a pair of trough-

bars. It will be understood that the rack-bars 13 and the trough-bars 14 together form the trough in which the bundle of signatures about to be compressed is placed.

15 and 16 indicate the front and rear heads, respectively, which are removably positioned in the trough, the front head 15 being secured to the carriage 17, which is adapted to be moved along the trough through mechanism which will be hereinafter described. The rear head 16 is removably secured to a support 18 upon the rear frame 11. The carriage 17 is formed in two complementary parts, one of these parts being represented in detail in Fig. 4. Each half of said carriage has a collar 19, which fits around the rack-bar 13 and is provided with a recessed portion 20 for a purpose hereinafter set forth. A plate 21 is provided at one end of the carriage, which has a cut-away portion 22, which registers with a similar portion on a similar plate on the other half of the carriage and forms together with it a slot through which the set-screw 23 of the front head 15 passes for detachably securing the front head 15 to the carriage 17. In addition to the collar 19 each half of the carriage is provided with a pair of bearing-sleeves 24 and 25, which, together with the corresponding parts of the other half of the carriage, receive the shafts 26 and 27, respectively. (See Figs. 1, 2, and 3.)

A shaft 26 is journaled transversely in the carriage 17, as shown in Fig. 3, and carries a hand-wheel 28, a ratchet-wheel 29, and a pinion 30, all of which are fixed to said shaft. An intermediate shaft 27 is also journaled transversely in carriage 17 and has splined to it a gear-wheel 31, which is in mesh with the pinion 30, and a pair of spur-gears 32, which are in mesh with the racks of the rack-bars 13. (See Fig. 1.) The spur-gears 32 are positioned in the recessed portions 20 of the collar 19. By reason of the arrangement of shaft 26 transversely upon the carriage 17 it will be observed that the hand-wheel 28 is supported to rotate in a vertical plane parallel with the direction of travel of the carriage, thereby affording a most convenient and effective arrangement for the operator, whether in compressing or releasing the bundles.

A bracket 33 is provided on that half of the carriage which is shown in Fig. 4 and has a

pair of ears 34 and 35. Pivoted to this bracket is a pawl 36, which engages in the ratchet-wheel 29 for holding the pressing mechanism under pressure. For raising this
 5 detent out of engagement with the ratchet-wheel we also pivot to the bracket 33 an operating-lever 37, which has a downwardly-extending member 38, provided with a pin 39 for lifting the pawl 36 when the lever is
 10 rocked and a weighted upwardly-extended arm 40, which is adapted to be held in either position to which it may be set by the ears 34 and 35.

The compression-heads 15 and 16 are each
 15 provided in their working faces with a pair of grooves 41 and 42, which extend from a pair of tubular recesses 43 and 44. As diagrammatically shown in Fig. 8, these grooves do not intersect each other at the center of the
 20 working face of the compression-head, but are purposely arranged to intersect at a point above the center, so that by inverting the heads in the trough the point of intersection may be varied to allow for different-sized sig-
 25 natures. It will be observed that the compression-heads 15 and 16 are of rectangular shape. The described arrangement of intersecting grooves 41 and 42 is produced by forming the said grooves in such positions in
 30 the working faces of the compression-heads that each groove will extend between and parallel with two opposite edges of the working face and at unequal distances from said
 35 edges—that is, each groove will be nearer one edge of the working face than the opposite edge of said working face. The tubular recesses 43 and 44 are made large enough for the attendant to insert his hand for wrapping and tying the cord around the bundle which
 40 has been compressed.

It is obvious that in the operation of our improved hand-power bundling-press upon turning the hand-wheel 28 the carriage 17 will travel along the trough, carrying the operating mechanism and the front compression-head bodily along with it. By doing
 45 away with the moving rack-bar we avoid the taking up of unnecessary space by the rack-bar protruding beyond the normal length of the machine when the compression-heads
 50 are in the extreme position. When the bundle between the compression-heads 15 and 16 has been pressed by this operation to sufficient compactness, the pressing operation
 55 may be discontinued, and the detent 36 by its engagement with the ratchet-wheel 29 will hold the compression-heads under pressure, while the attendant may then turn his attention toward wrapping cord around the
 60 bundles and tying them up. Upon the completion of this the lever 37 is rocked, whereby the pawl 36 is caused to disengage the ratchet-wheel 29, and the pressure is then taken off.

We are aware that compression-heads in
 65 bundling-machines have been provided with

a double series of parallel grooves on the working face for the passage of the tying-cord, one series of grooves being at right angles to the other, so that by the use of a long
 70 needle the cord may be passed around the bundle at a chosen height above the bottom of the trough; but it has never before been proposed, to our knowledge, to employ invertible heads with a pair of slots crossing on
 75 a diagonal line at a point unequally distant from the diagonally opposite corners of the face and having within the body of the head and communicating with said slots enlarged
 80 cavities for the passage of the hand in tying.

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

1. In a bundling-press, the combination with a trough, of a pair of invertible compression-heads removably mounted in said
 85 trough and each formed in its working face with intersecting slots and enlarged hand-channels, each of which slots is at unequal distances from opposite edges of the working
 90 face as described.

2. In a bundling-press, the combination with a trough, of a pair of invertible rectangular compression-heads removably mounted in said trough, and means for moving one
 95 of said heads toward and away from the other; each of said compression-heads being formed in its working face with intersecting slots which extend parallel with and at unequal distances from opposite edges of the
 100 working face as described.

3. In a bundling-press, the combination with a trough, of a pair of invertible compression-heads removably mounted in said
 105 trough, and formed in their working faces with intersecting slots, each slot being at unequal distances from opposite edges of the working face, means for supporting one of said heads against movement in the trough, a
 110 carriage mounted upon the trough, and means detachably connecting the other compression-head with said carriage.

4. In a bundling-press, the combination with a trough, of a pair of invertible compression-heads removably mounted in said
 115 trough, and formed in their working faces with intersecting slots, each slot being at unequal distances from opposite edges of the working face, means for supporting one of said heads against movement in the trough, a
 120 carriage mounted upon the trough, and a device arranged centrally upon the back of said other compression-head adapted for detachably connecting it with said carriage in either of the operative positions of said heads, substantially as described.

5. In a bundling-press, the combination with a trough, and a stationary rack-bar parallel therewith; of a pair of heads suitably
 125 positioned in said trough; and a pinion suitably journaled upon one of said heads and
 130

meshing with said stationary rack-bar and adapted to be rotated to move the head upon which the pinion is journaled.

6. In a bundling-press, the combination with a trough, of stationary rack-bars, cooperating heads positioned in said trough, means for securing one of said heads against movement, a carriage adapted to travel in the trough upon said rack-bars, means detachably connecting the other of said heads to said carriage, and pinions journaled upon said carriage and in mesh with said stationary rack-bars and adapted to be rotated to cause said carriage to travel.

7. In a bundling-press, the combination with a trough, a carriage movable in the trough, a pair of heads supported in the trough, means for securing one of the heads against movement, a pin-and-slot connection between the carriage and the other head, and means for moving the carriage and connected head in the trough.

8. In a bundling-press, the combination with a trough, a carriage formed with a recess or slot and adapted to move in said trough, and a pair of heads positioned in said trough; of means for fixing one of said heads in said trough, a headed bolt secured to the other of said heads and adapted to engage the recess or slot of said carriage for detachably securing said head to said carriage, and means for causing said carriage to move in said trough.

9. In a bundling-press, the combination of a trough, a pair of compression-heads supported in the trough, means for securing one of said heads against movement, and operating mechanism engaging the other head and traveling with it upon the trough, said operating mechanism including a driving-wheel which is arranged to rotate in a plane parallel with the length of the trough.

10. In a bundling-press, the combination of a trough, a rack-bar, a pair of compression-heads supported in the trough, means for securing one of said heads against motion, a carriage mounted to move in the trough and adapted to engage the other compression-head, a pinion journaled upon the carriage and meshing with said rack-bar, a driving-shaft journaled upon the carriage and ex-

tending transversely of the trough, gearing between the driving-shaft and pinion, and a hand-wheel mounted upon the driving-shaft and supported thereby to rotate in a plane parallel with the length of the trough.

11. In a bundling-press, the combination with a pair of rack-bars, a pair of trough-bars, a pair of heads positioned upon said rack-bars and trough-bars, and means for securing one of said heads stationarily upon said rack-bars and trough-bars; of a carriage adapted to slide along on said rack-bars, means for securing the other of said heads to said carriage, a pair of spur-gears journaled in said carriage meshing with said rack-bars, and means for operating said spur-gears to cause said carriage to travel along on said rack-bars.

12. In a bundling-press, the combination with a pair of rack-bars, a pair of trough-bars, a pair of heads positioned on said rack-bars and trough-bars, and means for securing one of said heads stationarily upon said rack-bars and trough-bars; of a carriage slidably positioned upon said rack-bars, means for securing the other of said heads to said carriage, a pair of shafts journaled in said carriage, a hand-wheel and small gear-wheel fixed on one of said shafts and a large gear-wheel and a pair of spur-gears fixed on the other of said shafts, said large gear-wheel meshing with said small gear-wheel and said spur-gears meshing with said rack-bars.

13. In a bundling-press, the combination of a trough, a pair of invertible rectangular compression-heads one of them movably mounted in said trough, each of said heads having in its working face a pair of slots intersecting at a point on the vertical diagonal of the face at unequal distances from the upper and lower corners thereof so that by the inversion of the blocks, the point of intersection of the slots may be located at a higher or lower level relatively to the trough to suit bundles of different size as explained.

TALBOT C. DEXTER.
CHARLES O. L. CARDELL.

Witnesses:

G. S. LEITH,
A. C. HAMMOND.