No. 819,983. PATENTED MAY 8, 1906.

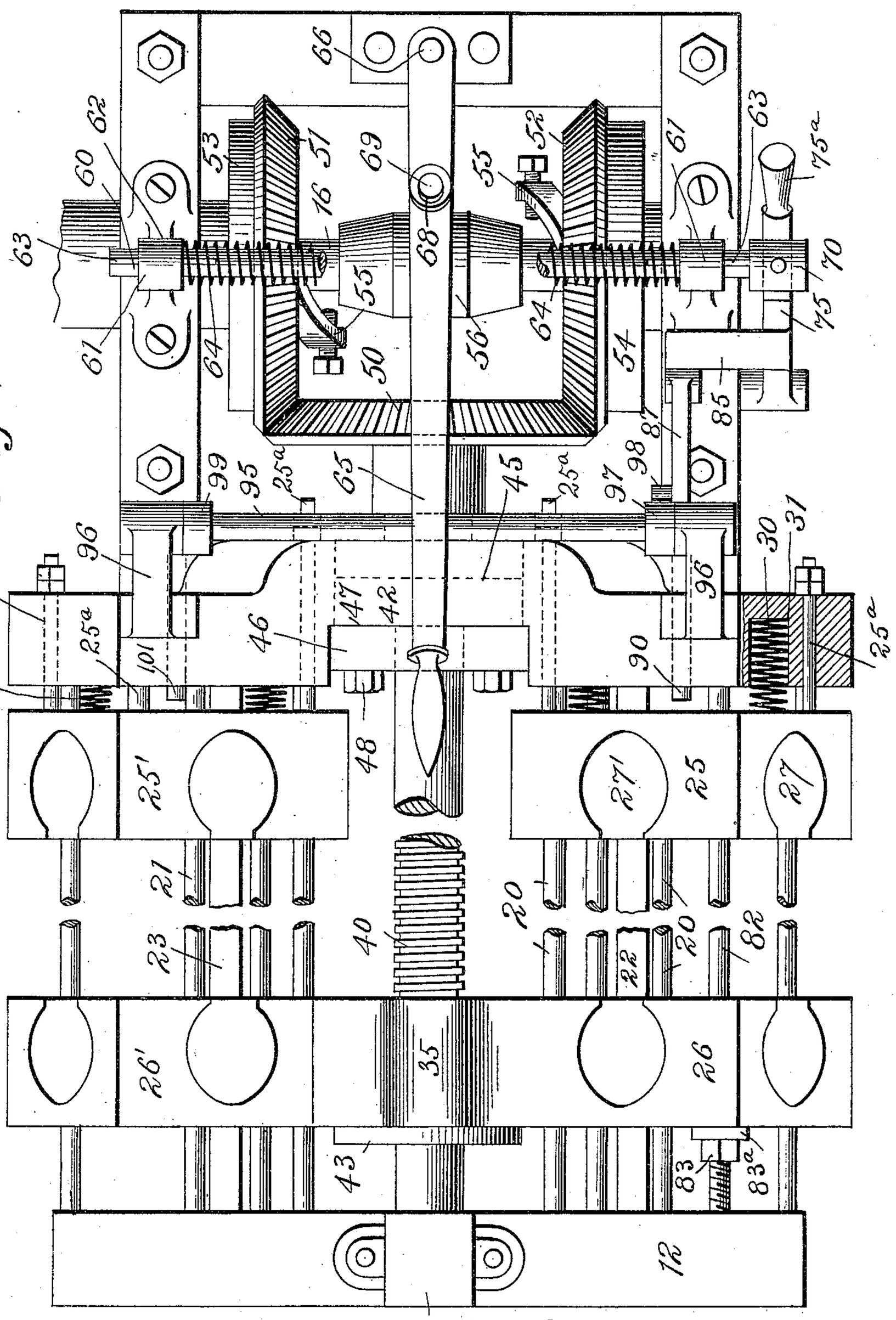
T. C. DEXTER.

BUNDLING PRESS.

APPLICATION FILED MAY 25, 1905.

4 SHEETS—SHEET 1.

Fig. 1.



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4 SHEETS—SHEET 2.

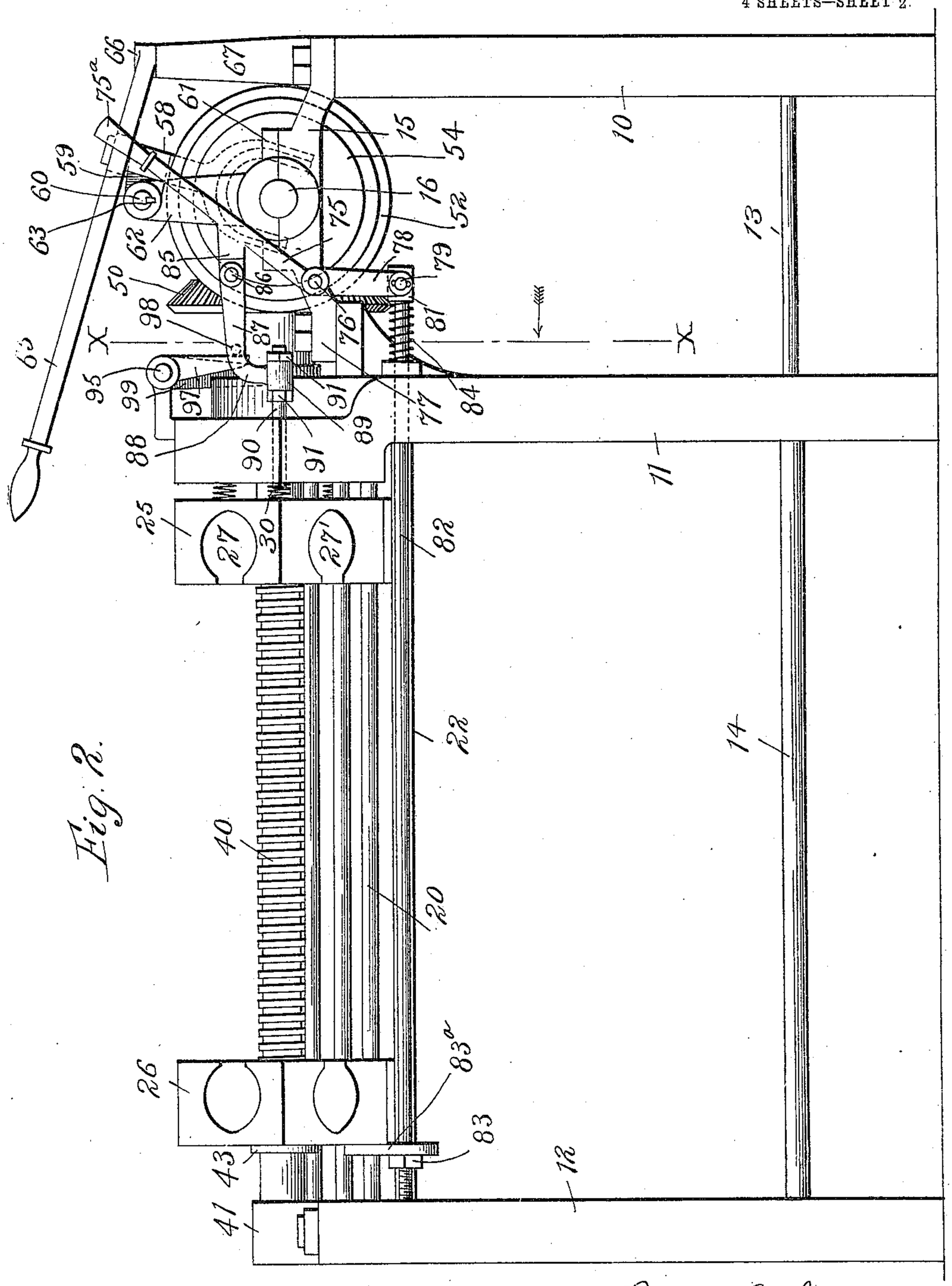

Fig. 2.

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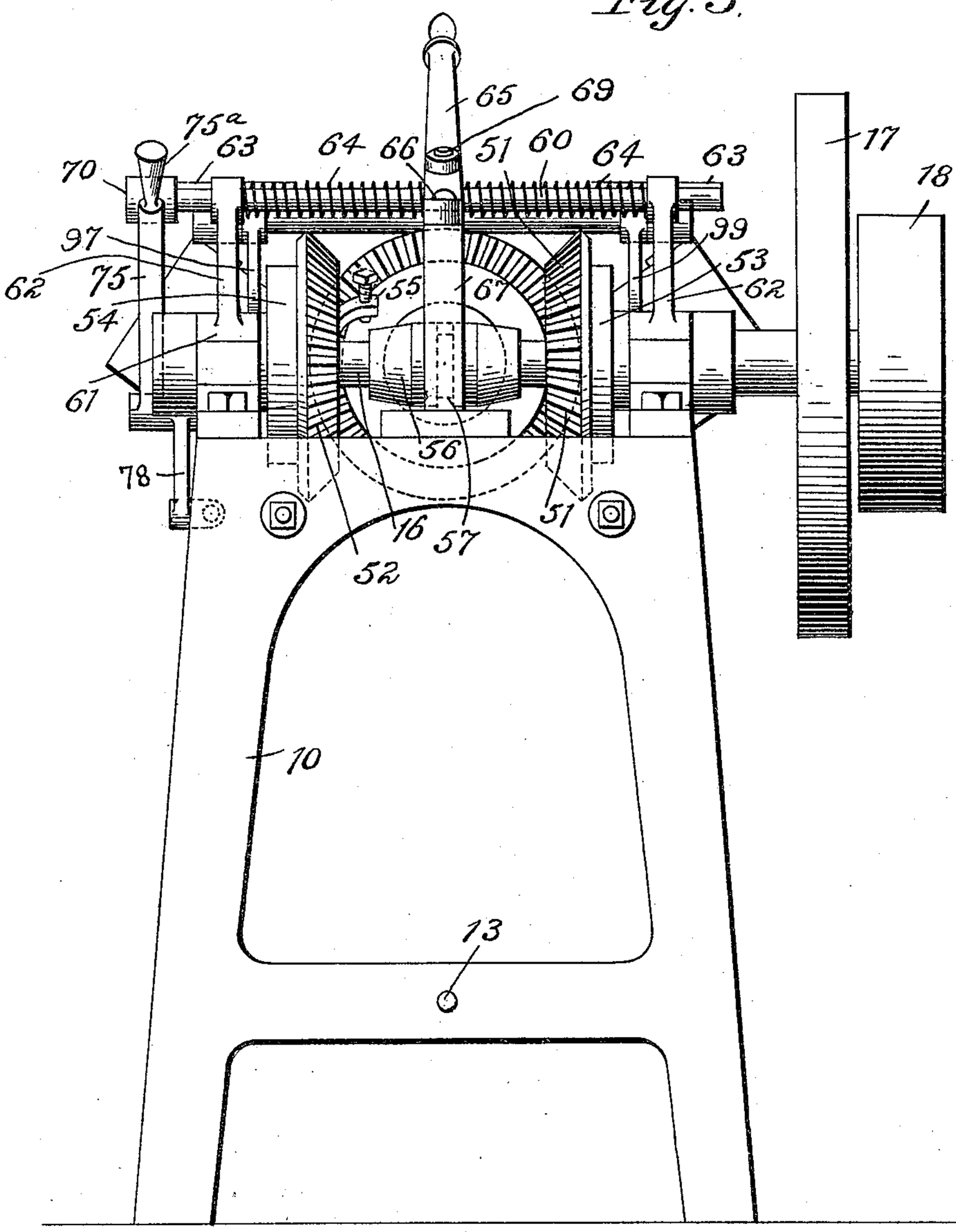
4 SHEETS—SHEET 3.

Fig. 3.



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4 SHEETS—SHEET 4.

Fig. 4.

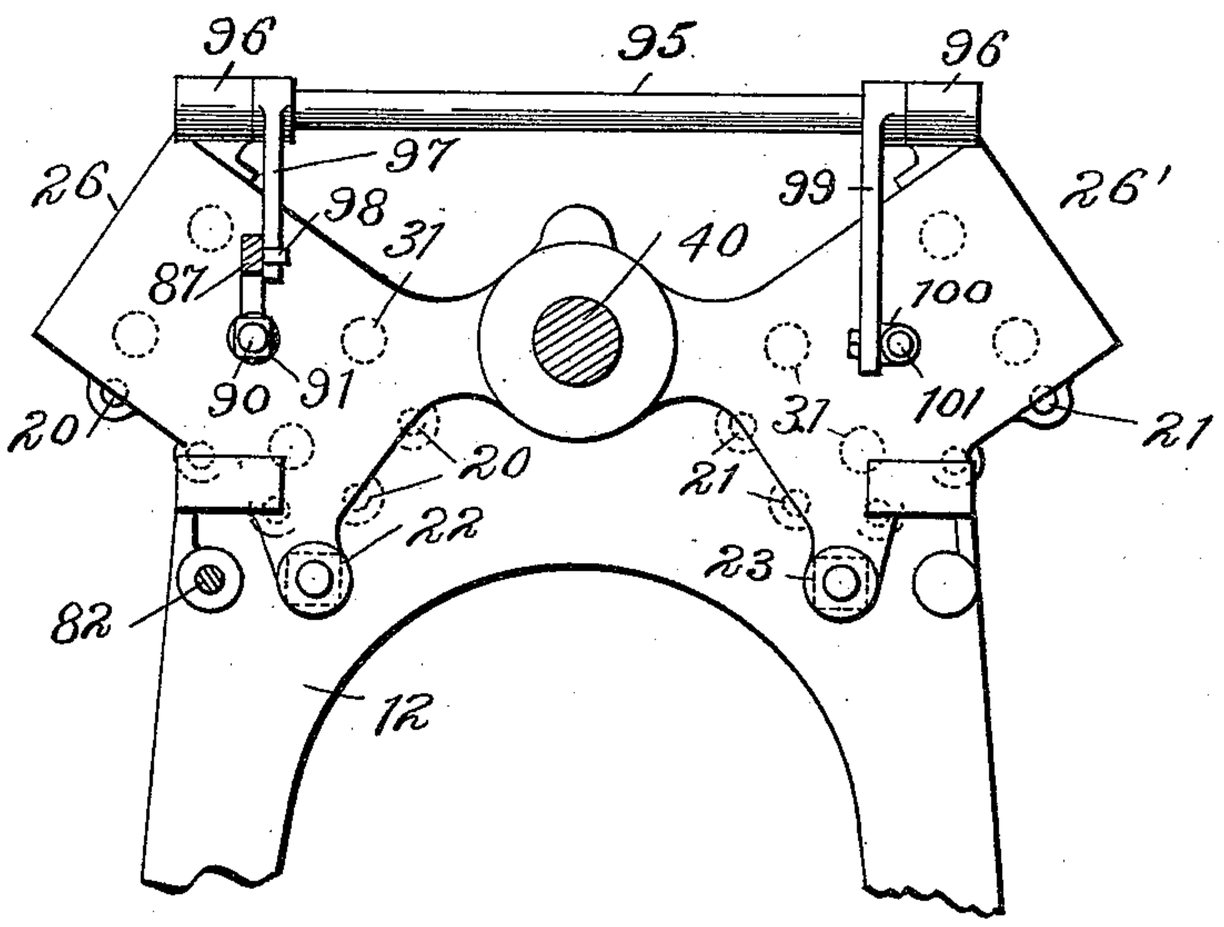


Fig. 5.

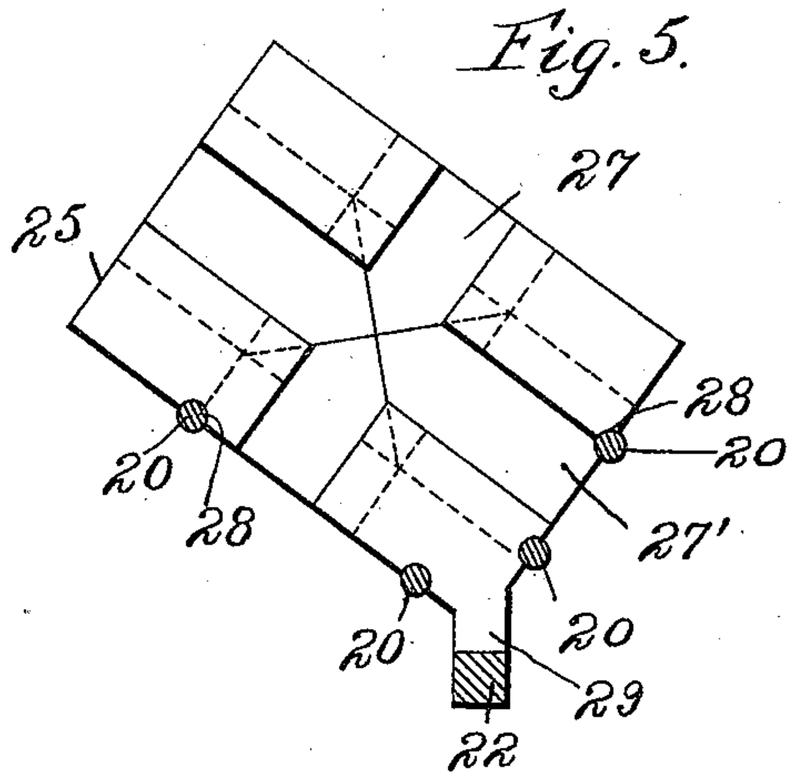
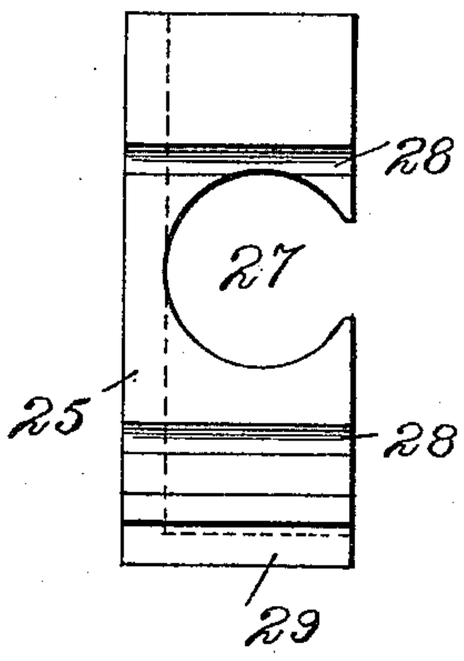


Fig 6.



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UNITED STATES PATENT OFFICE.

TALBOT C. DEXTER, OF PEARL RIVER, NEW YORK.

BUNDLING-PRESS.

No. 819,983. Specification of Letters Patent. Patented May 8, 1906.

Application filed May 25, 1905. Serial No. 262,229.

To all whom it may concern:

Be it known that I, TALBOT C. DEXTER, a citizen 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.

My present invention relates to improvements in mechanically-operated presses for compactly bundling sheets or signatures into convenient form for storing.

More particularly my invention relates to improvements in automatic tripping mechanism for such bundling-presses, whereby the power is thrown out and the action of the press is arrested when the compression has reached a certain predetermined degree.

My improvements are particularly applicable to a double bundling-press in which two bundles of sheets or signatures can be simultaneously compressed; but my improvements may be applied effectively to a single bundling-press.

My invention consists of novel features of construction and combinations of elements for effectively accomplishing the desired results, and in order that my invention may be fully understood I will first describe the same with reference to the accompanying drawings and afterward point out the novelty more particularly in the annexed claims.

In said drawings, Figure 1 is a plan view, on a large scale, of a double bundling-press embodying my improvements, parts being broken away. Fig. 2 is a side elevation of the same on a smaller scale. Fig. 3 is an end view of the same. Fig. 4 is a detail transverse sectional elevation taken on the line X X of Fig. 2 and looking in the direction indicated by the arrows, said view showing parts of the automatic tripping device. Fig. 5 is a face view of one of the compression-heads. Fig. 6 is an edge view of the same.

The framework of my improved bundling-press may be of any suitable form and construction to properly support the operative parts of the mechanism. In constructing a double bundling-press such as shown in the drawings and hereinafter described I prefer to form the frame of three uprights 10, 11, and 12, suitably braced adjacent to their lower ends by tie-rods 13 and 14. An end view of the frame or upright 10 is shown in Fig. 3, and it will be understood that the other uprights 11 and 12 are of substantially the same form, differing slightly in the shape of their upper ends to adapt them to support the bundling-troughs, as indicated in Fig. 4.

The frame-pieces 10 and 11 are braced at the top by the brackets or pillow-blocks 15, in which the main power-shaft 16 is suitably journaled. Power-shaft 16 carries upon one end fly-wheel 17 and band-pulley 18, by which the press is operated. This power-shaft 16 also carries suitable gears and clutches for connecting it with the compression-screw, as hereinafter explained.

Supported between the uprights 11 and 12 at their upper ends are two parallel bundling-troughs, each trough being formed of a series of parallel rods or bars 20 or 21, said rods or bars being rigidly secured at their ends in any suitable manner to the frame parts so as to form a rigid structure, including the two bundling-troughs. The bars 20 form one of the troughs and the bars 21 the other.

Arranged directly beneath each of the troughs is a square track-bar 22 or 23, extending parallel with the trough-bars and serving the purpose of assisting in supporting and steadying the compression-heads of both of the bundling-troughs.

Each trough is provided with two compression-heads 25 26 and 25′ 26′, between which the sheets or signatures are compressed by the action of the machine. Each compression-head is formed in its compression-face with the intersecting slots 27 and 27′, which expand interiorly into circular enlargements to facilitate the operation of passing the binding-cords around the bundles. The compression-heads are also each formed with grooves 28 in their edges to fit upon the trough rods or bars 20 21 and with integral downwardly-projecting ribs or flanges 29. The rib or flange 29 of each compression-head rests upon the upper face of one of the track-bars 22 23, so as to assist in supporting the trough-head in its angular position in the trough and at the same time provide a guide along which the rib or flange slides when the compression-head is moved.

The compression-heads 25 and 25′, arranged one in each of the bundling-troughs, are independent of each other. These heads 25 and 25′ rest normally against compression-springs 30, which are supported in holes or pockets 31, drilled into the inner face of the frame-upright 11. Rods or bolts 25ª project from the heads 25 25′ through openings in the upright 11 and have nuts on their ends to confine the heads in position. The springs

30 normally support the compression-heads 25 and 25′ a slight distance away from the face of the upright 11, the springs being of sufficient strength to withstand the degree of compression which it is desired to apply to the bundles placed under compression. When the limit of the strength of the springs is reached in the compressing operation of the machine, said springs will yield and be compressed, so as to allow the heads 25 and 25′ to independently approach the face of the upright 11, with the result that either one or both of said heads will actuate the tripping mechanism for disconnecting the power and stopping the compression of the bundles. This tripping mechanism will hereinafter be fully explained.

The other of the compression-heads 26 and 26′, which may be called the "traveling" compression-heads, are united into an integral rigid structure by means of a bridging portion 35, which extends between the two heads, as shown in Fig. 1 of the drawings. This bridging portion 35 connects adjacent corners of the heads 26 and 26′, forming, in effect, a compound head, the two portions of which are adapted to operate in unison to compress the bundles in both troughs simultaneously.

40 is the compression-screw, which is suitably journaled adjacent to its opposite ends in bearings formed in the upper parts of the frame-uprights 11 and 12, one bearing being shown at 41 and the other at 42. This compression-screw 40 is threaded through a suitable nut 43, rigidly secured in the suitable opening extending through the bridging or connecting portion 35 of the connected compression-heads, so that the rotation of the screw will cause the two traveling compression-heads to move in the parallel troughs as a single structure.

Within the bearing 42 of the upright 11 the screw 40 is provided with a thrust-bearing collar 45, which is shrunk or otherwise securely fastened to the screw, so as to rotate with the screw in the bearing-socket of the frame. A capping-plate 46 of ring form surrounds the screw 40 and is securely fastened within the recess 47 against the inner face of the upright 11 by means of bolts 48, so as to securely confine the thrust-bearing collar 45 in its bearing-socket, and thereby effectively prevent the longitudinal displacement of the screw 40.

50 is a bevel-gear keyed to the power end of the screw 40. This gear 50 is in constant mesh with two similar bevel-gears 51 and 52, which are loosely journaled upon the power-shaft 16, above referred to, each gear 51 and 52 being arranged adjacent to one of the shaft-bearings 15.

Combined with each of the loosely-mounted gears 51 and 52 is a friction band-clutch of ordinary construction, the rim portion 53 or 54 of each clutch being formed integral with or rigidly attached to one of the gear-wheels, while the expansible band portion of each clutch is keyed to the power-shaft and carries the usual pivoted rock-arm 55, which is adapted to be engaged by one of the conical ends of the double clutch-spool 56. This clutch-spool 56 is suitably mounted upon the power-shaft 16 and is capable of sliding longitudinally upon said shaft in either direction to actuate either clutch so as to lock either of the bevel-gears 51 or 52 upon the power-shaft. This double clutch-spool 56 is formed with an annular groove 57, (indicated by dotted lines in Fig. 3,) in which engages the forked lower end of the actuating-arm 58, said arm 58 having an offset 59, formed with a transverse cylindrical socket which fits upon a supporting-rod 60. The socketed offset 59 is securely fastened upon the rod 60, so as to move with said rod. The rod 60 is mounted to slide in bearings 61, formed in the upper ends of bracket-arms 62, which project up from the pillow-blocks 15. The portions of the rod 60 adjacent to its ends which slide in bearings 61 are provided with splines or feathers 63, which operate in feather-grooves within the bearings to prevent the rotary shifting of the rod and to allow the longitudinal shifting of the rod to carry the clutch-spool in either direction.

Surrounding the rod 60 between the offset 59 of the spool-actuating fork and each of the bearings 61 is an expansion spiral spring 64, which springs tend to resist the movement of rod 60 and of the connected actuating-fork in either direction and serve the purpose of returning said parts to their central inactive position for maintaining both clutches in disengaged condition, normally allowing both loose gears 51 and 52 to remain at rest upon the rotating power-shaft. 65 is a hand-lever journaled at 66 upon the upper end of an upright bracket 67, which is secured to the upper edge of the frame-upright 10. This hand-lever 65 has a short longitudinal slot 68, into which projects the pin 69, formed upon the upper end of the spool-actuating fork-arm 58. By means of the hand-lever 65 the spool 56 can be shifted in either direction against the action of one of the compression-springs 64.

Mounted upon the projecting end of the rod 60 at the left of the press is a collar or tappet 70, which is adapted to coact with the latch of the automatic tripping mechanism, presently to be described, for the purpose of holding the clutch-operating mechanism in either of its shifted positions until released by the action of the machine.

The automatic tripping mechanism will now be described. 75 is a latching-lever mounted upon a short shaft 76, journaled upon a bracket 77 at the left-hand side of the machine. This latching-lever 75 has a handle portion 75ª formed at its upper end, so

as to afford convenient means for its manual operation to release the mechanism in case of necessity. Depending from the short shaft 76 is a rock-arm 78, carrying at its lower end a pin 79, which engages in an annular groove formed in a tappet-collar 81, secured to the projecting end of a tripping-rod 82. Tripping-rod 82 passes freely through an opening in the central frame-upright 11 and extends to the rear of the machine adjacent to the end upright 12. Secured to the end of the tripping-rod 82 is a tappet-nut 83. Bolted to the rear face of the traveling compression-head 26 is a downwardly-projecting forked tappet-plate 83ª, arranged to straddle the tripping-rod 82, so that when the compression-head 26 reaches the end of its return stroke after compressing the bundle said forked tappet-plate 83ª will engage the tappet-nut 83 and move the rod 82 rearwardly to actuate the latching-lever, as hereinafter explained. Between the tappet-collar 81 and the frame-upright 11 an expansion spiral spring 84 is confined on the rod 82, so as to give said rod a normal spring tendency to move forwardly and cause latching-lever 75 to move upwardly into engagement with tappet-collar 70. The latching-lever 75 is formed with an arm or offset 85, to which is pivoted at 86 a thrust-arm 87, formed with a downwardly-projecting portion 88, terminating in a cylindrical collar 89, mounted upon a trip-rod 90. The collar 89 is confined upon rod 90 by means of nuts 91. Trip-rod 90 passes freely through a suitable opening formed in the upper abutment portion of the central frame-upright 11, its inner end projecting slightly beyond the face of the abutment in the path of the compression-head 25, so that in the operation of compressing a bundle the movement of head 25 toward its abutment will engage the trip-rod 90 and force it rearwardly, causing the latching-lever 75 to be disengaged from the tappet 70 upon rod 60.

The tripping mechanism so far described is suitable for a bundling-press having a single bundling-trough. It will be clear that in a double bundling-press it is impracticable to quickly supply exactly the same quantity of sheets or signatures to both of the bundling-troughs, so that it is desirable to provide an additional tripping device for controlling the throw-out from the second bundling-press—that is, two independent tripping devices, one actuated by each of the bundles being formed. In my improved machine I provide such independent tripping devices in the manner in which I will now explain. Extending across the machine is a rock-shaft 95, journaled at its ends in suitable brackets 96, secured to the top of the central frame-upright 11. This rock-shaft 95 carries at one end a depending rock-arm 97, which rests behind pin 98, projecting laterally from the thrust-arm 87. Adjacent to the opposite end of the rock-shaft 95 is a depending rock-arm 99, carrying an eyebolt 100, which is confined upon a trip-rod 101 by means of suitable nuts. The tappet-rod 101 projects through the abutment portions of the frame-upright 11 into the path of the compression-head 25′, with the result that when the bundle is being compressed against the head 25′ reaches the desired degree of compression the springs 30, sustaining said head, will yield and allow the head to engage the trip-rod 101 to cause it to rock the shaft 95, with the result that the latching-lever 75 will be actuated to release the clutch. By this means I provide a double bundling-press with a tripping device actuated by the thicker of the two bundles being formed.

The operation of the machine will be clear from the brief description following. The power-shaft is continually rotated, the clutch-spool being normally in central disengaged position to allow both gears 51 and 52 to remain at rest. Under these conditions the compression-screw is also at rest. The compression-heads being in their separated position, the two troughs are filled with sheets or signatures that are to be compressed into bundles. A sufficient quantity of sheets or signatures are placed in each trough to practically fill the space between the compression-heads. The hand-lever 65 is then pushed to the right for locking the gear 51 upon the power-shaft, with the result that compression-screw 40 will be rotated to move the heads 26 and 26′ forward in the parallel troughs. It will be observed that in the position of the parts shown in Fig. 2 the latching-lever 75 is held away from the latching-tappet 70 by reason of the engagement of the tappet-plate 83ª with the tappet-nut 83. In starting the machine it is necessary for the operator to hold onto the starting-lever 65 for an instant to allow head 26 to move tappet-plate 83ª from engagement with nut 83, which disengagement releases the tripping-rod 82 and its spring 84, moves it forwardly, and causes the latching-lever 75 to engage the outer end or face of the tappet 70. The result of this engagement is the locking of the operating mechanism in shifted position. The operator may then release his hold upon the lever 65. The compression-screw 40 will continue to rotate and force the connected heads 26 and 26′ toward the compression-heads 25 and 25′ until one of the heads 25 or 25′ is forced inwardly against the abutment of upright 11, overcoming the resistance of springs 30 and actuating one of the trip-rods 90 or 101 for forcing the latching-lever 75 out of engagement with the tappet 70. The moment lever 75 is disengaged from tappet 70 the right-hand spring 64 will force rod 60 and connected spool 56 to the left for releasing the bevel-gear 51 from the

power-shaft and arresting the advancing action of the compression-screw. The operator then ties the bundles by passing cords around them through the armholes of the compression-heads in the well-known manner. As soon as the bundles have been made secure the operator shifts the lever 65 to the left, throwing into action bevel-gear 52, it being necessary to hold onto the lever for a moment until the pressure upon heads 25 and 25′ is sufficiently released to allow the latching-lever 75 to move up into engagement with the tappet 70. This time the lever 75 engages the inner face of tappet 70 for holding the operating mechanism in its left-hand shifted position. As soon as the latch is engaged the operator may release his hold on the lever, and the compression-screw will continue to rotate in its reverse direction to cause the connected heads 26 and 26′ to return to their normal positions, it being understood that when the connected heads reach their return position the tappet 83ª will engage the tappet-nut 83 and shift the tripping-rod 82 to again disengage the latching-lever 75 from the tappet 70 to allow the left-hand spring 64 to return the clutch-operating parts to their normal central inoperative position. The machine is then ready for a repetition of the described operation.

It will be observed that the clutch which locks the gear 52 to the power-shaft is broader and stronger than the corresponding clutch, which locks gear 51 to the power-shaft. This is for the purpose of insuring sufficient power for releasing the compression-heads after the bundles have been compressed.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a bundling-press the combination of a trough, compression-heads in said trough, operating mechanism for moving one of said heads toward the other, including a clutch, a retracting-spring holding the clutch normally in inoperative position, a latch device holding the clutch in operative position and a tripping device actuated by movement of one of the compression-heads acting on the latch to retract the latch, release the clutch and permit its automatic return to inoperative position.

2. In a bundling-press, the combination of a trough, coacting compression-heads in said trough, reversible operating mechanism for moving one of said heads toward and away from the other, including a reversing clutch and spring for holding said clutch normally in inoperative position, manually-operated means for shifting the clutch to either operative position, a latch device holding the clutch in either position of operative adjustment, and independent tripping devices suitably connected with the latch device and actuated by the movement of the respective compression-heads, to trip the latch, release the clutch device and permit automatic return of the clutch to inoperative position.

3. In a bundling-press, the combination of a trough, compression-heads in said trough, operating mechanism including a clutch, means automatically returning and normally tending to retain the clutch in inactive position, a manually-operated device for shifting the clutch into active position, a latch adapted to hold the clutch in its active position, and a trip suitably connected with and acting directly upon the latch and actuated by the press.

4. In a bundling-press, the combination of a trough, coacting compression-heads in said trough, operating mechanism for moving one of said heads toward the other for compressing a bundle between the heads, a clutch included in the operating mechanism, a manually-operated automatically-released clutch-actuating device, a latching device adapted to hold the clutch-actuating device in its operative position, and a trip suitably connected with and acting directly upon the latching device and actuated by the compression action of the press.

5. In a bundling-press, the combination of a trough, coacting compression-heads movably supported in said trough, power mechanism for moving one of said heads toward and away from the other, a reversible clutch mechanism included in said power mechanism, a manually-operated clutch-actuating device, means for automatically returning the clutch mechanism to inactive position and normally retaining it in said position, a latching device adapted to hold the clutch mechanism in either of its active shifted positions, and means adapted to be acted upon independently by the compression-heads for actuating the latching device to release the clutch mechanism.

6. In a bundling-press, the combination of a trough, coacting compression-heads in said trough, a compression-screw having a gear, a power-shaft carrying a loosely-mounted gear meshing with the gear on the compression-screw, a clutch for locking the loose gear to the power-shaft on which it is carried, a clutch-actuating spool, a spool-shifting arm mounted upon a rod, means for holding said arm and shifting rod in inactive position, a tappet upon said shifting rod, a latching-lever adapted to engage said tappet for holding the shifting rod and connected parts in shifted position, and a tripping device suitably connected with and acting directly upon the latching-lever and mounted in position to be operated by one of the compression-heads.

7. In a bundling-press, the combination of a pair of compression-heads, reversible power and screw mechanism for moving one of said heads toward and from the other, a bundling-trough for supporting matter to be com-

pressed and in which the traveling compression-head slides, a clutch and shifting device therefor, connecting either the direct or reverse power mechanism with the operating-screw, springs automatically retracting the clutch from both the direct and reverse power mechanisms, rendering both inactive, a latch-lever retaining the clutch in either active position in which it is set and a tripping device acting directly on the latch-lever, retracting the same and permitting the automatic return of the clutch to inactive position when a predetermined degree of pressure is reached, substantially as described.

8. In a bundling-press, the combination of a trough, the coacting compression-heads mounted in said trough, a compression-screw having a gear, a power-shaft carrying two loosely-mounted reversely-arranged gears in mesh with the gear of the screw, independent clutches for locking the respective loose gears upon the power-shaft, a double-acting spool adapted to be shifted in two directions, a spool-shifting arm mounted upon a rod, means for holding said arm and shifting rod in inactive position, a tappet upon said shifting rod, a latching-lever adapted to engage said tappet for holding the shifting rod and connected parts in either of its shifted positions, a spring tending to throw said latching-lever into engagement with said tappet, and tripping devices suitably connected with and acting directly upon the latching-lever and mounted in position to be operated by the compression-heads.

9. In a bundling-press, the combination of a trough, the coacting compression-heads movably mounted in said trough, a compression-screw having a gear, a power-shaft carrying two loosely-mounted reversely-arranged gears in mesh with the gear of the screw, independent clutches for locking the respective loose gears upon the power-shaft, a double-acting spool adapted to be shifted in two directions, a spool-shifting arm mounted upon a rod, an operating-lever, automatic return-springs for holding said shifting rod and connected parts in inactive position, a tappet upon said shifting rod, a latching-lever adapted to engage said tappet for holding the shifting rod and connected parts in either of its shifted positions, a spring tending to throw said latching-lever into engagement with said tappet, and tripping devices suitably connected with and acting directly upon the latching-lever and mounted in position to be operated by the compression-heads.

10. In a bundling-press, the combination of a suitable frame, a trough supported by said frame, coöperating compression-heads movably mounted in said trough, operating mechanism including a clutch for causing one of said heads to move toward the other, suitable clutch-actuating means, a rigid abutment upon the frame, springs supported between said abutment and said other compression-head, a latching device adapted to hold the clutch-actuating means in active position, and a tripping device suitably connected with and acting upon the latching device and supported upon said abutment in position to be engaged by the movement of said other compression-head toward the abutment.

11. In a bundling-press, the combination of a suitable frame, a trough supported by said frame, coöperating compression-heads movably mounted in said trough, operating mechanism including a clutch for causing one of said heads to move toward and away from the other, suitable clutch-actuating means, a rigid abutment upon the frame, springs supported between said abutment and said other compression-head, a latching device adapted to hold the clutch-actuating means in active position, a tripping device suitably connected with and acting upon the latching device and supported upon said abutment in position to be engaged by the movement of said other compression-head toward the abutment, and a second tripping device also connected with and acting upon the latching device and arranged to be actuated by the release movement of the press.

12. In a bundling-press, the combination of a suitable frame, a bundling-trough mounted upon said frame, a traveling compression-head supported in said trough, operating mechanism for said traveling compression-head including a clutch, suitable clutch-actuating means, a latching device adapted to hold the clutch-actuating means in its operative position, an abutment upon the frame, a second compression-head mounted in said trough adjacent to said abutment, springs supported between said abutment and said second compression-head, a tripping-rod supported upon said abutment and projecting into the path of said second compression-head, a suitable connection between said tripping-rod and the latching device, another tripping-rod suitably connected with the latching device, and a tappet upon said other tripping-rod supported in the path of the traveling compression-head and adapted to be actuated by the return movement of said head.

13. In a bundling-press, the combination of a suitable frame, a bundling-trough mounted upon said frame, a traveling compression-head supported in said trough, operating mechanism for said traveling compression-head including a clutch, suitable clutch-actuating means, a spring-actuated latching-lever adapted to hold the clutch-actuating means in its operative position, an abutment upon the frame, a second compression-head movably mounted in said trough adjacent to said

abutment, a tripping-rod supported upon said abutment and projecting into the path of said second compression-head, a suitable connection between said tripping-rod and the latching-lever, a rock-arm connected with the latching-lever, a second tripping-rod connected with said rock-arm and projecting parallel with the trough to a point adjacent to the retracted position of the traveling compression-head, a tappet upon said second tripping-rod, a tappet upon the traveling compression-head engaging the tappet upon the tripping-rod, and an operating-lever.

14. In a bundling-press, the combination of a trough, coacting compression-heads movably mounted in the trough, power mechanism for moving one of said heads toward and away from the other, a clutch included in the power mechanism, clutch-actuating means including a shiftable tappet-rod, means for normally retaining the clutch-actuating means in inactive position, a spring-actuated latching-lever adapted to engage the tappet of said shiftable rod for holding the clutch-actuating means in active position, a trip-rod supported in the path of one of the compression-heads, and a thrust-arm connecting said trip-rod with the latching-lever.

15. In a bundling-press, the combination of a suitable frame, a bundling-trough mounted upon said frame, a traveling compression-head supported in said trough, operating mechanism for said traveling compression-head including a clutch, automatically-released clutch-actuating means, a spring-actuated latching-lever having a projecting portion suitable for a hand-grip and adapted to hold the clutch-actuating means in its operative position, a second compression-head also mounted in said trough, a tripping-rod supported in the path of one of the compression-heads, and a suitable connection between said tripping-rod and the latching-lever.

16. In a bundling-press, the combination of a suitable frame, a bundling-trough mounted upon said frame, coöperating compression-heads supported in said trough, a compression-screw arranged to move one of said heads toward and away from the other, a power-shaft, reversible gearing between said power-shaft and said screw, double-acting clutch mechanism included in said reversible gearing, a clutch-actuating mechanism including a sliding rod and a clutch-actuating arm mounted upon said rod, bearing-brackets in which said rod is mounted, springs upon said rod confined upon opposite sides of said clutch-actuating arm between said brackets, an operating-lever engaging said clutch-actuating arm, a latching device adapted to engage said rod, and a tripping device suitably connected with the latching device and arranged to be actuated by the press.

17. In a bundling-press, the combination with a pair of parallel bundling-troughs, compression-heads mounted in said troughs, power mechanism for moving the compression-heads together, throw-out mechanism for said power mechanism including independent tripping devices actuated by the compression-heads in the two troughs, and a releasing device suitably connected with both of said independent tripping devices.

18. In a bundling-press, the combination with a pair of parallel bundling-troughs, coacting compression-heads mounted in each of said troughs, a power-shaft suitably geared with one of the compression-heads in each trough, clutching mechanism for reversing the action of the power mechanism, a latching-lever adapted to hold the reversing mechanism in either of its active shifted positions, a tripping-rod suitably connected with said latching-lever and mounted in position to be actuated by a compression-head of one of the troughs, a rock-shaft having a rock-arm which engages a part connected with said latching-lever, and a second tripping-rod suitably connected with said rock-shaft and supported in position to be actuated by a compression-head in the other trough.

19. In a bundling-press, the combination with a pair of parallel bundling-troughs, compression-heads mounted in said troughs, power mechanism for moving the compression-heads together, throw-out mechanism for said power mechanism, two independent tripping devices actuated by the compression action of heads in the two troughs, a third tripping device actuated by the return or releasing action of a head in one trough, and a releasing device suitably connected with all of said independent tripping devices and with said throw-out mechanism.

20. In a bundling-press, the combination with a pair of parallel bundling-troughs, coacting compression-heads mounted in each of said troughs, a power-shaft suitably geared with one of the compression-heads in each trough, clutching mechanism for reversing the action of the power mechanism, a latching-lever adapted to hold the reversing mechanism in either of its active shifted positions, a tripping-rod suitably connected with said latching-lever and mounted in position to be actuated by the compression action of a head in one of the troughs, a rock-shaft having a rock-arm which engages a part connected with said latching-lever, a second tripping-rod suitably connected with said rock-shaft and supported in position to be actuated by the compression action of a head in the other trough, and a third tripping-rod suitably connected with the latching-lever and arranged to be actuated by the release or return movement of one of the compression-heads.

21. In a bundling-press, the combination of a suitable frame, two parallel bundling-

troughs supported by said frame, a pair of rigidly-connected traveling compression-heads operated in said parallel troughs, a compression-screw arranged to operate said connected compression-heads, operating mechanism for said screw including a clutch, suitable clutch-actuating mechanism, means for automatically returning the clutch-actuating mechanism to inactive position, a latching device adapted to hold the clutch-actuating mechanism in its active position, an abutment upon the machine-frame, independent compression-heads mounted in said troughs adjacent to said abutment, springs supported between said abutment and said independent heads, independent tripping-rods mounted in said abutment in position to be engaged and operated by said independent heads, and suitable devices connecting said tripping-rods with the latching device.

22. In a bundling-press, the combination of a pair of parallel troughs, coacting compression-heads movably mounted in each of said troughs, power mechanism for moving one of the compression-heads of each trough toward and away from the other head of each trough, a clutch included in the power mechanism, clutch-actuating means including a shiftable rod carrying tappets, means for normally retaining the clutch-actuating means in inactive position, a spring-actuated latching-lever adapted to engage the tappet of said shiftable rod for holding the clutch-actuating means in active position, independent tripping-rods one of which is supported in the path of one of the compression-heads of each trough, a thrust-arm connecting one of said tripping-rods with the latching-lever, a rock-shaft carrying two rock-arms, a pin or lug upon said thrust-arm engaged by one of said rock-arms, and a connection between the other rock-arm and the other tripping-rod.

TALBOT C. DEXTER.

Witnesses:
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