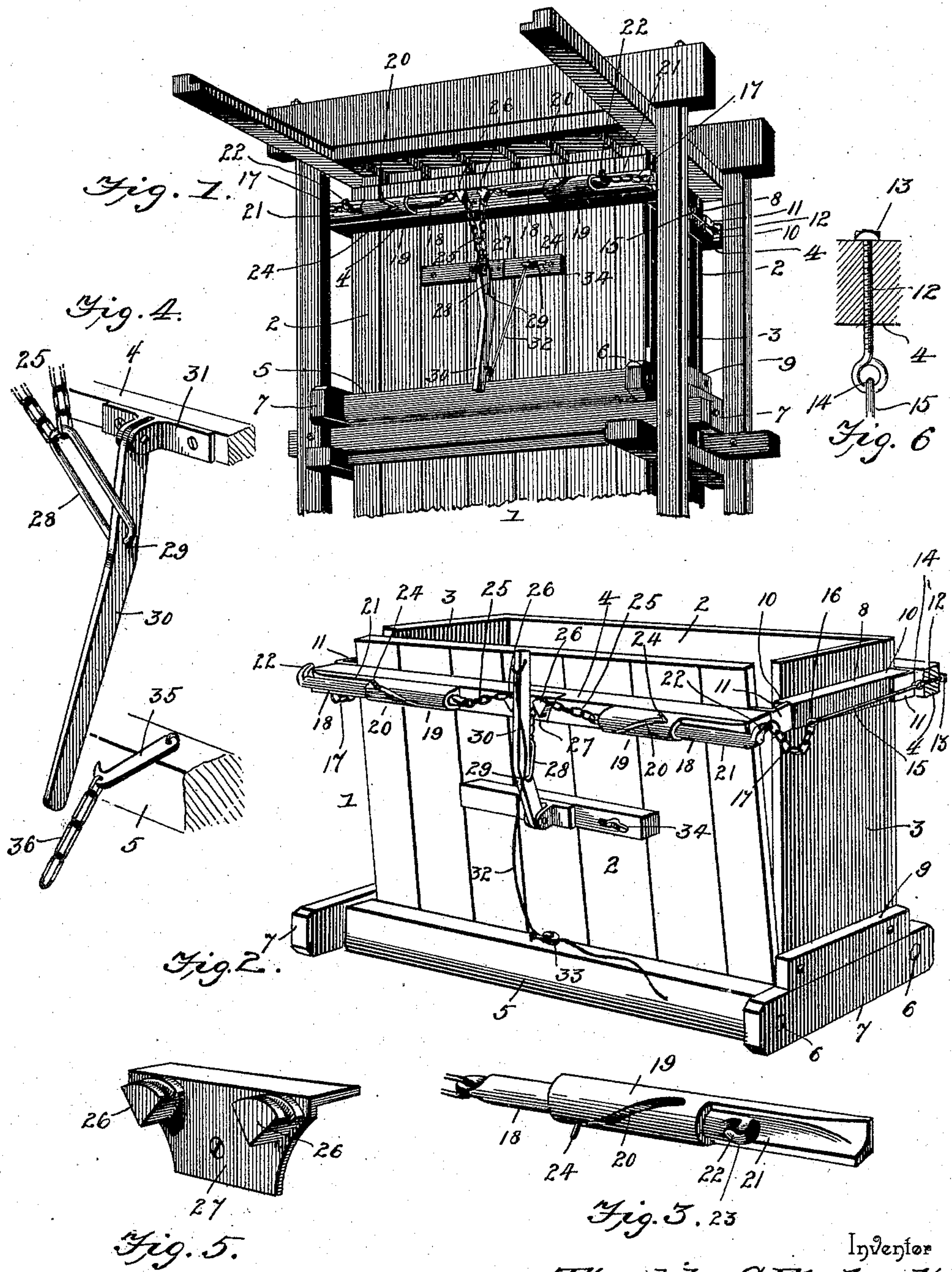


(No Model.)

T. C. EBERHARDT.
DOOR FASTENING FOR BALING PRESSES.

No. 575,340

Patented Jan. 19, 1897.



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UNITED STATES PATENT OFFICE.

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DOOR-FASTENING FOR BALING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 575,340, dated January 19, 1897.

Application filed April 23, 1896. Serial No. 588,717. (No model.)

To all whom it may concern:

Be it known that I, THEOPHILUS CHARLES EBERHARDT, a citizen of the United States, residing at Anniston, in the county of Calhoun and State of Alabama, have invented a new and useful Door-Fastening for Baling-Presses, of which the following is a specification.

This invention relates to door-fastenings for baling-presses; and it has for its object to provide a new and useful fastening of this character which shall be simple in construction and efficient in operation, while at the same time providing a fastening device which shall lock the doors of the baling-chamber of a press firmly in position during the baling operation, and also providing for relieving the sides of the baling-chamber from undue friction or pressure during the latter part of the baling operation.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a perspective view of the baling-chamber of a baling-press closed and equipped with the herein-described fastening. Fig. 2 is a similar view showing the parts of the fastening adjusted to admit of the opening of the baling-chamber. Fig. 3 is an enlarged detail in perspective of one of the oscillatory sliding locking-bolts and the casing therefor. Fig. 4 is a detail view illustrating a modified form of fastening for the free end of the fastening-lever. Fig. 5 is a detail in perspective of the guide for the adjusting-chains. Fig. 6 is an enlarged detail sectional view of the eyebolt connection.

Referring to the accompanying drawings, 1 designates the upper part of a cotton or similar press-box, which is usually termed the "baling-chamber" thereof, and this baling-chamber essentially comprises the opposite swinging side doors 2 and the opposite end doors 3. The side doors 2 of the baling-chamber are provided on the outer sides with the upper and lower battens or cross-rails 4 and 5, respectively, the lower of which battens 5 are provided at their opposite ends with the

journal-spindles 6, mounted to turn in the opposite sill-bars 7 of the baling-chamber, which sill-bars are mounted within the frame of the press in the usual way. The lower battens 5 at the outer lower edges of the side doors 2 form a pivotal support for said side doors, so that the same may swing freely outward to open up the baling-chamber, and also swing up against the side edges of the end doors 3 to hold the latter properly in position. The opposite end doors 3 are designed to fit between the doors 2 at the ends thereof, and are also provided at their outer sides with upper and lower cleats 8 and 9, respectively, the lower of which cleats 9 being adapted to rest on the upper sides of the sill-bars 7 to support the end doors in an upright position, while the upper cleats 8 of the end doors have projecting extremities or ends 10, which extend beyond the side edges of the end doors and overlap the end edges of the side doors to fit within the angled clips 11, fitted to the side doors 2 at the ends of the upper battens or cross-rails 4 thereof. The angled clips 11, when engaged with the projecting ends of the cleats 8, provide for securely retaining the end doors properly in position between the side doors when the latter are secured in their upright closed position.

The upper batten or cross-rail 4 of one of the side doors 2 has its ends projected beyond the end edges of the door and has adjustably fitted in said projecting ends the eyebolts 12. The eyebolts 12 carry at the outer sides of the said batten the adjusting-nuts 13 and are sufficiently long to admit of a material adjustment by means of the said nuts. At their inner ends the adjustable eyebolts 12 have loosely connected thereto, as at 14, one end of the fastening-rods 15, arranged at opposite ends of the baling-chamber outside of the end doors 3, and the free ends of said fastening-rods 15 have loosely connected thereto at 16 one end of the short connecting-chains 17, which provide a flexible connection between the end fastening-rods 15 and the outer ends of the oscillatory sliding locking-bolts 18, supported at the outer side of the side door opposite to the side door carrying the eyebolts 12.

The locking-bolts 18 are supported to loosely work in the bolt-casings 19, which

casings are secured on the upper batten 4 of one of the doors 2, respectively at opposite ends of the said batten, and each of the casings 19 is provided in its outer side with a spiral slot 20 and at its outer end for a portion of its length with an open portion 21, which accommodates the movement of the catch-hook 22 at the outer end of the bolt 18, working in the casing. The catch-hook 22 at the outer end of each bolt 18 is disposed at right angles to the length of said bolt and is provided with a curved side 23, which facilitates the ready disengagement of the chains 17 therefrom, and each of said bolts 18 is further provided at a point between its ends with a stop-pin 24, working in the spiral slot 20 of the casing, and, while providing for limiting the movement of the bolt, particularly provides means in connection with the spiral slot for partially turning the bolt as the same moves inward or outward, as will be readily understood by those skilled in the art.

The inner ends of the locking-bolts 18 have connected thereto one end of the short adjusting-chains 25, which are arranged to pass over the grooved guide-bosses 26, spaced a slight distance apart and projected from one side of an attachment-plate 27, fastened on the upper batten 4 of one of the doors 2 between the two bolt-casings 19, and the said chains 25 pass downward between the bosses 26 and connect with one end of a link 28, the other end of which link is pivotally connected at 29 to a fastening-lever 30 at a point adjacent to one end thereof. The end of the lever 30, adjacent to the connection of the link 28 therewith, is pivotally mounted on a bracket-plate 31, suitably attached to the side door at a point below the batten 4, carrying the locking-bolts, and the other free end of said lever is illustrated as having connected therewith one end of the securing-rope 32, which rope passes around a guide-pulley 33, arranged on the lower batten 5 of the door carrying the bolts and is adapted to be wrapped on a suitably-arranged rope-cleat 34 or secured to any other suitable point of attachment to provide for holding the lever 30 in its adjusted position.

Other securing means may be used in connection with the free end of the lever 30, such as illustrated in Fig. 4 of the drawings. In this figure of the drawings a securing-hook 35 is substituted for the rope 32 and is loosely attached to the lower batten 5 referred to at the point where the pulley 33 is arranged, and the free end of said hook is adapted to engage over the free end of the lever 30, when thrown downward, to fasten the doors of the baling-chamber. The free end of said hook 35 is also illustrated as having connected thereto a short chain 36, the links of which are adapted to be slipped over the free end of the lever 30 to provide for securing the same in different adjusted positions for the purpose to be more particularly referred to.

In using the door-fastening herein described

the end doors of the baling-chamber are placed in position on the sill-bars 7, and the side doors are closed so as to hold therebetween the end doors in the manner as described. The lever 30 is raised to allow the locking-bolts to be drawn outward toward the ends of the side door carrying the same, and in thus being moved outward the pins and slots 24 20 will provide for partially turning the bolts so that the catch-hooks at the ends thereof will be turned inward at the ends of the upper batten 4 of said side door and in a proper position to readily receive the free end links of the short connecting-chains 17. By now drawing the lever 30 downward the bolts 18 are drawn inward and are partially turned so as to dispose their catch-hooks in an outward direction for securely holding the chains 17 in engagement therewith, and when the lever 30 is thrown downward to its limit of movement the free end thereof is secured either by means of the securing-rope 32 or the securing-hook 35.

As the cotton or other material is being pressed into the baling-chamber of the press-box considerable friction or pressure occurs during the latter part of the baling operation on account of the cotton or other material pressing against the sides of the baling-chamber, and as soon as the attendant observes that such undue friction or pressure is taking place the lever 30 is partially released, so as to allow the bolts 18 to slide outward toward the ends of the side doors, whereby the side doors will yield to the strain and relieve the pressure within the baling-chamber, as will be readily understood. In partially releasing the lever 30 this may be accomplished by either paying out a part of the rope 32 and again securing the same or by engaging the free end of the lever with any one of the links of the chain 36. After the cotton or other material has been sufficiently compressed the lever 30 is entirely released, so as to allow the bolts 18 to slide outward to their full limit of movement to permit the chains 17 to be readily disengaged from the catch-hooks 22, thereby allowing the doors to be thrown entirely open for the purpose of tying and finally removing the finished bale.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a door-fastening for baling-presses, a pair of locking-bolts slidably supported on one of the side doors of the baling-chamber of a press and provided at their outer ends with approximately right-angularly-disposed catch-hooks, means for simultaneously drawing both bolts in an inward direction, and fastening-rods rigidly connected at one end with the opposite side door of the baling-

chamber and having flexible connections engaged by said catch-hooks and drawn taut by the inward movement of the bolts, substantially as set forth.

5 2. In a door-fastening for baling-presses, a pair of oscillatory locking-bolts slidably supported on one of the side doors of the baling-chamber of a press and provided at their outer ends with catch-hooks, means for partially
10 turning and drawing said bolts inward, and suitable connections between said catch-hooks and the opposite door of the baling-chamber, substantially as set forth.

15 3. In a door-fastening for baling-presses, a pair of locking-bolts slidably supported on one of the side doors of the baling-chamber of a press and provided at their outer ends with catch-hooks, means for partially turning and sliding said bolts inward, fastening-rods
20 adjustably connected at one end with opposite ends of the opposite side door of the baling-chamber outside of the end doors of said chamber, and short connecting-chains connected with the free ends of said rods and
25 adapted to also detachably engage with said catch-hooks, substantially as set forth.

4. In a door-fastening for baling-presses, a pair of horizontally-alined bolt-casings secured on the outer side of one of the side doors
30 of the baling-chamber of a press at opposite ends thereof, each of said casings being open at one end for a portion of its length and provided in its outer side with a spiral slot, a locking-bolt mounted to slide in each of said

casings and provided at an intermediate point 35 with a pin working in said slot and at its outer end with a right-angularly-disposed catch-hook having a rounded side, means for sliding said bolts inward, and fastening-rods adjustably connected at one end with the opposite ends of the opposite side door and carrying at their free ends short connecting-chains adapted to detachably engage with said catch-hooks, substantially as set forth.

5. In a door-fastening for baling-presses, a 45 pair of oscillatory locking-bolts slidably supported on one of the side doors of the baling-chamber of a press and provided at their outer ends with catch-hooks, suitable connections between said catch-hooks and the opposite 50 door of the baling-chamber, a fastening-lever pivotally mounted at one end on one of said side doors below said bolts, suitable guides arranged between the inner ends of the two bolts, flexible connections passing over said 55 guides and connected with said inner ends of the bolts and also with said lever, and suitable securing means for fastening the free end of said lever in different positions, substantially as set forth. 60

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THEOPHILUS CHARLES EBERHARDT.

Witnesses:

H. E. GIPSON,
R. W. COCHRAN.