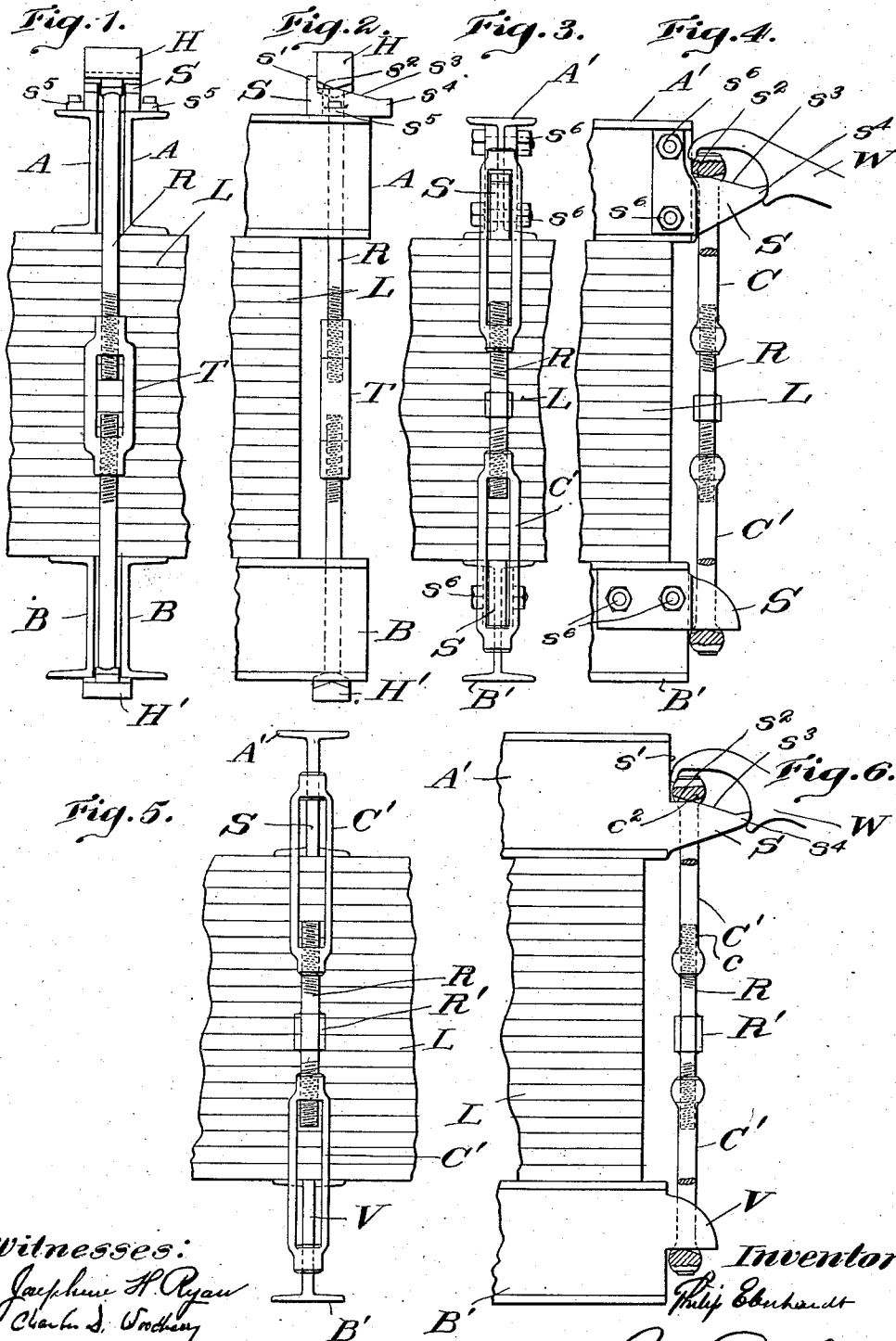


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RETAINING DEVICE FOR PRESSES.
APPLICATION FILED FEB. 9, 1912.

1,027,189.

Patented May 21, 1912.



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UNITED STATES PATENT OFFICE.

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RETAINING DEVICE FOR PRESSES.

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Specification of Letters Patent.

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Application filed February 9, 1912. Serial No. 676,520.

To all whom it may concern:

Be it known that I, PHILIP EBERHARDT, citizen of the United States, and resident of Arlington, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Retaining Devices for Presses, of which the following is a specification.

My invention relates to retaining devices for presses, and is particularly designed for use in veneer presses in which a large number of glued veneer pieces are arranged in a stack between holding beams upon which the heads of a hydraulic press are brought to bear in order to put the veneer under compression.

The well known practice is first to apply hydraulic pressure, and while the veneers with their holding beams are still in the press, to secure the holding beams at top and bottom of the veneer stack by means of retaining rods which are provided with turn-buckle devices, so that the veneers may be held under pressure by this retaining system and the stack removed from the press to make way for a similar stack of glued veneers. When the time arrives for removing veneers from the retaining devices, the retaining rods are slackened so as to release the veneers from the grip of the holding beams. This may be and has been accomplished by unscrewing the turn-buckle devices, but this practice is defective for the reason that the retaining rods and turn-buckle devices are under high tension, so that it is laborious to relax the retaining rods by this means, and also injurious to the retaining rods themselves, since the threads of the turn-buckle devices are soon worn away by the friction due to unscrewing while the rods are thus strained. Various wedging devices have been employed, the holding wedges for the retaining rods being knocked out when it is desired to release the rod. This, also is an undesirably violent operation.

The releasing devices which form the subject matter hereinbelow described supply the means for quickly, quietly and safely applying and releasing the retaining rods which form an essential part of the system above briefly outlined.

In the drawings hereto annexed, which illustrate examples of retaining devices in which my invention may be embodied,— 55 Figure 1 is a side elevation showing part of a veneer stack, upper and lower holding beams and retaining rods; Fig. 2 is an end elevation of the same; Fig. 3 is a side elevation showing another form of holding 60 beams and retaining rods; Fig. 4 is an end elevation of the form shown in Fig. 3; Fig. 5 is a side elevation showing another modification; and Fig. 6 is an end elevation of the devices illustrated in Fig. 5. 65

Referring to Figs. 1 and 2: L represents the stack of veneers, and A, A, and B, B, upper and lower holding beams, each holding beam comprising two channel iron members placed parallel and back to back with 70 a space between wide enough to admit the retaining rod R. The retaining rod, R, is provided with turnbuckle devices indicated at T and has upper and lower heads, H, H', of such proportions that they bear on the 75 seat, S, and the flanges of the holding beams, B, B, respectively. The seat, S, in the specific form shown in Figs. 1 and 2, is a horse-shoe shaped casting, the two arms of which are spaced apart a distance approximately 80 equal to the spacing between the backs of the channel bars, A, A. The rear end of the seat, S, is formed with an upward projection, s^1 , which constitutes a head stop against which the head H is brought to 85 bear in the act of attaching the retaining devices. The seat S has formed upon it, also, the level portion or dwell, s^2 , a releasing incline, s^3 , sloping outward from the dwell, s^2 , and a stop, s^4 , at the lower end or 90 base of the incline, s^3 . The seat S is immovably attached to the holding beam A by means of screws passing through the lateral ears, s^5 .

When, according to the usual practice, 95 the stack of veneers with several holding beams lying transversely across the stack at top and bottom, is placed under proper compression in a press, the retaining devices are then applied. The workman slips the 100 retaining rod, R, in between the holding beams at top and bottom so that the head, H, rests on the dwell, s^2 , and against the stop, s^4 , while the head, H', bridges the

space between the beams, B, B, below the stack. Holding the head, H, firmly against the stop, s' , the workman then sets the turnbuckle devices, T, so that the retaining rod, R, is secured hand tight in the position shown in Figs. 1 and 2. When all the retaining rods are in place, the stack of veneers with its holding beams and retaining devices is removed from the press.

When the time arrives for taking the veneers out of their confinement between the holding beams, the workman applies a claw or wrench such as W (Fig. 4) to the upper heads, H, giving the heads each an outward pull. These heads are chamfered on their lower or engaging sides so as to have a narrow bearing on the seat S. The instant that this bearing portion of the head, H, is drawn forward off the dwell, s^2 , the head slides down the incline, s^3 , bringing up abruptly on the stop, s^4 , which prevents the retaining rod from being thrown out of position, possibly to injure the workman. The lower head, H', being chamfered to a narrow bearing in a manner similar to that described with reference to the head, H, easily rocks on the beams to the slight extent needed to allow the upper head, H, to slide forward on the incline, s^3 . The turnbuckles T can then easily be slackened if need be and the retaining rods removed from the holding beams.

The above described form of my invention is adapted to use with the channel bar arrangement of holding beams. If, however, I-beams are employed, the form of releasing attachment shown in Figs. 3 and 4 may be used to advantage. In the form illustrated in Figs. 3 and 4 the I-beams, A', B', lie at the top and bottom of the veneer stack, L, the upper beams have a seat, S, which is formed to embrace the web of the I-beam and to be immovably attached thereto as by bolts, s^6 . The portion of the seat which projects from the end of the I-beam consists of a single plate-like projection upon which are formed, as in the instance illustrated in Figs. 1 and 2, a dwell portion, s^2 , an outwardly sloping releasing incline, s^3 , and a stop, s^4 . The releasing rod, R, in this case is formed with right and left handed threads at its ends respectively, threaded into the ends of the slotted heads, C, C'. These heads are shaped generally like an ordinary turnbuckle but only one end of each is threaded to receive the retaining rod, the other end being formed as shown with a chamfered bridge portion which rests upon the dwell, s^2 , of the seat, S. The mode of attachment and removal of this form of retaining rod is substantially the same as that of the form shown in Figs. 1 and 2 and need not further be described. The form of retaining devices which on the whole I am inclined to prefer, is that shown

in Figs. 5 and 6, in which the seat, S, is formed by cutting away portions of the flanges and web of the I beam, A', so as to provide the seat which comprises the dwell, s^2 , the sloping incline, s^3 , and stop, s^4 . In the form here shown the end of the I beam web constitutes the stop, s' , against which the retaining rod head, c , is held when the rod is being placed in position. The bearing part, c^2 , of the rod head, and the two arms, C', of the slotted head are the same in general form as shown in Figs. 3 and 4. The lower I beam may be cut away to form a projection, as V, to engage the head, C'.

I claim:

1. The combination with the holding members of a press, of a retainer rod comprising tightening devices, upper and lower heads, and a seat for one of the heads, immovably attached to a holding beam, and comprising a dwell, a head stop adjacent to the dwell, and a releasing incline.
2. The combination with the holding members of a press, of a retainer rod comprising tightening devices, upper and lower heads, and a seat for one of the heads, immovably attached to a holding beam, and comprising a dwell, a head stop adjacent to the dwell, a releasing incline, and a stop at the base of the incline.
3. The combination with the holding members of a press, of a retainer rod, upper and lower heads into which the rod is threaded right and left handed, said heads being slotted to embrace the head seats, head seats immovably attached to the holding beams, one of said seats comprising a dwell, a head stop adjacent to the dwell, an outwardly sloping releasing incline, and a stop at the base of the incline.
4. The combination with the holding members of a press, of a retainer rod comprising tightening devices, upper and lower heads, and a seat for one of the heads, immovably attached to a holding beam, and comprising a dwell, a head stop adjacent to the dwell, and a releasing incline, the head which engages said seat being chamfered to a narrow bearing on the seat.
5. The combination with the holding members of a press, of a retainer rod comprising tightening devices, upper and lower heads, and a seat for one of the heads, immovably attached to a holding beam, and comprising a dwell, a head stop adjacent to the dwell, a releasing incline, the head which engages said seat being chamfered to a narrow bearing on the seat, and a stop at the base of the incline.
6. The combination with the holding members of a press, of a retainer rod, upper and lower heads into which the rod is threaded right and left handed, said heads being slotted to embrace the head seats, head seats im-

movably attached to the holding beams, one
of said seats comprising a dwell, a head stop
adjacent to the dwell, an outwardly sloping
releasing incline, and a stop at the base of
5 the incline, the head which engages said
seat being chamfered to a narrow bearing
on the seat.

Signed by me at Boston, Massachusetts,
this twenty seventh day of January, 1912.

PHILIP EBERHARDT.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."