O. F. WESTENHISER.

PRESS.

APPLICATION FILED MAY 17, 1915.

1,184,904. Patented May 30, 1916.

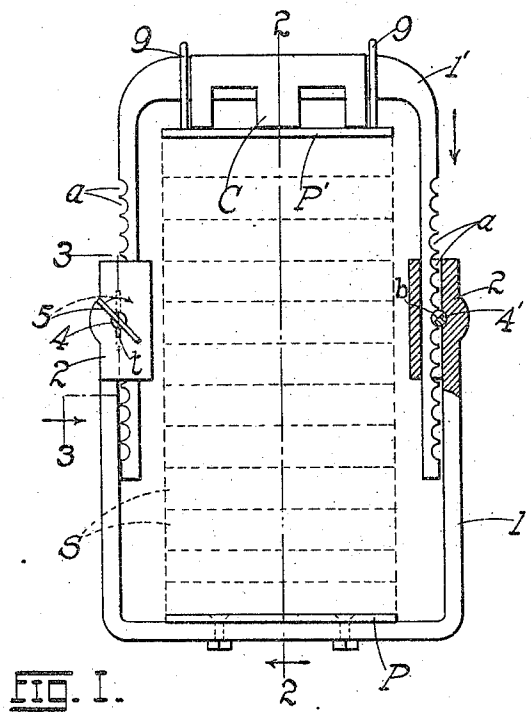


FIG. 1.

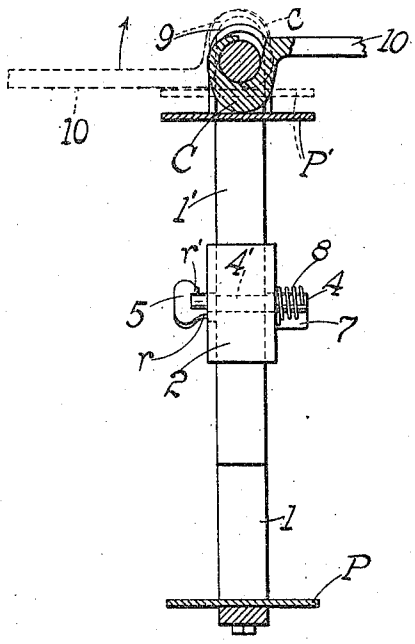


FIG. 2.

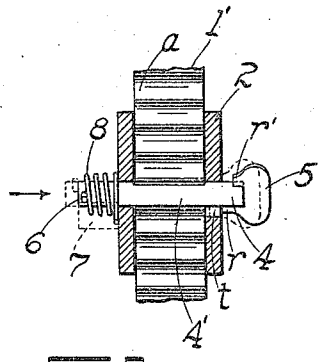


FIG. 3.

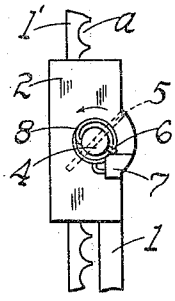


FIG. 4.

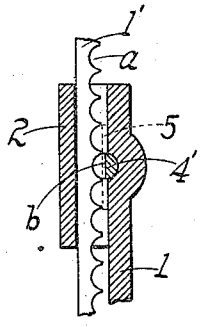


FIG. 5.

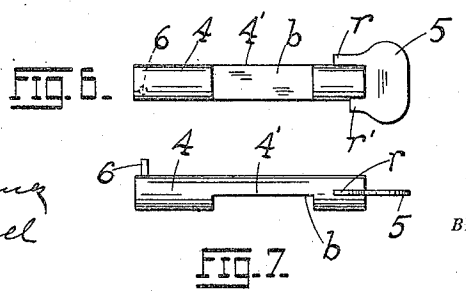


FIG. 6.

FIG. 7.

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PRESS.

1,184,904. Specification of Letters Patent. Patented May 30, 1916.

Application filed May 17, 1915. Serial No. 28,744.

To all whom it may concern:

Be it known that I, OSCAR F. WESTENHISER, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Presses, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in presses; and it consists in the novel features of construction more fully set forth in the specification and pointed out in the claims.

The present is an improvement on a form of press commonly employed for pressing a number of out-soles with their complement of "slips" or linings, for the purpose of cementing the parts together, examples of which press may be found in U. S. Letters Patent numbered 1,098,699, dated June 2, 1914, granted jointly to myself and William P. Jones, the object of the present invention being to provide such a press with a special form of locking or gripping device by which the telescoping members of the press between which the stock is compressed may be held against separation when the final pressure on the stock is applied; to provide a locking device which will permit instantaneous disengagement of the press members when the stock is to be removed; to provide a locking device which may be readily and quickly manipulated and adjusted; to simplify the construction of the press as a whole, and to provide other features of construction the advantages of which will fully appear from the following detailed description of the invention in connection with the accompanying drawings in which—

Figure 1 is a face elevation of the press with parts broken away; Fig. 2 is a longitudinal middle vertical section on the line 2—2 of Fig. 1; Fig. 3 is an enlarged longitudinal sectional detail on the line 3—3 of Fig. 1; Fig. 4 is an elevational view of the loop through which one of the members of the press operates taken from the side opposite that shown in Fig. 1; Fig. 5 is a middle vertical section of the loop in Fig. 4 conforming to the showing on the right hand side of Fig. 1, with the rocker cam or catch however turned to releasing position; Fig. 6 is an inner face view of the rocker spindle carrying the locking cam or catch; and Fig. 7 is a view at right angles to Fig. 6.

Referring to the drawings, 1 represents a U-shaped member the arms whereof are provided with loops or straps 2, and forming with said arms suitable passage-ways for the traverse of the arms of a complementary telescoping U-shaped member 1′, the outer faces of the arms of said complementary member being provided with transverse corrugations *a*. Mounted rotatably in the side walls of the straps 2, about axes disposed parallel to the lingitudinal axes of the corrugations *a* are cylindrical rocker-spindles 4 whose medial portions 4′ are substantially semi-cylindrical, said portions 4′ being approximately D-shaped in cross-section and forming cams or catches operating to engage the corrugations whenever the flat faces *b* of said catches are turned at an angle to the plane of relative movement between the press members 1, 1′. The spindles 4 are loose in their bearings, thereby being susceptible of longitudinal as well as rotary movement, one end of the spindle being provided with a flat wing or lobe 5 disposed parallel to the plane of the face *b*, the sides of the wing where they connect with the spindle forming ribs or tongues *r*, *r*′, respectively, the tongue *r* being the longer of the two. The opposite end of the spindle projecting outside the strap or loop 2 is provided with a pin 6 adapted to engage a stop lug 7 cast on the loop.

Coiled about the spindle 4 at the end opposite from the wing 5 is a combined expansion and torsion spring 8 one end of which is secured to the spindle and the opposite end to the base of the lug 7. Formed in the side wall of the loop 2, and disposed in a plane parallel to the plane of movement of the members 1, 1′, is a recess or socket *t* adapted to be entered by the rib *r* when the spindle 4 is turned to bring the face *b* into parallelism with the plane aforesaid. The base of the member 1 is provided with a platform P for the deposit of the stock S, between which platform and a presser-plate P′ the stock is confined while being pressed. The plate P′ is connected to the upper crossbar of the member 1′ by staples 9, and forced into firm engagement with the stock by the cams C of an actuating lever 10. In the particulars last mentioned the construc-

tion is not unlike that shown in my U. S. Patent 1,126,325 dated January 26, 1915.

The operation of the press is substantially as follows: Normally, the torsion of the spring 8 is such that it turns the spindle 4 through an arc determined by the point of arrest of the pin 6 against the stop lug 7 (Fig. 4). In that position the face *b* of the cam or catch 4′ is at an incline to the plane of movement of the members 1, 1′, (Fig. 1) the wing 5 being inclined in the same direction because parallel to said face. It will be seen that for this position of the cams 4′ (and assuming that the member 1′ is wholly withdrawn from the loops or straps 2) the arms of the member 1′ can be readily inserted into the loops 2, the corrugations riding freely over the faces *b* (inclined to the plane of movement) because the latter are free to yield or turn in response to said inward movement of the member 1′. In this movement therefore the upper cross-bar of the member 1′ with its presser plate P′ can be brought to snugly bear against the stock S, after which by a swing of the lever 10 in proper direction (Fig. 2) the plate P′ is forcibly driven against the stock and the latter compressed, said compression tending to force the members 1, 1′, apart. At this juncture however the rounded surfaces of the cams 4′ engage the corrugations *a* thereby gripping or biting the arms of the member 1′ and preventing slippage between the members 1, 1′. It will be seen that unless the faces *b* of the cams 4′ are substantially parallel to the arms of the member 1′ or to the plane of movement of said member, the latter can not be withdrawn from the straps or loops 2. If however the operator seizes the wing 5 and gives the spindle 4 a sufficient turn to bring the rib or tongue *r* opposite the recess or socket *t*, the expanding force of the spring 8 will automatically draw on the spindle 4 (which as previously described is loose in its bearings) and cause the rib *r* to enter said recess (dotted position in Fig. 3). When that happens, however, the wing 5 and face *b* of the cam 4′ is parallel to the plane of movement of the member 1′ a sufficient clearance being left between the faces *b* and the terminals of the corrugations *a* to permit the ready withdrawal of the member 1′ out of the straps 2 (Fig. 5) and thus release the stock from between the two telescopically connected press members 1, 1′. To again restore the spindles to the positions indicated in Fig. 1 the operator by pushing them with his finger (see arrow in Fig. 3) until the ribs *r* are forced out of their sockets *t*, the torsions of the springs 8 will automatically turn them to bring the parts to the positions indicated. Of course, the member 1′ could be inserted into the loops 2 while the faces *b* of the cams or catches still occupied the position indicated in Fig. 5, after which the spindles could be forced out of engagement with their sockets *t* as described, when the torsion of the springs would turn the cams to locking or gripping position. In practice, however, the cams or spindles are first released, and the operator simply runs the arms of the member 1′ into the loops 2 until arrested by the stock coming in contact with the presser plate P′.

It will be seen from the foregoing that the weighted arms or levers employed in the patented presses referred to and which had the effect of releasing the cams or catches upon an inversion of the apparatus are here dispensed with, and the apparatus is not hampered with undesirable projections, experience demonstrating that the weighted arms were always more or less in the way. The rib *r*′ by engaging the wall of the loop 2 limits the depth to which the rib *r* shall enter the recess or socket *t*. The socket *t* is removed angularly from the end of the arc determining the gripping position of the catch, said angle in the present construction being about forty degrees (Figs. 1, 4), the inclined plane of disposition of the face *b* when the catch 4′ is in gripping position being determined by the arrest of the pin 6 against the lug 7.

Having described my invention what I claim is:

1. In combination with a pair of members connected telescopically with one another, a rotatable catch operating to grip one of the members and prevent movement between the members in one direction, a spring for normally maintaining the catch in its gripping position, and means on the member supporting the catch for maintaining the latter out of engagement with the opposite member.

2. In combination with a pair of members in movable relation to one another, a rotatable catch on one member operating for a certain position to grip the opposite member against movement in a given direction, a torsion spring for rotating the catch to said gripping position, and means for maintaining the catch in releasing position when turned from its gripping position against the tension of the spring.

3. In combination with a pair of press members in slidable relation to one another, a rotatable catch capable of longitudinal movement mounted on one member and operating for a certain arc of rotation thereof to grip the opposite member against movement in a given direction, a combined expansion and torsion spring having one end secured to the catch and the opposite end to the member carrying the same, for normally rotating the catch to gripping position, a recess or socket on the member carrying the catch angularly removed from the end of the arc determining the gripping position of

the catch, and a formation on the catch adapted to enter said socket with a turn through the angle aforesaid, whereby the catch is turned and automatically held to releasing position.

4. In combination with a pair of press members in slidable relation to one another, a rotatable catch capable of longitudinal movement mounted on one member and operating for a certain arc of rotation thereof, to grip the opposite member against movement in a given direction, a combined expansion and torsion spring having one end secured to the catch and the opposite end to the member carrying the same, for normally rotating the catch to gripping position, a recess on the member carrying the catch angularly removed from the end of the arc determining the gripping position of the catch, and a tongue or rib on said catch for automatically entering said recess under the expanding action of the spring when the catch is turned to bring the tongue opposite the recess, the catch being thus brought to releasing position.

5. In combination with a pair of U-shaped members having arms in telescoping relation, the outer faces of the arms of one member being provided with transverse corrugations, a rotatable cam or catch mounted on each arm of the opposite member for engaging the corrugations, said cam being susceptible of longitudinal movement, a combined expansion and torsion spring secured respectively to the cam and to the member carrying the same for rotating the cam to gripping position whereby relative movement of the U-shaped members in a given direction is prevented, a wing on the cam provided with a tongue or rib, and disposed on the end opposite from that of the spring aforesaid, and a recess or socket on the member carrying the cam for receiving the rib, the recess being removed a suitable distance angularly from the end of the arc corresponding to the gripping position of the cam, a pin on the cam adjacent the spring, and a lug on the member carrying the cam for intercepting the pin and thereby arresting the cam in its rotation at a point corresponding to the gripping position of the cam.

6. In combination with a pair of members in movable relation to one another, a combined rotatable and longitudinally movable catch on one member operating for a certain position to grip the opposite member against movement in a given direction, and means on the member supporting the catch for maintaining the latter out of engagement with the opposite member for another position of the catch.

In testimony whereof I affix my signature, in presence of two witnesses.

OSCAR F. WESTENHISER.

Witnesses:

EMIL STAREK,

ELSE M. SIEGEL.

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