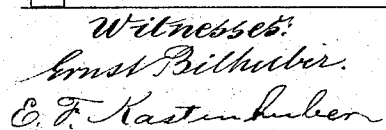
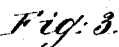


Cotton-Presses.

Patented March 18, 1873.



Inventor:
Benjamin F. Martin
Van Santwood & Hart
1874

UNITED STATES PATENT OFFICE.

BENJAMIN G. MARTIN, OF NEW YORK, N. Y.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. 136,846, dated March 18, 1873.

To all whom it may concern:

Be it known that I, BENJAMIN G. MARTIN, of the city, county, and State of New York, have invented a new and useful Improvement in Presses for Cotton and other articles; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a sectional side view of this invention. Fig. 2 is a plan or top view of the same. Fig. 3 is a similar view of a modification of the same.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of two or more swivel-braces, which are secured at one end in a disk that revolves in the head-block of the press, while their other ends are secured in a slide which carries one or more pawls that engage with ratchet-teeth cut in the stem of the follower in such a manner that, by turning the disk in one direction the follower is forced toward the foot-block of the press with great power, and by turning the disk in the opposite direction the slide is drawn back and the pawls are enabled to take a fresh grip ready for the subsequent forward motion of the follower. On the head-block of the press are secured stop-pawls which prevent the follower from receding when the disk is turned back. Both the stop-pawls and the moving-pawls are connected to levers which serve to throw them in or out of gear with the ratchet-teeth of the stem of the follower.

In the drawing, the letter A designates the head-block of my press which connects by rods B with the foot-block C. The rods B form the guides for the platform D and for a slide, E, and in the head-block is fitted the hub F of a disk, G, in such a manner that said disk can be freely revolved in either direction while it is prevented from becoming detached from said head-block. In the surface of the disk are formed bearings, *a*, for two or more swivel-braces, H, and similar bearings, *b*, are provided in the surface of the slide E, the ends of the swivel-braces being made spherical, as shown, while the bearings *a* and *b* are of such a nature that they allow the braces H to as-

sume a horizontal or an inclined position. If the disk G is turned so as to bring the swivel-braces in a horizontal position the slide E is forced away from the head-block; and if the disk is turned so as to bring the braces in an inclined position (see Fig. 2) the slide E is drawn toward the head-block. A lever I serves to turn the disk in either direction. From the follower D extends a stem, J, through the slide E and through a hole in the center of the disk G, and in the sides of this stem are cut ratchet-teeth, *c*, which point toward the head-block. On the slide E are secured two pawls, K K, which are situated on opposite sides of the stem and connect by rods, *d d*, with a lever, N. This lever is subjected to the action of a spring, *e*, which has a tendency to retain the same in such a position that pawls K K are kept in gear with the ratchet-teeth *c* on the stem of the follower; but by moving said lever against the action of its spring both said pawls are thrown out of gear with the ratchet-teeth *c*. From the head-block A project two standards, *f*, in which are secured pawls L L. These standards are situated on opposite sides of the stem J and the pawls L L are connected to a lever, M, which is subjected to the action of a spring, *g*, whereby said pawls are held in gear with the teeth on the stem J. By depressing the lever M against the action of its spring the pawls L L can be thrown out of gear with the teeth on the stem. The material to be pressed is placed between the follower D and the foot-block C, and by turning the disk G in the proper direction the follower is forced up toward the foot-block by the action of the swivel-braces H. In this position the follower is retained by the stop-pawls L L, while the slide E, with the working-pawls K K, is caused to move back by reversing the motion of the disk G. The working-pawls are thus enabled to take a fresh gripe in the teeth on the stem of the follower, and if the disk G is again turned forward the follower is forced again toward the foot-block, and by repeating this operation the material between the follower and the foot-block can be compressed to any desired degree. After the desired pressure has been exerted the pawls K K and L L are thrown out of gear with the teeth on the stem of the follower, and the follower is moved back by

tackle-blocks and pulleys, or by any other suitable means ready for a subsequent charge. This press is comparatively simple in its construction, the stem of the follower is steadied in the slide E and in the head-block A, and the swivel-braces on being brought from an inclined to a horizontal position act on the slide E with an immense power without producing much friction, so that a comparatively small force is required to move the follower with very great power toward the foot-block of the press.

Instead of using only one set of swivel-braces, as shown in Figs. 1 and 2, I can use two sets, as shown in Fig. 3. In this case the disk G connects with the head-block A by one set of swivel-braces H^c, and with the slide E by another set, H. The stem of the follower is made round and it forms a guide for the disk G. The pawls K K and L L may be so constructed that they grip the surface of the stem J, or said stem may be provided with ratchet-teeth as previously described. By employing two sets of swivel-braces the motion of the follower is doubled for each stroke of the disk G, while the power of the press is not dimin-

ished, and consequently a press is obtained which works more rapidly than the one with a single set of swivel-braces.

What I claim as new, and desire to secure by Letters Patent, is—

1. The follower D, with its centrally-located stem J, provided with ratchet-teeth, in combination with the swivel-braces H, disk G, and slide E, and with the head-block of a press, substantially in the manner herein shown.

2. The combination of the follower D with its centrally-located stem J, provided with ratchet-teeth and working-pawls K K, and stop-pawls L L, swivel-braces H, disk G, slide E, and head-block A, substantially as set forth.

3. The releasing-levers N M in combination with the pawls K K L L, swivel-braces H, slide E, follower D with its centrally-located ratchet-stem J, and the head-block A of a press, substantially in the manner and for the purpose shown and described.

B. G. MARTIN.

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.