

UNITED STATES PATENT OFFICE.

EUGENE DUCHAMP, OF ST. MARTINSVILLE, LOUISIANA.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. **19,413**, dated February 23, 1858.

To all whom it may concern:

Be it known that I, EUGENE DUCHAMP, of St. Martinsville, in the parish of St. Martin's and State of Louisiana, have invented a new and Improved Press for Compressing Cotton and other Substances or Articles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, said drawing being a side sectional elevation of my improvement.

The object of this invention is to obtain, by the most simple means and one that may be operated with the least possible degree of friction, a progressive or variable power, so that the power is increased and the speed correspondingly decreased as power is required, and the power decreased and speed correspondingly increased as a gradually less or diminishing power is required. Provision is also made for the adjustment of the plungers or followers, whereby the relative working distance between them may be increased or diminished, as occasion may require.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A is a frame constructed in any proper manner to support the working parts.

B C represent the plungers or followers, which work within a proper press-box placed in the frame. The plunger B is connected by a strap, D, with a lever, E, the fulcrum of which is at *a*, the strap D being pivoted to both the follower and to the lever. The outer end of the lever E is connected by a lever, F, with one end of a link or plate, G', which is fitted on an axis, *b*, in the frame A. The other and lower plunger, C, is arranged precisely similar, a strap, H, connects it with a lever, I, which has its fulcrum at *c*, and the outer end of the lever I is connected by a lever, J, with the link or plate G, the two levers J F being connected to opposite ends of the link or plate G, as shown clearly in the drawing. To the center of the link or plate G there is attached a lever, K.

From the above description of parts it will be seen that when the lever K is in a vertical position, the two plungers B C will be at the

greatest distance apart, and that in depressing the lever K or bringing it down to a horizontal position the two plungers will be made to approach each other with a gradually-decreasing speed, for when the plungers are at their greatest distance apart the link or plate G will be in a horizontal position, and the levers F J being first moved when their points of attachment *i i* with the link or plate are such that the levers F J will be acted upon in a direct manner, the plungers B C will be moved comparatively quick, the speed, however, gradually decreasing as the points of attachment *i i* approach a vertical line passing through the axis *b*, it being of course seen that the points of attachment *i i* move in the path of circle, and consequently the action of the link or plate G, when the levers F J becomes gradually less direct as the plate approaches the position above alluded to, and as the speed decreases the power of course correspondingly increases.

I would remark that power may be applied to the lever K in any proper way through the intervention of a windlass or direct, as circumstances may require.

In case articles are to be recompressed, the plungers B C may be adjusted the required distance apart by placing the pins *d*, which connect the levers E I, with the straps in either of a series of holes, *e*, made through the straps D H.

I am aware that presses have been devised in various ways, so that the plungers may be operated by a progressive power, and levers variously arranged have been used for such purpose. I therefore do not claim, broadly, and irrespective of the means employed, thus operating the plungers; but

I do claim as new and desire to secure by Letters Patent—

The arrangement and combination of the link G, levers F J E I, straps D H, and plungers B C, as and for the purposes herein set forth.

EUGENE DUCHAMP.

Witnesses:

EDW. S. MORSE,
F. MOULIN,
M. VOORHEES.