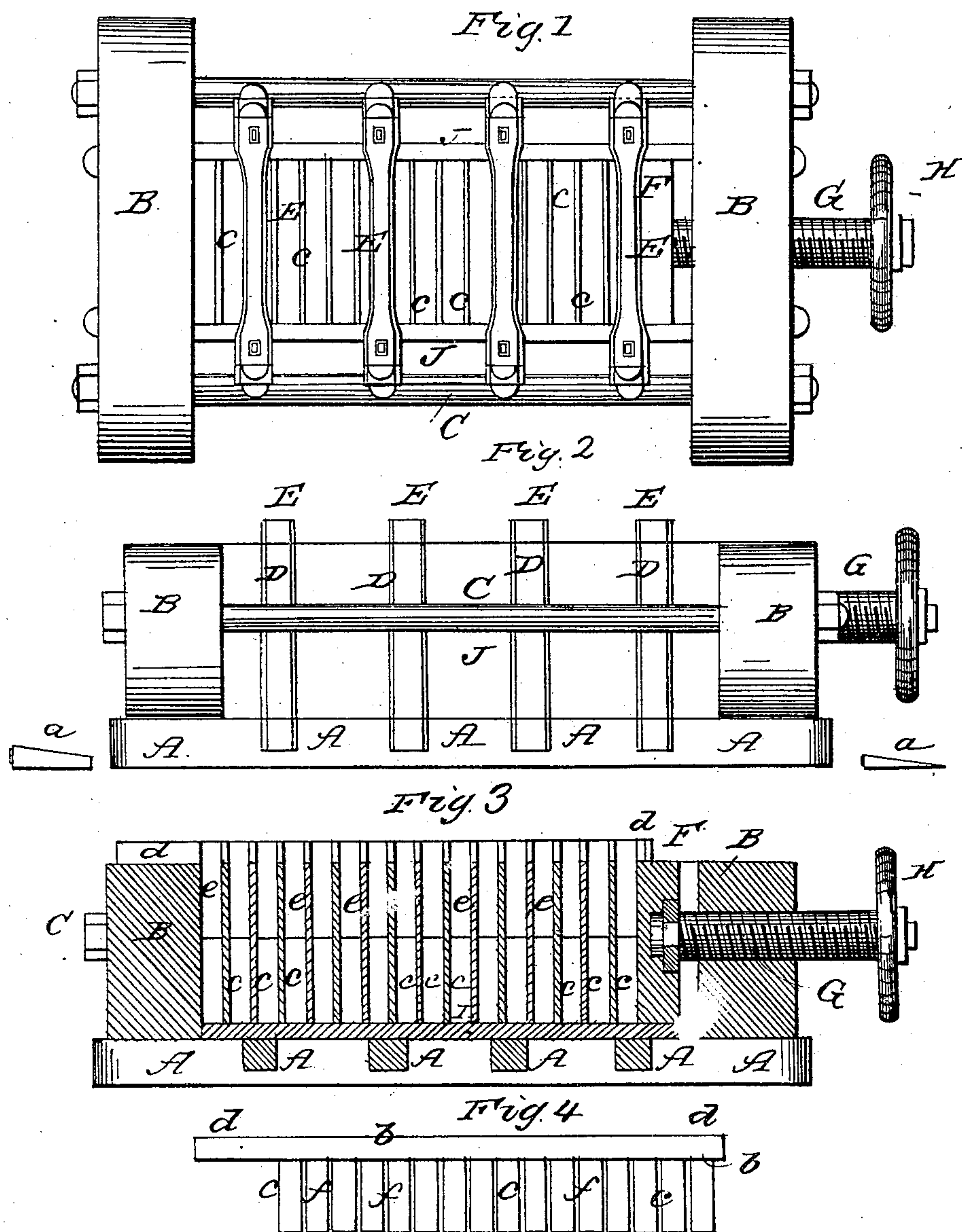


L. DU PONT.
Gunpowder Press.

No. 50,568.

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Witnesses
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LAMMOT DU PONT, OF WILMINGTON, DELAWARE.

IMPROVEMENT IN PRESSES FOR PRESSING GUNPOWDER.

Specification forming part of Letters Patent No. 50,568, dated October 24, 1865.

To all whom it may concern:

Be it known that I, LAMMOT DU PONT, of Wilmington, in the county of New Castle and State of Delaware, have invented a new and useful Improvement—viz., in the use of Horizontal Presses for Compressing Gunpowder into Cakes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a top plan of a press adapted to the purpose of horizontal compression. Fig. 2 represents a side elevation of the same. Fig. 3 represents a longitudinal section taken vertically through the press, and its appliances. Fig. 4 represents detached the gage by which the plates are set in the press to form the separate boxes in which the powder-dust is placed to be compressed into separate cakes preparatory to its granulation.

Similar letters of reference, where they occur in the separate figures, denote like parts of the press and its appliances in all the drawings.

The mode heretofore practiced of pressing gunpowder into cakes was by vertical pressure applied to a pile of boxes or gages filled with the powder-dust and built up as follows: First a plate or lay-board was laid down in a horizontal position. On this was spread a linen cloth or other fabric, and upon this was placed a wooden frame or gage into which the powder-dust was placed until full, and then evenly smoothed or spread down. The gage was then removed and another cloth laid on, and on this a plate of metal, wood, or other substance was laid, then another cloth, and then another layer of powder-dust in another frame or gage, which latter was removed as above, and so on until a sufficient height or pile was obtained to be submitted to vertical pressure, and when pressed the plates and cloth were removed and the powder taken out in cakes or slates for granulation. This process involved much time and many manipulations, which I avoid by my plan of horizontal pressure, and thus very much facilitate the process of compression.

My invention consists in applying the pressure horizontally, by which means I obviate the tedious process of building up the pile, as will be explained.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same by reference to the drawings accompanying this specification, first premising that I do not confine my invention to the use of the special press herein described and represented, nor to the particular plan shown of applying the power, as this latter may be done by steam, hydraulic, or any other well-known power; and so long as horizontal pressure is applied to the powder-dust I would claim it as involved in my invention.

The press herein represented is composed of a permanent bottom frame, A, and substantial ends or heads B affixed thereto, with through bolts or rods C passing through said ends to hold them against the strain of the pressure.

In the projecting ends of the cross-ties that compose a part of the bottom frame, A, are made suitable mortises to receive the tenons of the vertical side posts, D, which latter are tied at their top by yokes E, passing across the top of the press, which yokes are furnished with mortises to take over the tenons made on top of said side posts, D. The object in so arranging the side posts, D, and the yokes or top ties, E, is that the press may be loosened up to readily remove the pressed cakes or slates from the box or trough of the press.

There is a follower, F, that works in the box of the press, which, as herein represented, is operated by a screw, G, and hand-wheel H, but which, as before intimated, may be run up and back by steam, hydraulic, or any other pressure usually applied to presses of any kind.

The box of the press is formed by a bottom board or plank, I, and side boards or plank, J, and by one of the heads B and the follower or platen F, which together form five sides of the box, the sixth or top side being open, and not requiring a cover.

The sides J should be removable or detachable, so as to loosen up the press when the cakes are to be taken out, and may be removed with the vertical posts D, being united or fastened to them.

The wedges *a a*, shown to the right and left of Fig. 2, are designed for defining or holding the box at the proper width during the process of filling it.

c c c, &c., represent the vertical plates interposed between or forming the several cham-

bers or spaces into which the powder-dust is placed. These plates are properly spaced and arranged by a comb or gage-bar, *b*, separately shown in Fig. 4, as follows: The comb or gage *b* is composed of a horizontal bar, *d*, that may lie upon the ends or heads of the press, and of teeth or bars *e*, that project into the box of the press. The spaces *f*, between the teeth or bars *e*, are just of sufficient width to receive and hold the plates *c* in their properly-spaced position—lengthwise of the box—the teeth or bars *e* defining the spaces or compartments into which the powder-dust is placed. By this comb or gage *b* the plates are readily placed and retained in their positions, and when the spaces between them are filled with the powder-dust, which is readily done, the gage may

be removed, the yokes or ties *E* put in place, and the pressure applied, thus very much facilitating the placing of the plates and the powder-dust between without the tedious process of building up a pile seriatim, as in the vertical presses as hitherto used.

Having thus fully described the nature, object, and purpose of my invention, what I claim is—

The compressing of powder-dust into cakes or slates by pressure applied horizontally, substantially as and for the purpose herein described.

L. DU PONT.

Witnesses:

W. R. BRINCKLE,
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