

J. Waters,

Oil Press.

No. 108657.

Patented Oct. 25. 1870.

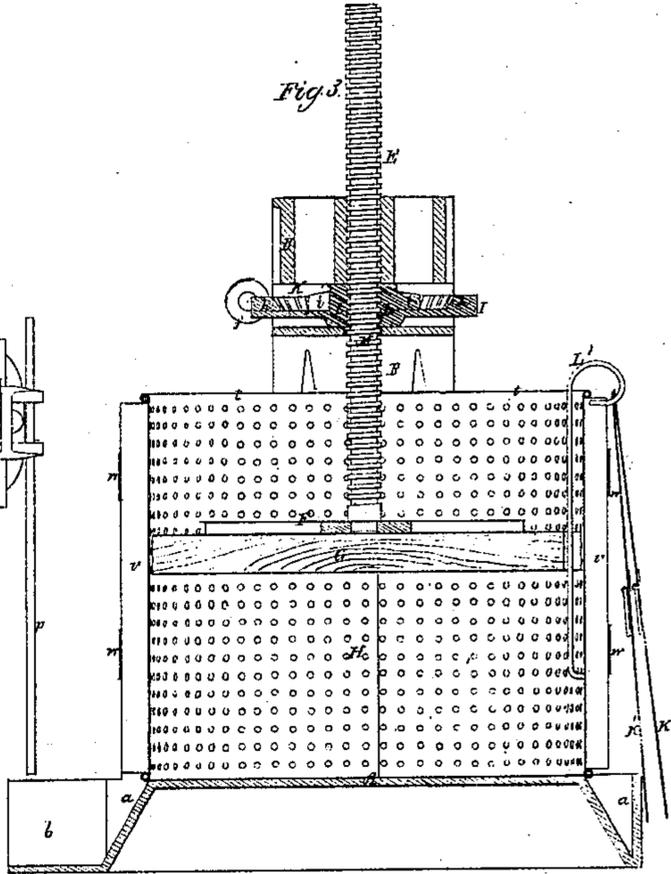
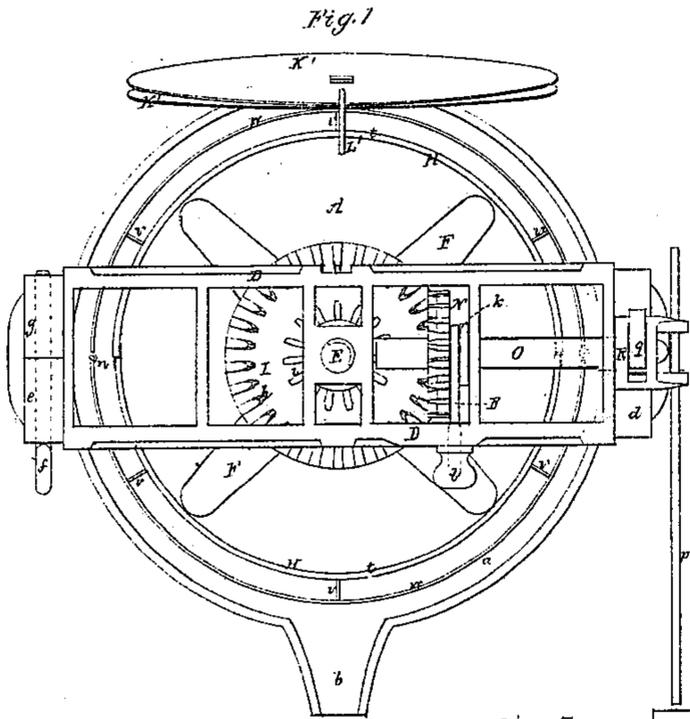
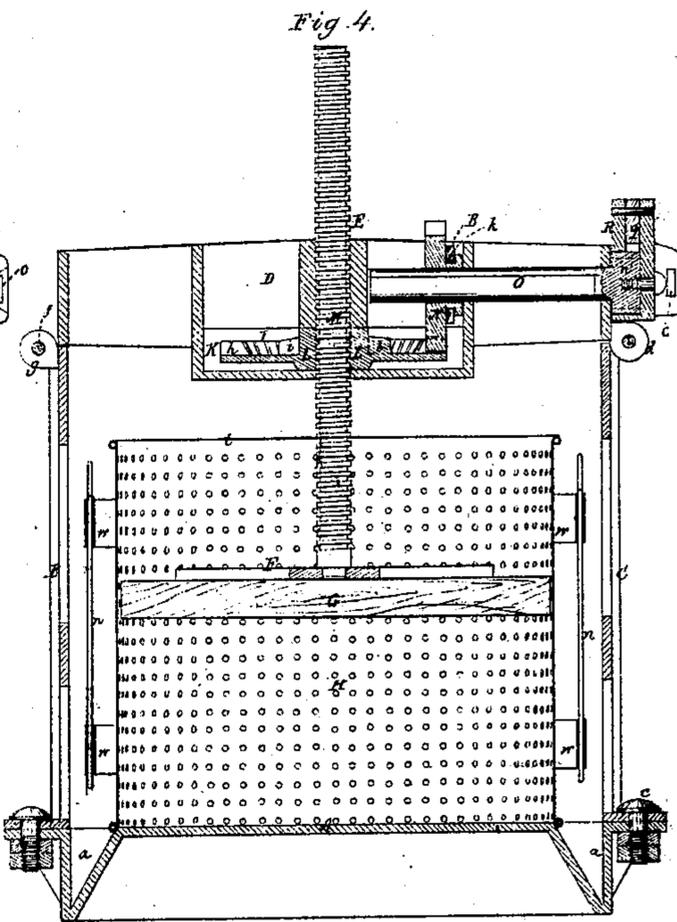
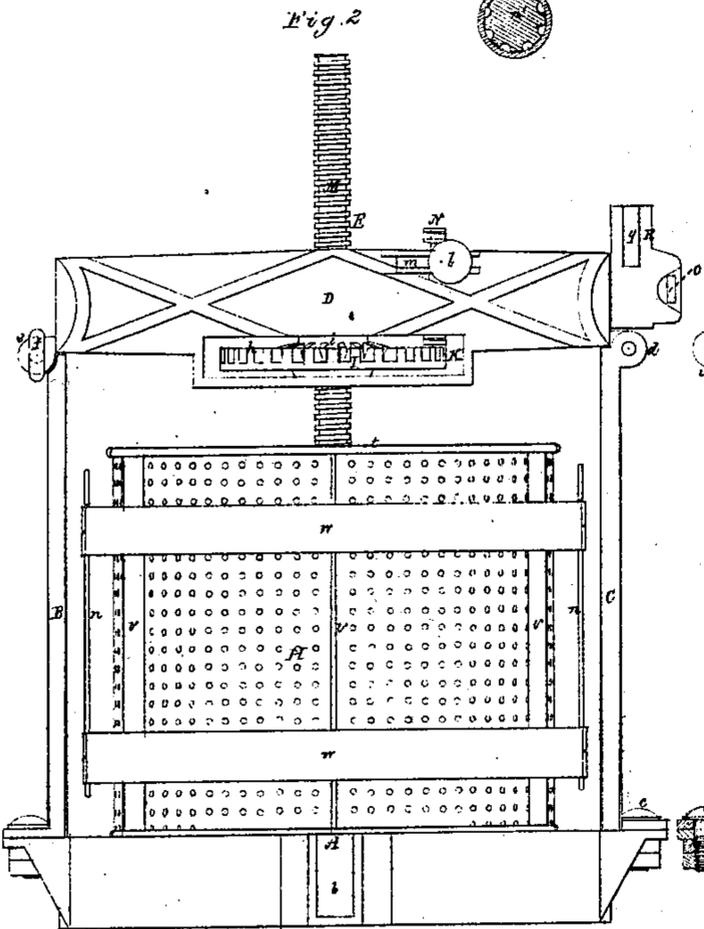


Fig. 5.



Witnesses
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JASON WATERS, OF WEST SUTTON, MASSACHUSETTS.

Letters Patent No. 108,657, dated October 25, 1870.

IMPROVEMENT IN PRESSES FOR REMOVING LIQUID MATTERS FROM VARIOUS SUBSTANCES.

The Schedule referred to in these Letters Patent and making part of the same

To all persons to whom these presents may come:

Be it known that I, JASON WATERS, of West Sutton, of the county of Worcester, and State of Massachusetts, have invented an Improved Press for Removing Liquid Matters from various Substances, or for other useful purposes; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view,

Figure 2 a front elevation, and

Figures 3 and 4 transverse sections of the said press.

In the said drawing—

A denotes the bed of the press, such bed being of cast-iron, and provided with a gutter or channel, *a*, extending around it, and terminating in a discharging-nose or spout, *b*.

From opposite parts of such bed two standards, B C, rise, one, B, being firmly fastened to the bed, and the other, C, being pivoted thereto, so as to be capable of being revolved horizontally, its pivot or center-pin being shown at *c*.

To the upper end of the said pivoted standard C a strong cross-head, D, is hinged at one end, as shown at *d*, so as to be capable of being turned from a horizontal up into a vertical position.

At its other end the cross-head has an ear, *e*, arranged to receive a bolt or pin, *f*, which goes through it and into a corresponding ear, *g*, formed on the standard B, the whole being for the purpose of enabling the cross-head to be either locked to or unlocked from the standard B, as circumstances may require.

A screw-shaft, E, is arranged vertically through the middle of the cross-head and extends below it, and is provided with a head or cross, F, to rest and bear upon a follower or disk, G, placed within the foraminous case H of the press.

A beveled gear, I, arranged within a chamber, K, formed through the cross-head D, has a female screw, L, to receive the male screw M of the shaft E.

This gear I has two ranges of teeth, as shown at *h* and *i*, one range being concentric with respect to the other.

The teeth of each range are to be formed so as to receive and work with those of a vertical bevel gear, N, arranged upon a horizontal shaft, O, which is disposed within the cross-head in manner as represented, the said gear N being so applied to the shaft O as to be capable of being moved endwise thereon in order to carry the gear N into engagement with either of the ranges *h i* of teeth of the nut-gear I.

In order to enable this to be done I form each of the several teeth of the bevel gears wedge-shaped at one end of it, as represented.

A forked slider, B, inserted in a groove, *k*, formed in the hub of the gear N, and provided with a clamp-nut, *l*, and arranged to move in a slot, *m*, made in the cross-head, serves to hold the gear N in engagement with either of the ranges of teeth of the bevel-gear.

By putting the driving bevel-gear into engagement with the inner range of teeth of the screw-nut or gear I, the press may be worked faster than when the driving-gear is in engagement with the outer range of teeth of the said gear I.

On its outer end the shaft O has a spur-gear, *n*. Such shaft also has an arm, R, arranged to revolve freely on it, the said arm being provided with sockets, *o o*, to receive a bar, *p*.

Figure 5 is a section, taken through the rotary arm and the spur-gear on the shaft O, and also through the duplex-toothed pawl of such arm.

This duplex-toothed pawl is shown at *q*, and is formed as represented, viz., with the two teeth *r s*, so as to be capable of being applied to the gear in a manner to operate or turn it around in either direction.

The pawl is pivoted to the arm so as to be movable therein in a manner to carry either tooth, *r* or *s*, of the pawl into action with the teeth of the gear.

The body or case H of the press I construct in two semicircular sections, *t t*, bolted together, as shown at *n n*, in a manner to enable them to be readily separated.

The body of each section is a foraminous plate provided with a series of vertical ribs, *v v*, projecting from its outer surface and connected by horizontal hoops or bands *w w*, the whole being as shown in the drawing.

There is applied to this body, which, when in use, rests end downward on the bed A, one or more disks, K' K', having a diameter equal to or a little less than that of the interior of the case.

The said disk or disks are shown as arranged on a wire or rod, L', fixed to the case and formed and arranged as represented, such connecting the disk or disks to the case and enabling such disk or disks to be moved into and out of it, and to move down within it, as occasion may require.

These disks are for the purpose of separating the pressed matter into short cylinders or cakes, as, after a quantity of the material to be pressed (whether it be tobacco, cheese, curd, or any vegetable substance,) may have been thrown into the body or case H, one of the disks may be dropped in upon the mass, after which a further quantity of the material may be put in the case, a second disk being subsequently inserted. Finally, the follower is to be put in the case and the screw-nut put in operation, so as to cause the follower

to be depressed within the case and the charge of the latter to be duly compressed.

The liquid driven out of the mass of matter while the latter may be in the process of being condensed will flow through the perforations of the case and into the gutter of the base, from whence it will escape by the nose or spout thereof.

By pivoting the cross-head of the press to its movable standard and the latter to the base of the press in manner as set forth, I am enabled to readily raise the screw and its cross out of the body H, and turn such screw and cross aside out of the way of such body, for convenience of getting at the contents of the body, or for facilitating the removal of the body from the base A.

In the press, as above described, I claim as of my invention the following; that is to say—

1. The case H, constructed as set forth, viz., of the two foraminous body portions, combined together and having vertical ribs and horizontal bands applied thereto, the whole being as described and represented.

2. The cross-head of the press, and its movable standard C, as pivoted together, and with the latter pivoted to the base A, as explained.

JASON WATERS.

Witnesses:

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