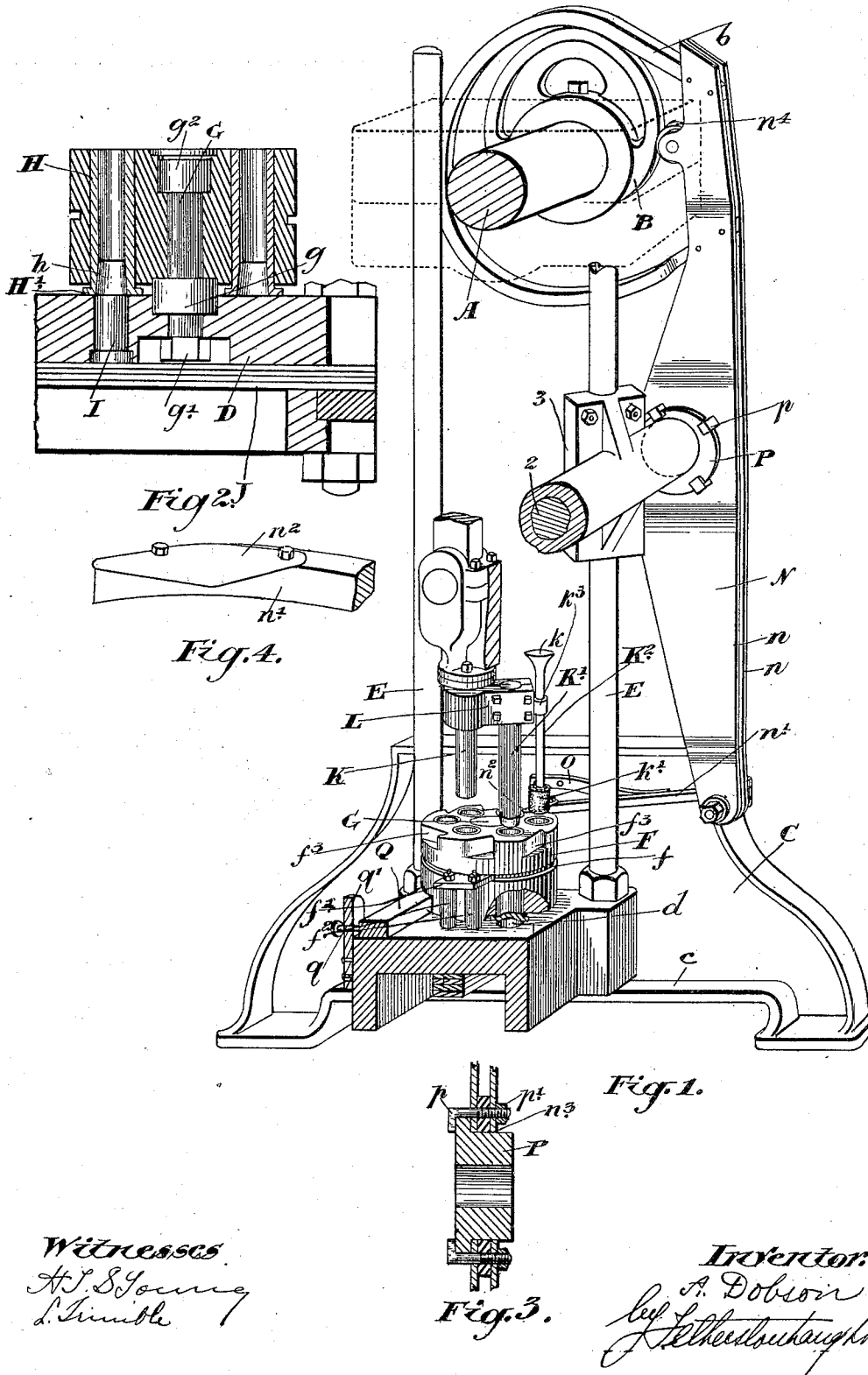


A. DOBSON.
PEAT PRESS.

(Application filed June 22, 1901.)

(No Model.)



Witnesses
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PEAT-PRESS.

SPECIFICATION forming part of Letters Patent No. 701,311, dated June 3, 1902.

Application filed June 22, 1901. Serial No. 65,654. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER DOBSON, of the town of Beaverton, in the county of Ontario, in the Province of Ontario, Canada, have
5 invented certain new and useful Improvements in Peat-Presses, of which the following is a specification.

My invention relates to improvements in peat-presses; and the object of the invention
10 is to devise a form of press in which there will be a minimum amount of friction in the die coacting with the plunger, in which the die will be kept cool, and in which the compressing of the peat-block and the ejection of
15 such block will be accomplished with a minimum amount of power; and it consists, essentially, of a peat-press having a series of dies with steel lining, such dies being preferably held in a block which derives a rotary
20 movement from a pawl and lever operated from the main shaft and of a pair of plungers held in a suitable cross-head and deriving reciprocating movement from the main shaft, one of the plungers being designed to compress the block and the other to eject the
25 block in the die as it reaches the next position in its rotation, the parts being arranged and constructed in detail, as hereinafter more particularly explained.

30 Figure 1 is a sectional perspective view of a peat-press, showing the parts involved in my invention. Fig. 2 is a vertical section through the rotatable die-block and the bed on which the same is supported. Fig. 3 is a sectional
35 detail showing the form of adjustable pivot for the operating-lever which turns the rotatable die-block. Fig. 4 is a detail of the end of the pawl by which the die-block is rotated.

40 In the drawings like letters of reference indicate corresponding parts in each figure.

A is the main shaft of the machine, which is supported in suitable journals which it is not necessary here to describe.

45 B is a cam secured on the shaft A.

C is one of the frame end plates, which is suitably formed with a bottom rib c.

50 D is the bed, which extends from one end plate C to the opposite end plate. (Not shown.)

E E are the vertical standard-rods, which

are secured into the bed D and are suitably held at the upper end in the upper portion of the frame.

F is the rotatable die-block, which is substantially cylindrical in form and provided
55 with an annular groove *f*, into which fits at each side and diametrically opposite to each other the plates *f'*, which are suitably secured on the upper end of the uprights *f''*, which
60 are suitably secured to the bed. The plates *f'* serve to provide against any vertical movement of the rotatable die-block F.

The die-block is journaled on a central arbor G, which is provided with a collar *g* at
65 the bottom. The arbor G is threaded at the bottom and is secured in place by a nut *g'*. The collar *g* is loose on the arbor, and such arbor is provided with a cylindrical head *g''*, which fits into a corresponding recess in the
70 top of the die-block. It will now be seen that the nut *g'* serves to secure the rotatable die-block F securely on the arbor and yet permit of its rotation, all strain on the nut being relieved on account of the plates *f'*, extending
75 into the annular groove *f* in the die-block.

H represents the dies, which are provided at the bottom with a flaring portion *h*. The
80 bottom ends of the dies are also provided with an annular flange H'. The object of this flange is to prevent the plunger after the peat is compressed and in its return movement from drawing the die upwardly out of place.

At the bottom of the die is secured a cylindrical block I, which fits into a corresponding
85 recess in the bed D, such block being supported by a resisting-spring J, which is suitably held at the bottom of the bed in a suitable support which it is not necessary here
90 to describe. The spring J under ordinary circumstances and where the usual degree of density of peat is used will not yield; but should the density of peat necessary to make
95 a block be greater than usual such spring will yield upon the downward pressure of the plunger, and thereby prevent any breakage due to the block of peat rising or expanding. The annular flange J' of the die, it will be
100 seen, will rise upon the expansion of the block and thereby permit of a limited expansion, and thus prevent any danger of the

peat-block which is compressed from sticking and preventing the rotation of the die-block, which is accomplished in the manner I shall presently describe.

5 K is a plunger which is held in a suitable cross-head L, secured in the end of the reciprocating rod M, which derives movement in any suitable manner from the main shaft, preferably by means of a cam. In the cross-head L is also supported the companion plunger 10 K', which is suitably secured therein. In the cross-head is also supported the cleaner and oiler K², which is provided with a funnel-shaped mouth *k* at the top and is tubular in form, being provided at the bottom end 15 with a swab *k'*. The bottom end is also perforated, so that the oil may pass into the swab. The cleaner and oiler is supported and secured to the cross-head in any suitably-formed socket *k*³. The plunger K' is tapered 20 at the bottom end, as indicated, and the plungers K K' and cleaner and oiler K² are located at equal distances apart similarly to the dies which are in the die-block F. The 25 peat is fed beneath the compressing-plunger into the die in any suitable manner. It will now be seen that upon the downward movement of the plungers the compressing-plunger 30 compresses a block in its corresponding die. The ejection-plunger throws out a block from its corresponding die—that is, the next succeeding die—through an opening *d* in the bed D, and the swab K² simultaneously passes 35 down and oils and cleans the next succeeding die. It will thus be seen that when one block is being compressed the other block is being ejected and the die from which the last block has been ejected is being cleaned, and all 40 simultaneously.

I shall now describe the manner in which the die-block is given its rotary movement. The die-block F is provided with a series of ratchet-shaped notches *f*³, situated at equal 45 distances apart peripherally and located, preferably, radially opposite the spaces between the dies.

N is a lever formed of two bars *n n*. The lower end of the lever has pivotally connected to it the push-pawl *n'*, the end of which 50 engages with one of the notches *f*³ in the rotatable block F. The push-pawl is held up by means of the plate *n*², suitably secured or formed on the end of the push-pawl, such plate extending over the upper face of the rotatable block, and thus preventing the fall- 55 ing of the push-pawl as it is drawn back to catch the next succeeding tooth. The push-pawl is held in engagement with the rotatable block by means of a spring O, suitably secured to the end plate of the frame and pressing against the pawl, as indicated. The lever N is journaled in the center upon an eccentrically-pivoted block P, which is secured 60 on the end of the spindle 2, held in bearings 3. The pivot-block P is held in a circular opening *n*³ in the lever N by means of the L-shaped bolts *p*, one of the ends of which pro-

jects over the flanged end of the eccentrically-pivoted block. The opposite ends of the bolts 70 *p* are threaded and provided with suitable nuts *p'*. By loosening the nuts the pivot-block may be turned in the opening *n*³, so as to give the push-pawl *n'* more or less throw—that is to say, more properly, to adjust to a nicety the throw of the push-pawl—so as to 75 give the rotatable block a definite intermittent movement, so as to always bring the plungers directly opposite the dies.

The upper end of the lever N is provided with a roller *n*⁴, which coacts with the cam B. 80 A metal strap *b* is suitably secured on the upper end of the lever N. It will now be seen that when the greatest diameter of the cam reaches the roller *n*⁴, so as to throw the upper 85 end of the lever outwardly, the lower end of the lever will be pressed inwardly, so as to give a corresponding turn to the rotatable block. As the shaft A revolves the cam necessarily pressing upon the strap *b* will throw 90 the upper end of the lever N in the opposite direction, and thereby withdraw the push-pawl *n'* into the next succeeding notch *f*³ preparatory to giving the rotatable block another step in its rotation.

Such a press as I describe with a rotatable 95 block or a movable block suitably formed so as to change the dies will, I find in practice, overcome to a great extent the friction now commonly incident to peat-presses in which the peat block is pressed against a receding 100 block. This will be readily seen by those skilled in the art when it is understood that the pressure of the block is in my case against a fixed resistance, so that the plunger only has to overcome the resistance of the peat in 105 forming the block, whereas in the previous forms of presses above referred to the plunger not only has to overcome the resistance of the peat in forming the block, but also the greater pressure necessary to drive the previously-formed block still farther down in the 110 die. Not only is this so, but the lower end of the die having a flaring exit will allow of the ejecting-plunger to readily eject the block formed as it is carried around opposite the 115 opening in the bed, and this, it will be seen, is accomplished with practically no appreciable resistance on account of its flaring mouth. The friction is again minimized by reason of the swab, which simultaneously acts 120 with the other plungers in oiling and cleaning the die preparatory to its use again in compressing a block. I therefore find that I am enabled not only to keep the dies cool, but also to save nearly fifty per cent. of the power 125 used in such presses as above referred to, both of which are important desiderata.

Of course in the drawings I merely show one half of the machine, there being, as will be readily understood, a rotatable block on the 130 side not shown similar to the one shown.

In order to hold the rotatable block securely in each position it is turned to, I preferably provide a brake-shoe Q, the pressure of which

is regulated on the rotatable blocks by means of a set-screw *q*, extending through the upright *q'*, attached to the bed. I may also state that I consider the annular enlargement at the bottom of the die as an important feature of my invention, for the reason that it allows of a limited expansion of the block after the plunger is caused to recede. In other words, it relieves the pressure of the block upon the bed when it has expanded, and thereby permits of the rotatable die-block being given its next turn without any undue strain upon the working parts. The annular enlargement also extends over the edge of the ejecting-opening *d*, and thereby prevents the displacement of the die, as it forms a supporting-rim where the block is being ejected.

What I claim as my invention is—

1. In a peat-press, the combination with the die-block containing a plurality of dies, of a compressing-plunger and an ejecting-plunger suitably supported and deriving a reciprocating movement, means for moving each succeeding die from underneath the compressing-plunger to a point below the ejection-plunger and a cleaning and oiling device rigidly connected to the plungers and deriving a simultaneous reciprocating movement with the plungers into an empty die as and for the purpose specified.

2. In a peat-press, the combination with a rotatable die-block suitably journaled and a plurality of dies located therein at equal distances apart, ratchet-shaped notches in the periphery of the die-block, a lever suitably journaled on a counter-shaft, a push-pawl pivotally connected to the lower end thereof, a spring for holding such push-pawl in engagement, a cam on the main shaft designed to operate against the upper end of the lever and a surrounding strap connected to the upper end of the lever and coacting with the cam as and for the purpose specified.

3. The combination with the die-block and dies and the ratchet-shaped notches in the periphery of the die-block, of the lever and push-pawl connected to the lower end thereof and means for imparting a swinging movement to lever and the eccentric pivot-block for the lever held on the end of a pin and extending through a circular hole in the lever and adjustable means for holding such eccentric block in position as and for the purpose specified.

4. In a device of the class described, the combination with the operating-lever for the die-block, of an eccentric pivot-block suitably supported and the L-shaped bolts having the end extending over the flange of the block and extending through the lever, and nuts on the opposite ends of the bolts whereby the eccentric pivot-block is clamped into any position in which it may be set as and for the purpose specified.

5. In a device of the class described, the combination with the cylindrical die-block

having an annular groove in the periphery thereof and the bed on which the same is supported and journaled, of the diametrically opposite plates fitting into the annular grooves in the die-block and means for securing them to the bed as and for the purpose specified.

6. In a device of the class described, the combination with the bed and the die-block suitably supported on same, so as to leave a space between the block and the bed, of the dies suitably held in the block and provided at the bottom with an annular enlargement as and for the purpose specified.

7. In a device of the class described, the combination with bed and the die-block suitably supported on same, so as to leave a space between the block and the bed, of the dies suitably held in the block and provided at the bottom with a flaring discharge portion as and for the purpose specified.

8. In a device of the class described, the combination with the bed and the die-block and the dies and plunger, of a block situated in the bed directly beneath the die and a resistance-spring extending underneath the block as and for the purpose specified.

9. In a device of the class described, the combination with the bed, and a rotatable die-block provided with a plurality of dies at equal distances apart, of the central arbor having a suitable head and extending through the center of the die-block and through the bed, the collar through which such arbor extends, such collar fitting into a recess in the bed and in the block and supporting such block above the bed and a nut at the lower end of the arbor for securing it in position as and for the purpose specified.

10. In a device of the class described, the combination with the die-block containing a plurality of dies, of the compressing-plunger and companion ejecting-plunger, said ejecting-plunger having its end extending below the level of the compressing-plunger, substantially as described.

11. In a device of the class described, the combination with the die-block containing a plurality of dies having flaring discharge ends, of the compressing-die and companion ejecting-die having the end extending below the level of the compressing-die and tapered as shown.

12. In a device of the class described, a die-cleaner comprising a tube having a swab of suitable material at the lower end, such tube being designed to contain oil and having perforations extending through the bottom end of the same to the swab as and for the purpose specified.

13. In a device of the class described, the combination with a die-block suitably supported and means for holding such block from vertical displacement comprising an annular channel adapted to engage the edge of a stationary plate as and for the purpose specified.

14. The combination with the die-blocks,

dies suitably held therein and means on said dies for preventing vertical displacement thereof, substantially as described.

15 5 In a device of the class described, the combination with the bed and the rotatable block suitably journaled and supported a slight distance above the bed, of the dies provided with an outwardly-projecting lower end of such a depth as to allow of a limited move-
10 ment upwardly of the die in order to permit of the expansion of the block after being compressed as and for the purpose specified.

16. The combination with the die-block and dies having an annular enlargement, of the bed having an opening therein designed to be always opposite the discharging-die, such annular enlargement of the die being designed to rest on the edge of the opening as and for the purpose specified. 15

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Witnesses:

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