

No. 701,856.

Patented June 10, 1902.

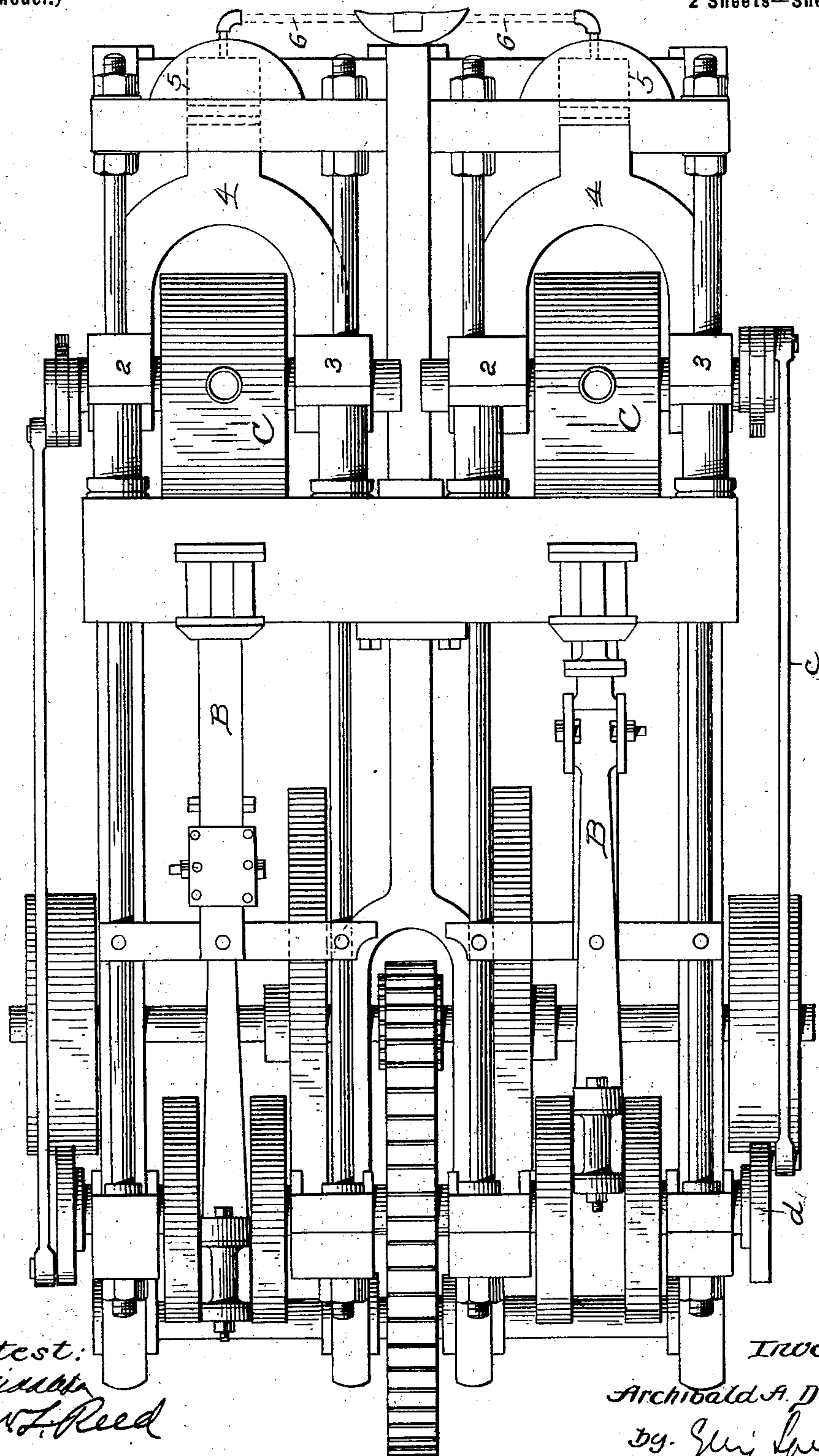
A. A. DICKSON.
PEAT PRESS.

(Application filed June 24, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



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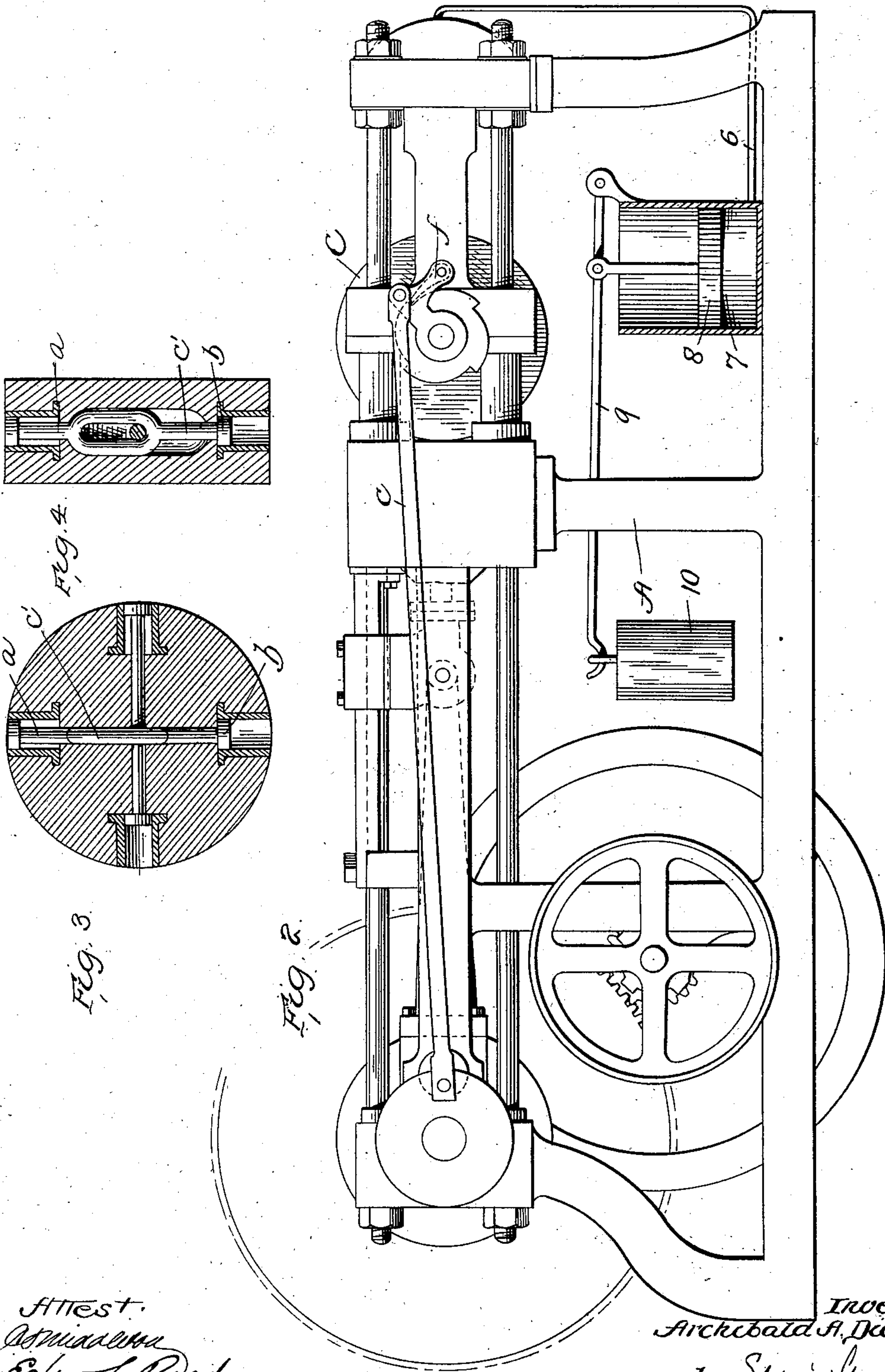
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UNITED STATES PATENT OFFICE.

ARCHIBALD A. DICKSON, OF TORONTO, CANADA.

PEAT-PRESS.

SPECIFICATION forming part of Letters Patent No. 701,856, dated June 10, 1902.

Application filed June 24, 1901. Serial No. 65,877. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD ANDERSON DICKSON, a subject of the King of Great Britain, residing at Toronto, Canada, have invented certain new and useful Improvements in Peat-Presses, of which the following is a specification.

My invention relates to means for compressing peat into blocks for fuel.

Heretofore in patents granted to me I have shown and described presses provided with an open-ended tube into which the peat was fed and compressed by a plunger, thus forming successively blocks of peat which were discharged at the open end of the tube, one of the previously-formed blocks acting as a yielding resistance to the block being formed. The friction is so great that it has been found difficult to construct a durable machine or one capable of withstanding the great pressure, and especially in view of the fact of the variation in the pressure due to the different grades or kinds of peat. I have aimed to overcome this very serious objection by providing a die-block with one or more pockets adapted to receive the peat, and I support the plunger or die-block so as to provide for the yielding of the one or the other, preferably the die-block, at a predetermined pressure, thus relieving the press from excessive strain and liability to rupture.

My invention also includes a die-block having a series of cavities, and the preferred form is to provide a plunger which will allow the peat to be forced into one cavity or pocket while utilizing this movement to eject the formed peat-block from the pocket or cavity opposite.

In the accompanying drawings, Figure 1 is a plan view of a press made according to my present invention, while Fig. 2 is a side elevation thereof. Figs. 3 and 4 show detail views of the die-block.

In the drawings, A represents a suitable framework made sufficiently strong for the purpose of the invention. Plungers B are suitably reciprocated to compress the peat into cavities or pockets in the die-blocks C. These die-blocks are preferably, though not necessarily, made cylindrical, with cavities in their peripheries, and are preferably mounted on trunnions, so as to rotate, and thus pre-

sent one cavity after the other to the plunger. These cavities are made in the form of pockets, and in place of closed bottoms I use a plunger *a*, which is normally out, as shown in Fig. 3, and is pressed inwardly by the incoming charge and the pressure from the plunger B, with the result that the plunger *a* is forced backwardly or rearwardly, and as its stem *c'* extends across the diameter of the die-block and has a like plunger upon its opposite end *b*, forming the bottom of the second die-cavity, it will be observed that it will move toward the open end of the said cavity and eject therefrom the formed block of peat. The die-blocks are mounted, preferably, on shafts or trunnions adapted to slide in ways 2 3 and are held to their work by abutments or pistons 4, which are pressed forward, preferably, by hydraulic means or any like pressure device, this pressure being set so as to resist the pressure of the compressing parts up to a certain predetermined limit, but to yield when this limit is reached. This construction prevents undue strain upon the parts and renders it impossible to rupture the machine by subjecting it to pressure beyond what it is built to stand.

I do not limit myself to the application of the limiting means to the die-block, as these means may be applied to the plunger.

I form a connection between the rotating die-block C and a face-wheel *d*, carried on the main shaft, so as to impart a step-by-step movement to the rotary die-block and bring the cavities in line with the plunger in succession. This consists of a pitman *c*, having a pawl *f* at one end engaging a ratchet on the shaft of the die-block. The backward throw of the pawl is sufficient to allow for the yielding action.

My invention comprehends not simply making the die-block yielding when the pressure exceeds a safe limit, but it is also broad enough to include forming the die-block with a cavity having a movable bottom in the shape of a piston and yieldingly supporting this piston, and such a construction would enable me to make the die-block proper permanent, as also the main plunger.

The hydraulic controlling means for controlling the die-blocks comprises the chambers 5, into which the pistons 4 project, said

chambers being connected by piping 6 with a chamber 7, in which a piston 8 is arranged to move, said piston being connected with a pivoted lever 9, which is provided at 10 with a weight. The action of this weight is to press the piston downwardly and to force the liquid from the chamber 7 through the piping 6 into the chambers 5, thus exerting pressure upon the pistons 4 of the die-blocks. When the pistons 4 recede, upon the die-blocks yielding under excessive pressure, the liquid will be forced from the chambers 5 through the piping 6 into the chamber 7 and the weight 10 will be lifted by this excessive pressure.

What I claim is—

1. In a peat-compressing machine, a piston or plunger, a die-block, a supplemental plunger carried by the die-block and adapted to act as an ejector, the said plunger being actuated by the main compressing power through

the peat-block being formed, the die-block being fixed in its relation to the main piston in the ordinary action of the machine and adapted to yield bodily to any excess of pressure beyond a predetermined limit.

2. A compressing-machine comprising one part having a die-cavity for the reception of the material to be compressed and a second part consisting of a plunger or piston operating to compress said material within the die-cavity and yielding means adapted to give only on an excess of pressure beyond a predetermined limit, the compressed material being held intact and unbroken at all times.

In testimony whereof I affix my signature in presence of two witnesses.

ARCHIBALD A. DICKSON.

Witnesses:

HENRY E. COOPER,
F. L. MIDDLETON.