E. WEISSENBORN.

Apparatus for Molding Peat.

No. 55,565. Patented June 12, 1866.

Fig. 1

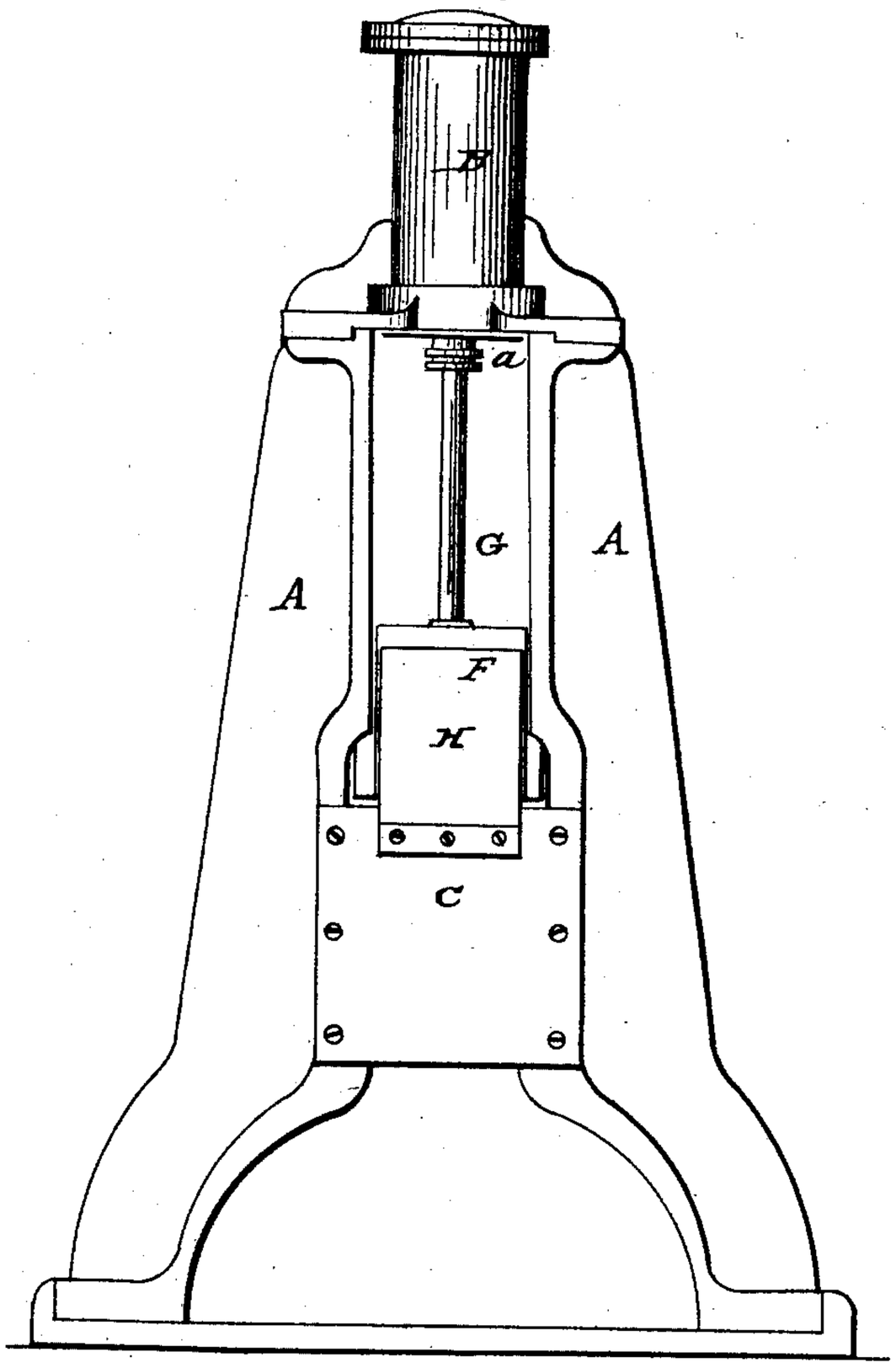
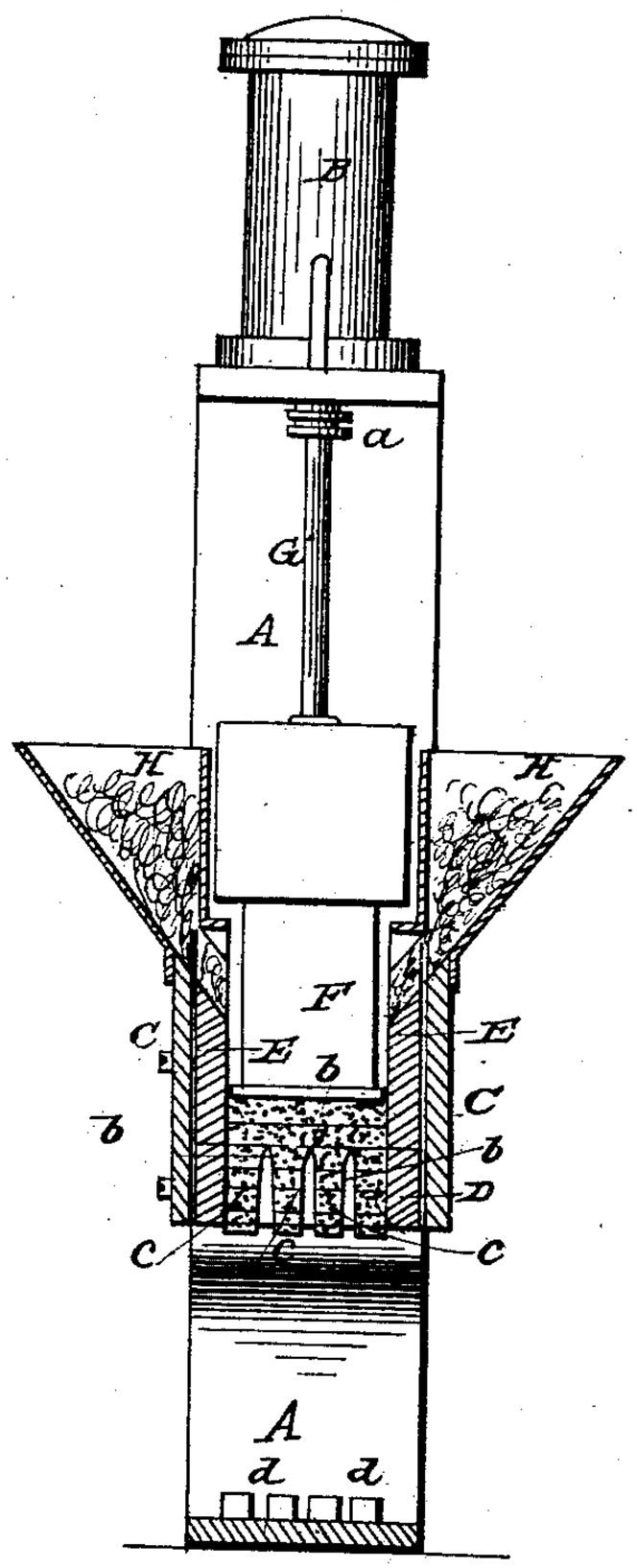


Fig. 2



WITNESSES

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Fig. 3

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EDWARD WEISSENBORN, OF HUDSON CITY, NEW JERSEY.

IMPROVED APPARATUS FOR MOLDING PEAT.

Specification forming part of Letters Patent No. **55,565**, dated June 12, 1866.

To all whom it may concern:

Be it known that I, EDWARD WEISSENBORN, of Hudson City, in the county of Hudson and State of New Jersey, have invented a new and Improved Machine for Compressing Peat for Fuel; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of the machine. Fig. 2 is a vertical section of the same at right angles to Fig. 1. Fig. 3 is a plan of the mold-frame in which the peat is compressed into blocks.

Similar letters of reference indicate corresponding parts in the several figures.

This machine is composed of an upright box the bottom of which is composed of an open-bottomed mold, or series of such molds, and which is fitted with a reciprocating ram operated by steam or other fluid of a suitable pressure, on the principle of a steam-hammer, in such manner as to alternately rise above the box to permit the feeding in of the peat, and then to descend rapidly with a hammer-like action, and so compress the peat within the box and into the mold, and finally to drive out the compressed peat through the bottom of the mold in blocks of suitable form and size for use or for the market.

To enable others skilled in the art to make and use my invention, I will proceed to describe it with reference to the drawings.

A is an upright frame of suitable form, substantially like that of a steam-hammer, and having erected upon the top of it a steam-cylinder, B, containing a piston and fitted with a suitable valve-gear. As this valve-gear may be like that used for a steam-hammer, and which is well understood by engineers, it is not represented and need not be described.

Below the cylinder B, and concentric with it, there is situated in the frame A, at some distance above the base thereof, an upright open-bottomed box, C, of cubical or other form, and the front of which may be removable for the introduction into it of the mold-frame D and the open-bottomed compression-box E, the said mold-frame resting upon suitable shoulders or bearings in the frame A and the compression-box E upon the top of the said mold-frame. The compression-box E has loosely fitted to it the lower part of the ram F, which is attached to the lower end of the piston-rod G, which works through a stuffing-box, *a*, in the bottom of the steam-cylinder B, and the upper end of which is connected with the piston working in the said cylinder.

In front of and behind the box E there are arranged two hoppers, H H, into which the peat to be compressed is fed by means of an endless-chain elevator, or by other means, and from which it is delivered into the compression-box E every time the ram F is raised up out of the said box.

The mold-frame D, of which Fig. 3 is a plan, is divided, by vertical partitions *b b* crossing each other, into a number of open-bottomed molds, *c c*, the said partitions tapering upward to sharp edges, as shown in Fig. 2, and so giving the molds a downward taper.

Before commencing the operation of the machine a block or blocks of wood or other material are placed under the mold-frame D, for the purpose of closing the open bottoms of the molds *c c*.

On the piston, ram, and feeding-apparatus being set in operation, every time the ram rises to a suitable height the peat, which may be either in the condition in which it was taken from the field or may have been subjected to suitable treatment to bring it to a pulpy state, descends by gravitation from the hoppers into the compression-box E, and every time the piston and ram descends the blow of the latter compresses it into the said box and the molds. When the molds have been filled and the box E partly filled with peat which has been compressed, as above described, the machine is temporarily stopped, and the block or blocks are removed from under the mold-frame, and the machine is then set in operation again. The ram F does not descend so far as the tops of the molds, and its face, which is polished or made quite smooth, leaves the upper surface of the peat in the compression-box perfectly smooth as well as hard and unbroken after every blow, so that the peat which is afterward fed in and compressed does not adhere to that previously compressed, and the compression therefore leaves the peat in distinct layers, which are forced one after another, by the su-

perincumbent layers, down upon the sharp edges of the partitions *b b*, and so cut into blocks which, by the repeated operations of the ram, are forced into the taper-molds *c c*, and thereby compressed laterally; and every blow of the ram expels, through the open bottoms of the molds, a layer of blocks, *d d*, which drop onto the bed-plate of the frame A or into any suitable receptacle.

In the above-described operation the degree of compression of the peat is regulated by the admission of the steam into the upper part of the cylinder B by the valve and valve-gear provided for the purpose, and any water expressed from the peat passes between the sides of the ram and compression-box E, and overflows the said box. The proper supply of peat is regulated by the speed of the elevator or other feeding apparatus, and, if the ram be properly fitted to the compression-box the feed may be assisted or rendered more certain by the production of a vacuum within the said box below the ram, as the latter rises.

The peat which I have compressed by an experimental machine constructed on this plan differs in such degree from ordinary compressed peat that it may be considered as a new article of manufacture, being of so close a texture as to resemble hard wood, and is therefore more valuable as a fuel.

Instead of a mold-frame divided by partitions into several molds, as described, a frame having no partitions and constituting a single mold may be used; but I prefer the mold-frame represented, as it will produce blocks of peat of convenient size for use; and when such a mold-frame, containing several molds, is used the ram may be constructed or furnished with pistons to enter the several molds.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a reciprocating ram, F, having a hammer-like action, the compression-box E, and the open-bottomed mold or molds *c*, substantially as and for the purpose herein specified.

2. The cylinder B and its piston, in combination with the ram F, compression-box E, and mold or molds *c*, substantially as and for the purpose herein set forth.

3. The construction of the partitions *b b* of the mold-frame with sharp-cutting upper edges, substantially as and for the purpose herein described.

4. The open-bottomed mold or molds *c*, constructed with a downward taper, substantially as and for the purpose herein specified.

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Witnesses:

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