

Sheet 1
4 Sheets

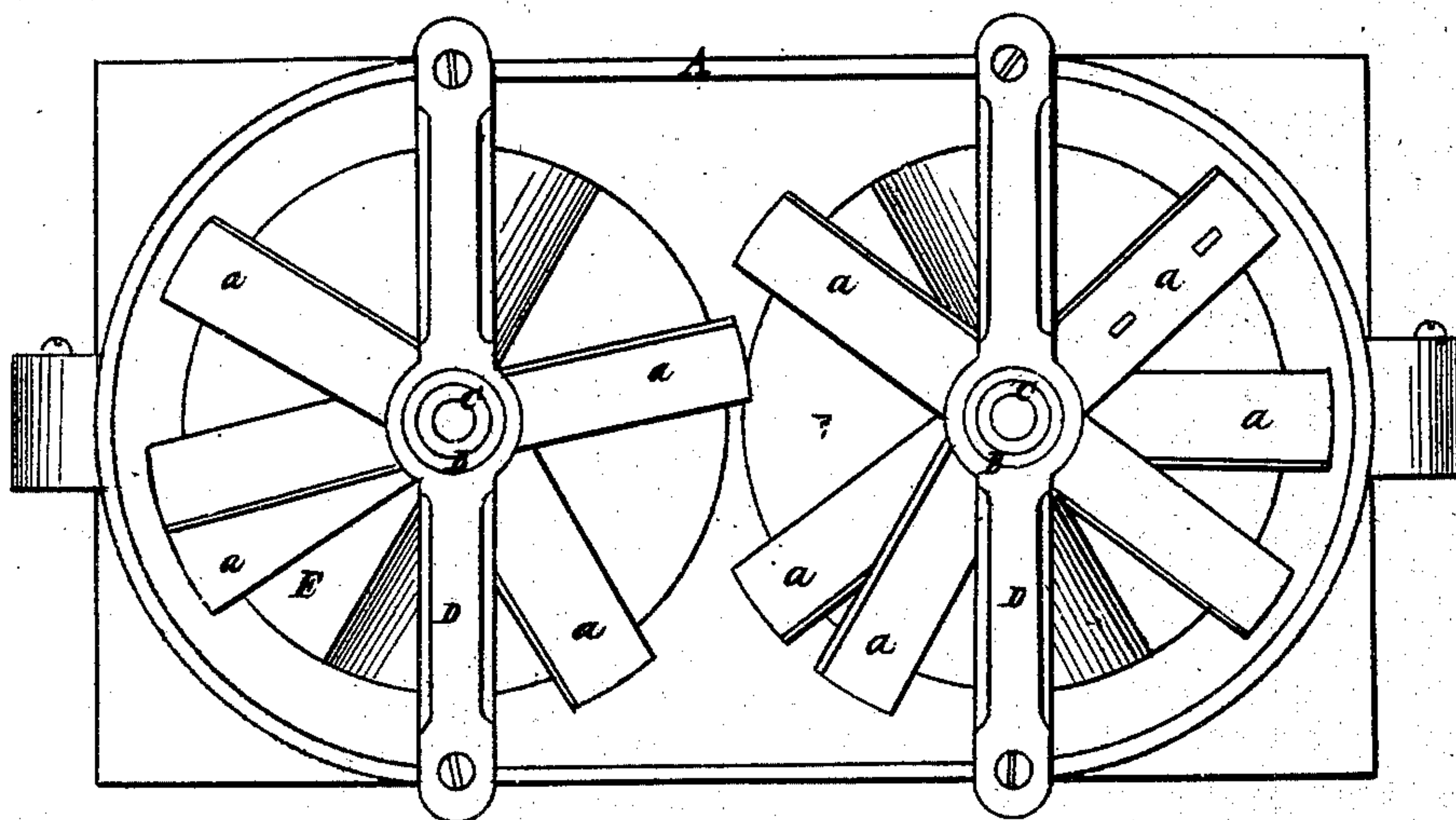
G. D. Goodrich.
Peat-Machine.

N^o 71870

Patented Dec. 10, 1867.

*Top view, showing
section on line
X.Y.*

Fig. 1.



Witnesses.

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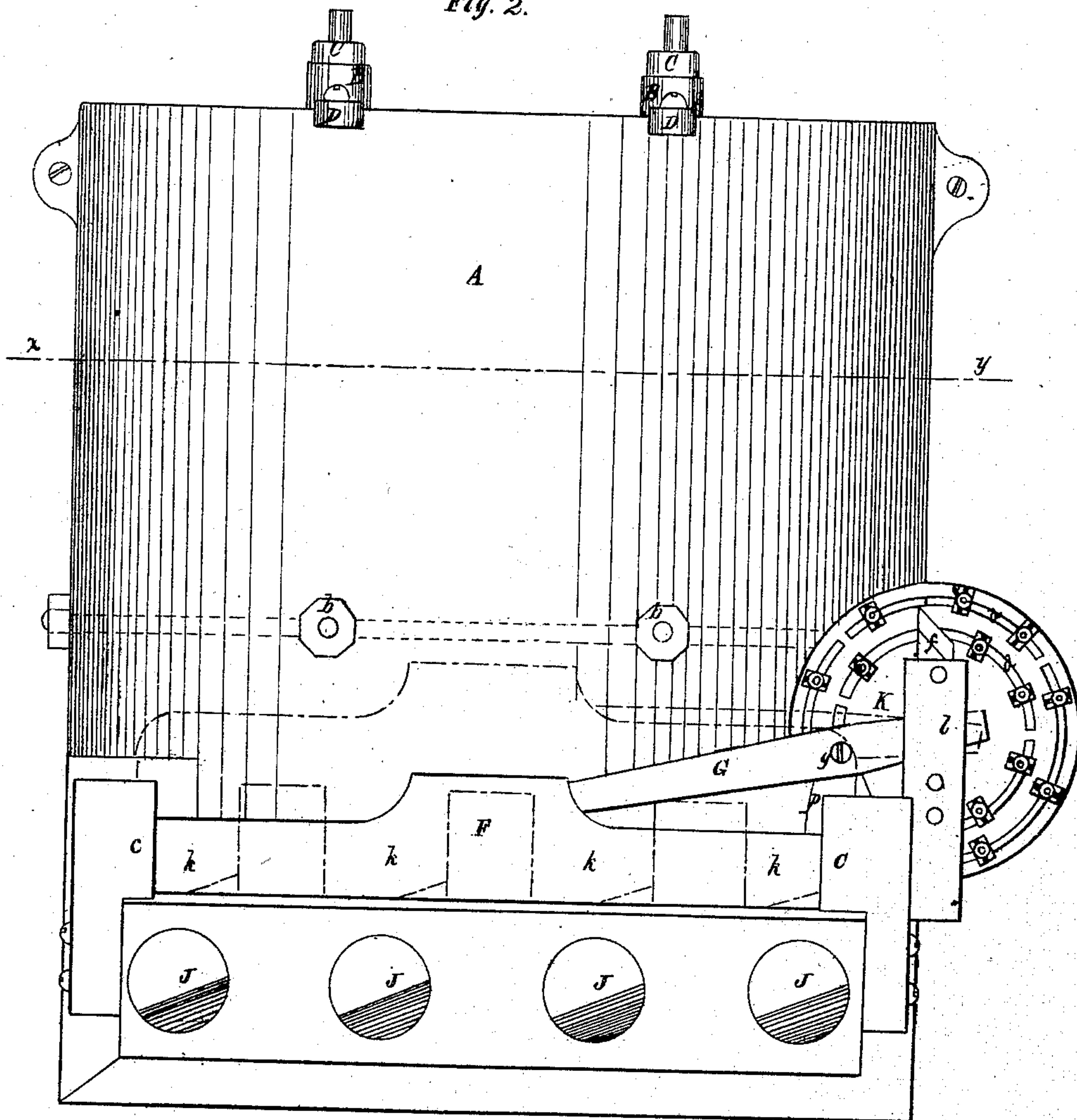
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Sheet R.
4 Sheets.

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Nº 71870 *Patented Dec. 10, 1867.*

Fig. 2.



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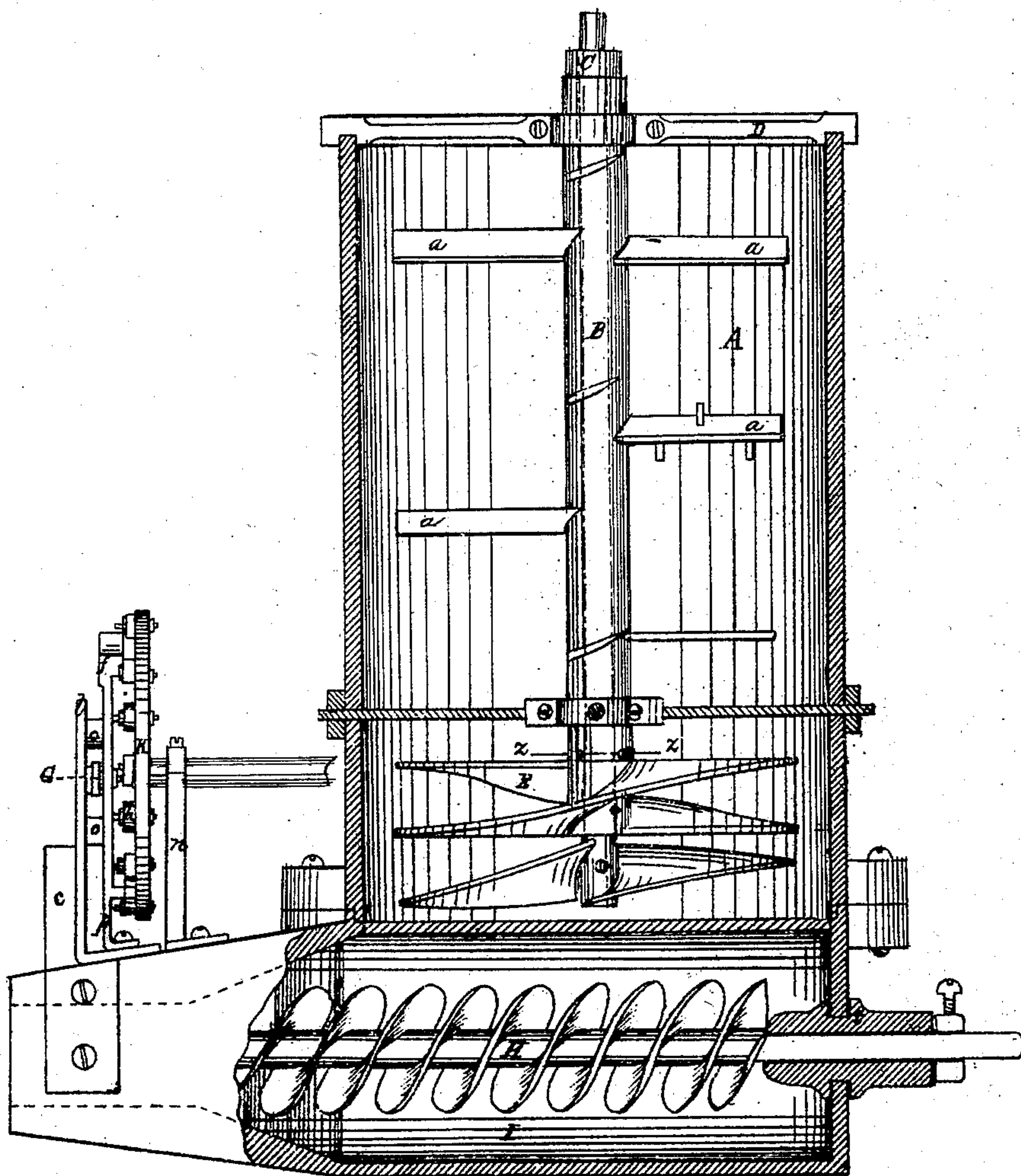
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Fig. 3.



Witnesses.

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Sheet 4.
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Fig. 4.

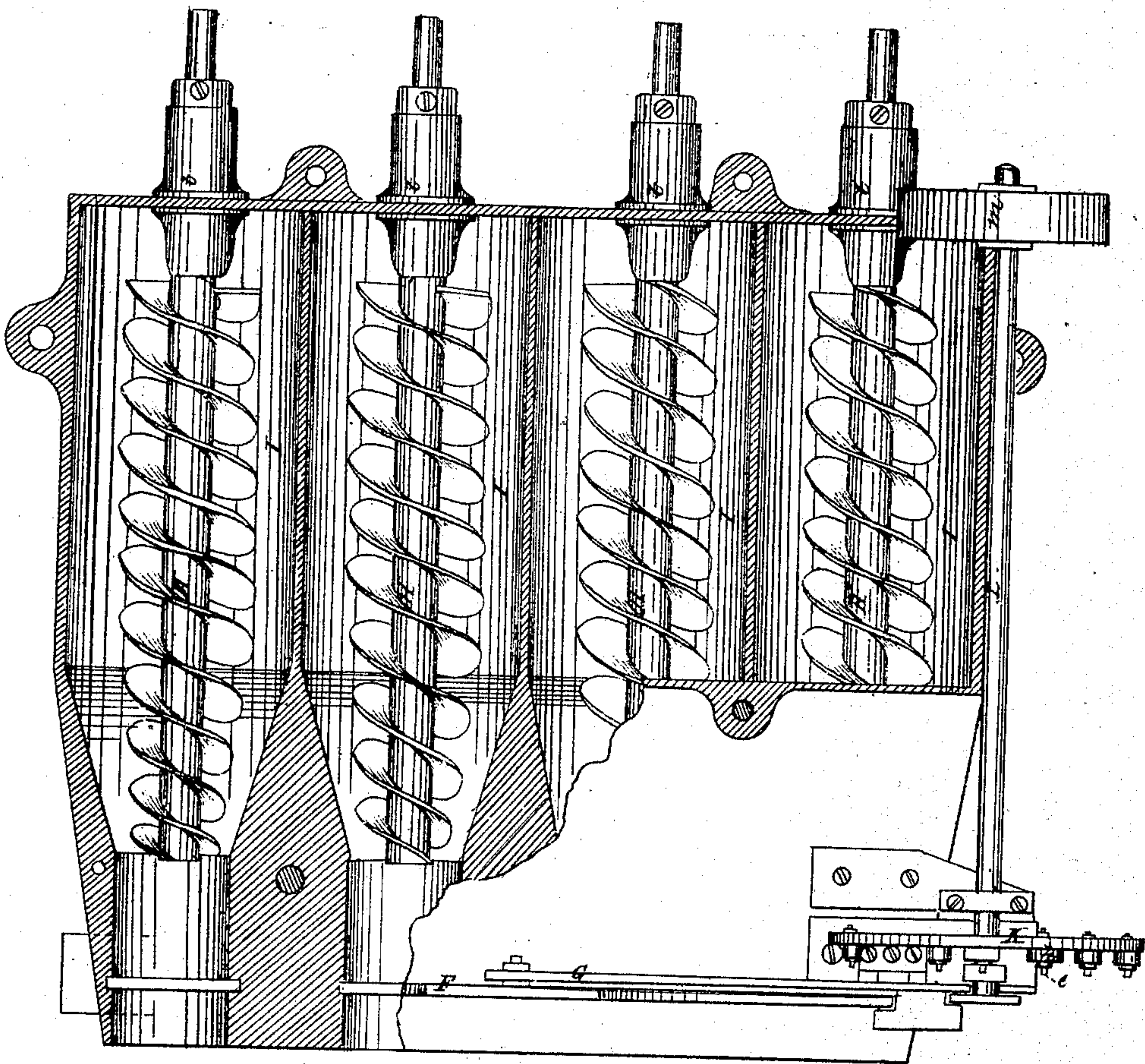


Fig. 5.

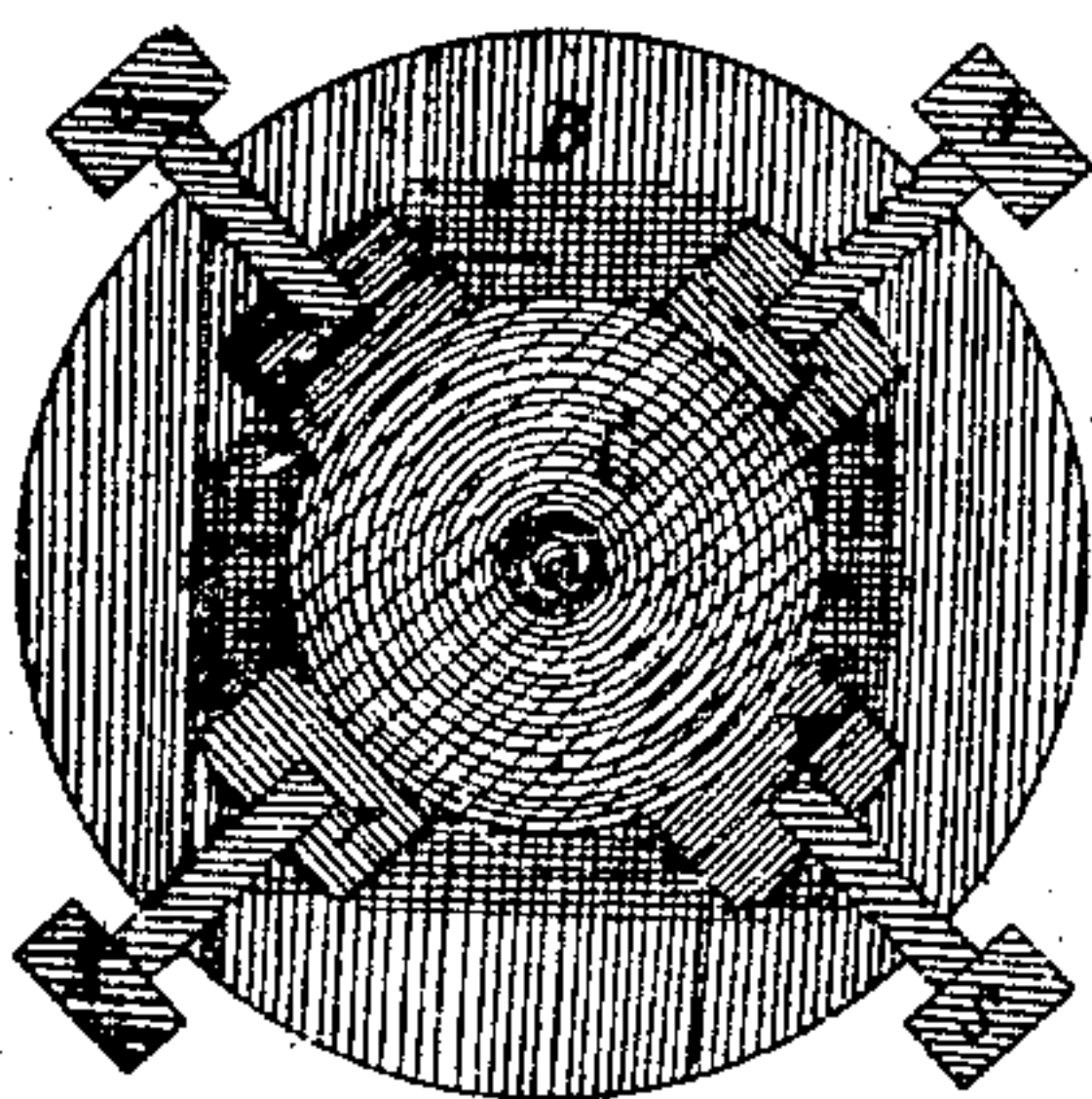
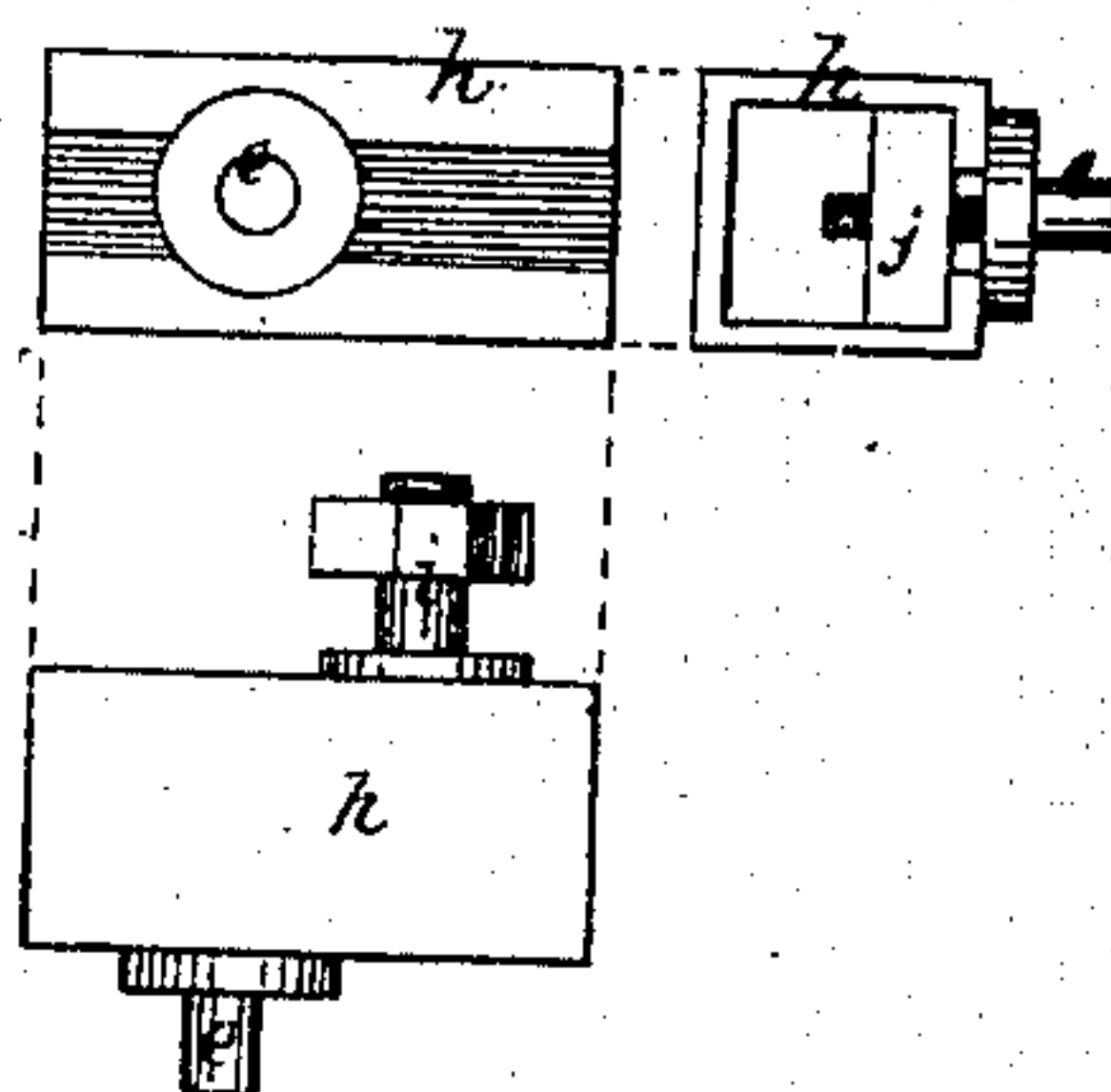


Fig. 6.



Witnesses.

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United States Patent Office.

GEORGE D. GOODRICH, OF CHICAGO, ILLINOIS.

Letters Patent No. 71,870, dated December 10, 1867.

IMPROVED PEAT-MACHINE.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE D. GOODRICH, of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Peat-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, consisting of two sheets, making a part of this specification, in which—

Figure 1 of Sheet No. 1, is a transverse section on red line *x y*.

Figure 2, Sheet No. 1, is a front view.

Figure 3, on Sheet No. 2, is a vertical section of the tempering-mill, with a portion of the lower case cut away.

Figure 4, on Sheet No. 2, is a top view of the horizontal part of the mill, with a portion of the case and the tempering-mill removed.

Figure 5, Sheet No. 2, is a cross-section of the shafts at red line *z z*.

Figure 6, Sheet No. 2, is an enlarged view of the plate or socket *h*, showing the method of fastening it to the plate, and showing how the pin *e* is attached to the socket.

The nature and object of my invention consist in constructing a machine in which the peat will be compressed by means of screws; in providing such machine with an adjustable automatic device for cutting the compressed peat into blocks of suitable size for use, as it comes from the machine; in combining two or more tempering-mills in the same cylinder; in providing adjustable bearings for the inner shaft of the tempering-mill, and in the several combinations hereinafter mentioned.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the box or cylinder, into which the peat is to be introduced and being the case of the tempering-mill, and may be made as shown, or of any other suitable form and size. B is a hollow shaft, to which are attached the knives or cutters *a*, which cut and mix the peat. C is a shaft within the shaft B, on which the screw-beater E is fastened. These shafts are supported and held in place as shown, or in any other suitable manner, and two or more sets of shafts, knives, and beaters may be combined and used in the same mill. Beneath each screw-beater E are placed two expelling-screws H, running in horizontal troughs I, by means of which the peat is compressed and expelled. The case A is to be securely fastened to the horizontal part of the mill containing the screws H. J are openings through which the peat is expelled, there being one for each expelling-screw. The flanch of the expelling-screws is somewhat smaller at one end towards the openings J than at the other end, and the troughs are correspondingly contracted taperingly, which facilitates the pressing of the peat. The ends of these screws H towards the openings J have no bearings, but are supported in the troughs, the contracted portion of the troughs being only large enough to permit the corresponding portion of the screws to move freely therein. The other ends of these expelling-screws are secured in substantial bearings *t*, and provided with suitable means of connecting the same with the power. F is a knife or cutter, used for cutting the peat into pieces of proper length. The knife is pivoted at *g* to the standard *p*. The knife has spaces between the cutting-parts, and there is a cutting-portion for each opening J. The form of the knife, and its position when elevated, are shown by the red lines in fig. 2, the letter *k* indicating the cutting-parts of the knife, the edges of which are inclined as shown, to facilitate the cutting. The cutting-parts of the knife work in slots, and the ends in grooves in the standard *c*. Two knives may be used instead of one, each being half the length of that shown, and each being operated by an automatic device, hereinafter described, placed at each end of the mill. The pressure required for peat varies with the quality and kind, hence an automatic device for cutting peat into pieces of desired length as it comes from the mill should be adjustable, in order to be adapted to various kinds of peat.

My device for this purpose is as follows: K is a circular metal plate, provided with two series of concentric slots *d*. In each of these slots I fasten, by means of the nut *i*, a hollow or bent plate or socket, *h*. In the face of the socket *h* is a recessed groove in which is a nut, *j*, which holds the pin *e* in place. The plate K is permanently attached to one end of the shaft *L*, supported on the standard *n* at one end, and at the other end properly supported and connected with the power by means of a wheel and belt, as shown at *m*, or in some other suitable manner. A bar or arm, *f*, is attached by means of a bolt to one end of the knife-lever G, as shown in

fig. 3, the other end of the lever being pivoted to the knife at its centre. Each end of this arm *j* is so inclined as to form a cam, the inclination being in the same direction at each end. The ends of the arm are made much thicker than the other part, and so shaped that when the pins in the outer series of slots pass over the upper end of the arm, the pins in the other series can pass the arm without touching it. The lower end of the arm is somewhat shorter than the upper. The outer pins *e* passing over the cam at the upper end of the bar *f*, raise the knife; the inner pins passing over the cam at the lower end of the arm force the knife down, and the peat is cut. In the arm *f* are slots to receive the guides *o*. The knife or closing-plates may be so constructed as to revolve, or have any other suitable mechanical movement. The bar *f* is kept in an upright position by means of the standard *l*, provided with the guides *o*. The socket *h* is adjustable in the slots by means of the nut *i*, and the pins *e* are also adjustable in the socket *h* by means of the nut *j*. By using a greater or less number of pins *e*, or by adjusting a part of them so that they will not strike the cams, the time during which the peat will be pressed can be varied, and the length of the pieces of cut peat can be also varied in the same manner. In machines of ordinary size, the distance between the end of the expelling-screws and the cutter or knife will be about six inches. In this space the peat will be compressed, and this space will be made of the same diameter throughout. The inner shaft *C* is liable to become loose by wear. To remedy this I provide the outer shaft *B* with recesses in the inside, and near the bridge, and in these recesses I fit journal-bearings *r*, as shown in fig. 5. These bearings are adjustable by means of the screws *s*, and can be advanced as the shaft *C* or the bearings *r* wear away. The face of these bearings may be faced with Babbitt or some other soft metal.

In operation the peat is put into the mill, when, after being pulverized by the knives *a*, it is forced down upon the expelling-screws *H* by the screw-beater *E*. The expelling-screws carry the peat through the troughs *I*, and the peat is compressed between the end of the screws and the knife. By means of the automatic device described, the knife is raised and forced down at proper intervals, cutting the peat into blocks for use.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The adjustable bearing for the shaft *B*, composed of two or more segments *r*, constructed and operating substantially as described.
2. The separate troughs *I*, located below the tempering-mill, when more than one expelling-screw is employed, so as to give each screw a separate and independent action, substantially as specified.
3. The cutter or knife *F*, for cutting the material into suitable lengths in a peat-machine having a continuous discharge from the expelling-mill, substantially as specified.
4. Closing the mouth of the die by an adjustable intermittent stop or knife, when so arranged that the movements can be varied with respect to the movements of the other operating parts of the machine, substantially as specified.
5. The double slotted plate or wheel *K*, provided with the sockets *h* and pins *i*, for the purpose of adjusting the movements of the cutter-stop or knife *F*, substantially as described.
6. The combination of the separate troughs *I*, expelling-screws *H*, and cutter-stop *F*, with a tempering-mill, substantially as specified.

GEORGE D. GOODRICH.

Witnesses:

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E. A. WEST,