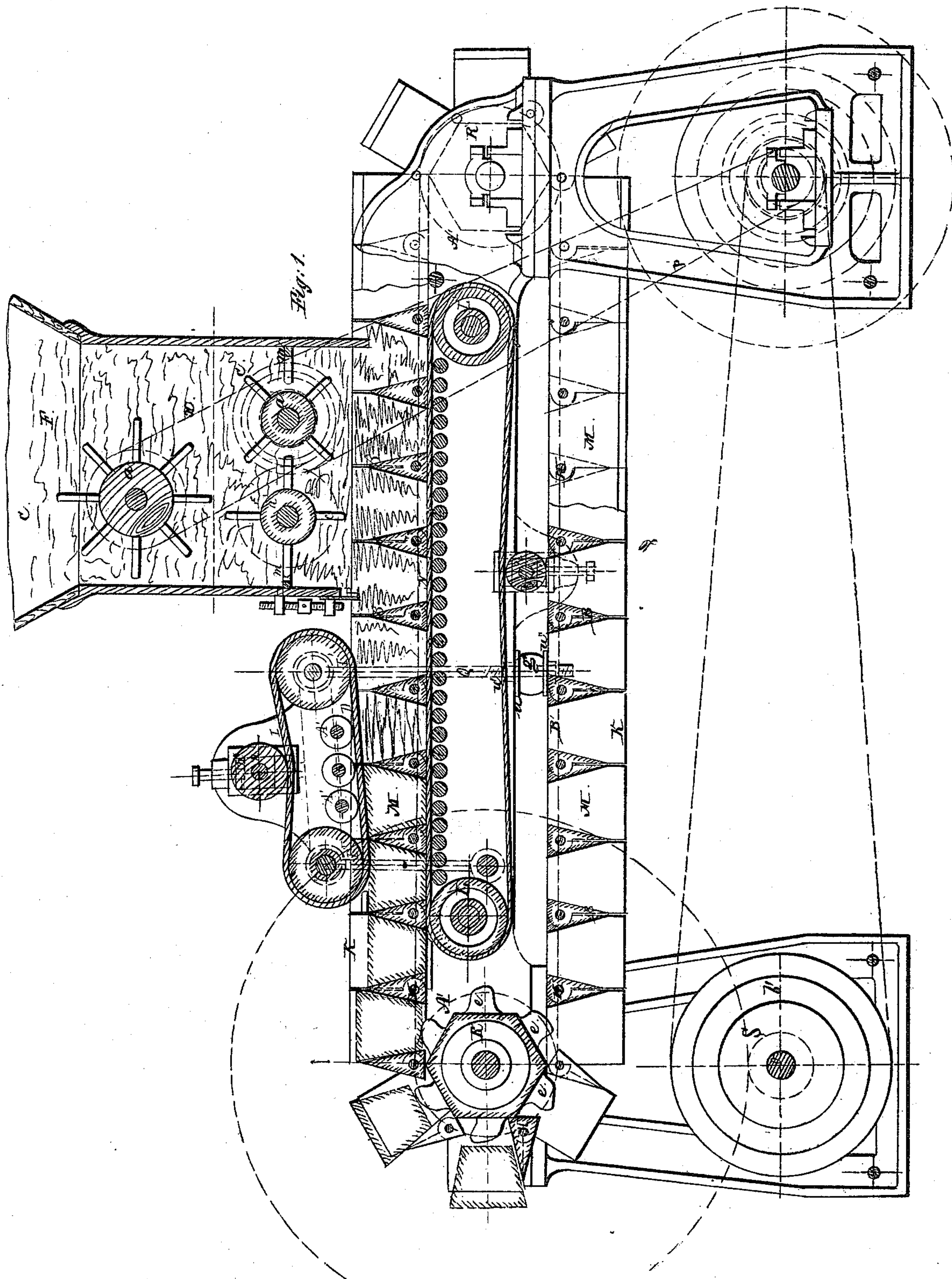


A. DIETZ.
Peat Machine.

3 Sheets—Sheet 1.

No. 97,279.

Patented Nov. 30, 1869.



Witnesses.
Joseph T. Atkinson
R. Stewart Latimer.

John H. P. Latimer
Attorney for the Inventor

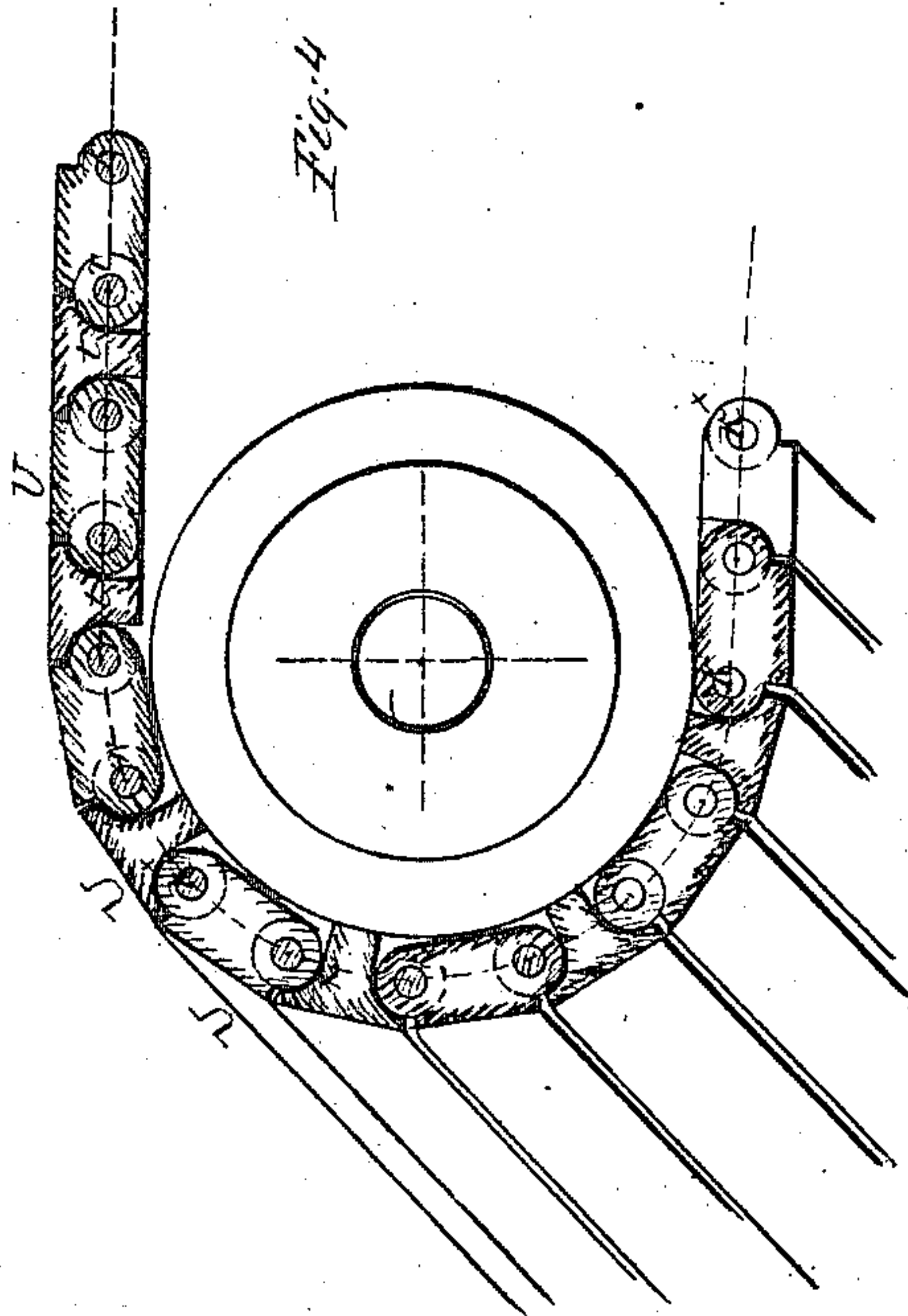
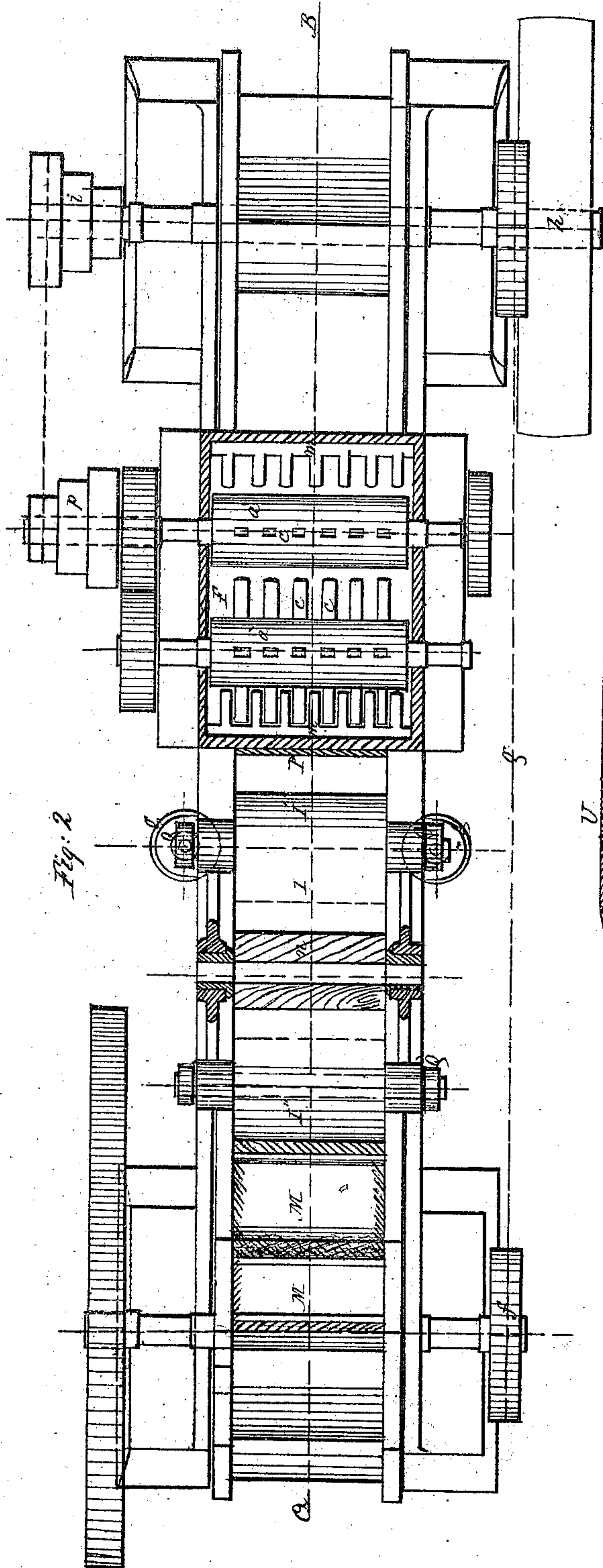
N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

A. DIETZ.
Peat Machine.

3 Sheets—Sheet 2.

No. 97,279.

Patented Nov. 30, 1869.



Witness
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R. Stuart Lathrop

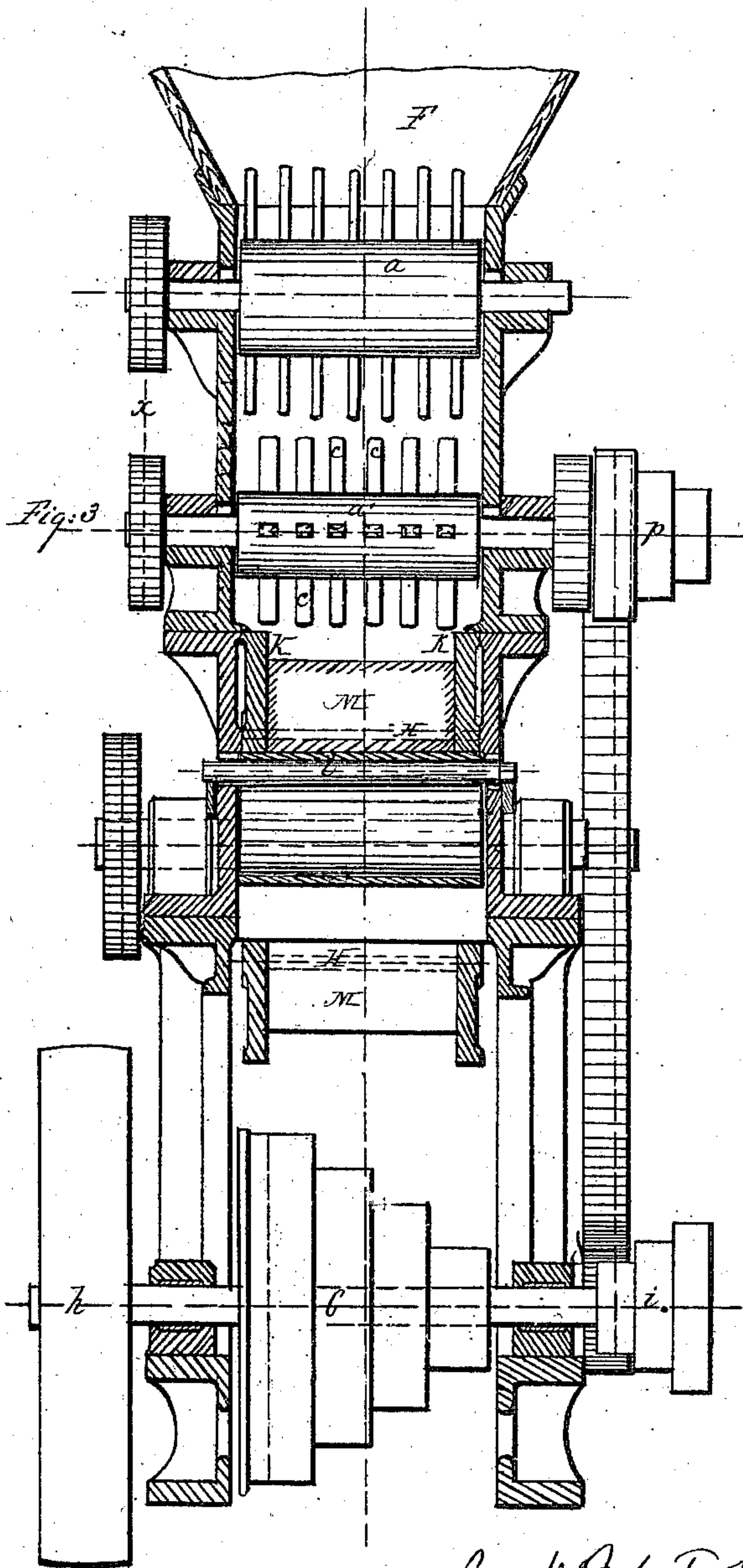
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attorney for applicant.

A. DIETZ.
Peat Machine.

3 Sheets—Sheet 3.

No. 97,279.

Patented Nov. 30, 1869.



Witnesses
Joseph T. Atkinson
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United States Patent Office.

AUGUST DIETZ, OF NEW YORK, N. Y., ASSIGNOR TO FRANK N. HOPKINS,
OF BALTIMORE, MARYLAND.

Letters Patent No. 97,279, dated November 30, 1869.

IMPROVED MACHINE FOR THE MANUFACTURE OF ARTIFICIAL FUEL, AND FOR COM- PRESSING CONGLOMERATE SUBSTANCES INTO COMPACT MASSES.

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, AUGUST DIETZ, of the city, county, and State of New York, have invented a new and Improved Machine for Manufacturing or Compressing Plastic Conglomerate Substances into Compact Masses for fuel and other purposes; 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, and to the letters of reference marked thereon, making a part of this specification.

This invention relates to a new and improved machine for manufacturing or compressing plastic conglomerate substances into compact masses of any desired shape and size, so that the same may be handled, conveyed, and sold with equally as great facility as any article of merchandise of a solid nature.

The invention is more especially designed for compressing a plastic conglomerate into compact solid masses for fuel, but it may be used for other or analogous purposes.

In the accompanying sheet of drawings—

Figure 1 is a side sectional view of my invention, taken in the line A B, fig. 2.

Figure 2, a plan or top view of the same, the hopper being in section, as indicated by the line A¹ B¹, fig. 1.

Figure 3, an end sectional view of the same, taken in the line C D, fig. 1.

Figure 4, a sectional view, showing a modification of the same.

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

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

F represents a hopper of inverted pyramidal form, and secured upon the machine in any proper manner.

Within this hopper there is placed what I term an agitator, *a*, composed of a horizontal cylinder, armed with radial teeth, as shown clearly in figs. 1 and 3; and below this agitator, also within the hopper, there are placed two filling or charging-devices, which fill the moulds of the machine, hereinafter described.

These filling or charging-devices are composed each of a horizontal cylinder, *a'*, provided with radial arms or blades, *c*, which are sufficiently broad or wide to have a requisite area to force down, by their rotation, the material in F, the arms or blades of one cylinder being in line with the spaces between the arms or blades of the other, so that they may pass each other, and the set of arms or blades of one cylinder serve as cleaners for those of the other set, said arms or blades also passing between fixed arms, *m*, in the hopper, which arms prevent the conglomerate being thrown or cast up by the arms *c* of the fillers.

In one side of the hopper F there is a gate, P, which

is opened and closed by being raised and lowered through the medium of a screw, *v*, shown in fig. 1.

This gate is for the purpose of regulating the discharge of the conglomerate from the hopper into moulds, M, which are all made precisely alike, of cast-iron, and connected together by hinges or joints, H, to form an endless chain of moulds which works over polygonal rollers, R R', at the ends of the machine, as shown clearly in fig. 1.

The axes of these rollers are in one and the same horizontal plane, and the under sides of the upper parts of said chain of moulds is supported by rollers L.

The partitions B, between the moulds, have inclined sides to admit of the free discharge of the compressed conglomerate blocks, as will be fully understood by referring to fig. 1, and the ends K of the moulds extend a short distance above the partitions B, in order to admit of the conglomerate being discharged into the moulds in sufficient quantity to insure compact blocks being compressed therein, the conglomerate being compressed down in the moulds to a level with the tops of the partitions B. Each mould is composed of two ends, K, and one partition, B, one of the latter serving, of course, for two moulds.

I represents what I term a presser, which is composed of an endless apron, D, working over rollers, I' I'', the former, I', being higher than the latter, I'', to cause a gradual pressure, which may be modified at will, through the media of two rods, Q, one at each side of the machine, said rods Q passing through fixed rubber springs, *g'*, and having the journals of the roller I' passing through their upper ends.

The springs *g'* are underneath fixed ears or flanges, *u*, over which, on the rods Q, are screw-nuts, *u'*, similar nuts, *u''*, being underneath the springs. These springs, it will be seen, give the required pressure to I, and also admit of its yielding or giving, as circumstances may require.

N is a band or strong endless belt, which works over rollers, L L', the rollers L, previously alluded to, being underneath the upper part of this band or belt, to serve as a support to the endless chain of moulds.

The endless apron D of the presser is tightened, whenever necessary, by a roller, *n*, the journals of which are fitted in sliding or adjustable bearings, *n'*, which may be pressed down by screws, *s*; and a series of rollers, A', is fitted in the framing of the rollers I' I'' of the presser, to serve as a bearing for the lower part of the apron D directly over the moulds M. The journals of the roller I'' are fitted in fixed bearings, from which the framing of the presser is moved or adjusted as centres, in getting the desired pressure.

The axes of the polygonal rollers R R', at one end, have toothed wheels, A^x, upon them, over which an endless chain, B^x, passes, to insure a uniform rotation

of both polygonal rollers R R'. The roller R', at the discharge-end of the machine, is provided with longitudinal projections, *e*, which serve to discharge the compressed conglomerate from the moulds, as the latter pass around said roller. This will be fully understood by referring to fig. 1. The length of the projections *e* is equal to the length of the interior of the moulds.

In the lower part of the frame of the machine is the driving-shaft, having a power or driving-pulley, *h*, at one end, and a cone-pulley, *b*, upon it at its centre, the latter, by means of a belt, transmitting motion to a cone-pulley, *b'*, on a shaft at the opposite end of the machine.

On the shaft of the cone-pulley *b'*, a cog-wheel, *d*, is keyed, which works into a cog-wheel keyed on the shaft of roller R', and which rotates said roller, and gives motion to the endless chain of moulds in the direction indicated by the arrow 1.

The cone-pulleys *b b'* are used to admit of the speed of the endless chain of moulds being graduated faster or slower, as may be required.

On one end of the shaft of the cone-pulley *b*, the end opposite to where the driving-pulley *h* is keyed, there is keyed a pulley, *i*, over which, and a pulley, *p*, on the shaft of one of the filling-cylinders *a'*, a belt, *p'*, passes, the latter communicating motion to said filling-cylinders, and to the agitator, either with the aid of gears or belts.

The conglomerate is placed in the hopper F, and is kept loose, or in an open state, by the agitator *a*, and is pressed down into the moulds M, level with the tops of the ends K, by the arms or blades *c* of the filling-devices, the gate P being adjusted to admit of a proper discharge of the conglomerate from the hopper into the moulds. These moulds, as they move along in the direction indicated by arrow 1, pass under the belt D of the presser I, and the latter compresses the conglomerate in the moulds down to a level with the tops of the partitions B, the presser being adjusted by the means hereinbefore described, to effect that end.

The cakes of compressed conglomerate are discharged in passing over or around the polygonal roller R', by

the projections *e* thereto attached, as previously referred to and set forth.

Metallic bands can be used in lieu of leather bands N and D, as can be seen in fig. 4; a metallic band being made of a series of plates connected by joints, the plates having a flat side, U. The pintles of the hinges or joints are designated by K*. *t* is the female portion of the hinges or joints, and *r* the male portions.

Having thus described my invention,

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

1. The endless chain of bottomless moulds M, jointed or connected together, and constructed and arranged so as to work over polygonal rollers R R', with a view to thus discharge by the cogs or pistons *e e*, substantially in the manner as and for the purpose herein set forth.

2. The regulating-gate P, fitted to the hopper F, and adjusted by the screw V, or its equivalent, in combination with the agitator *a*, and the filling or charging-devices *a a'*, all constructed and arranged substantially as set forth.

3. The presser I, constructed substantially as shown, in connection with the endless chain of moulds M, constructed and arranged for joint operation, substantially as herein shown and described.

4. The endless resting or bearing-band N, when used in combination with the endless chain of moulds M, for the purpose specified.

5. The projections *e*, on the roller R', when applied to an endless chain of moulds M, to discharge the compressed substance therefrom, substantially as and for the purpose set forth.

6. The combination of the endless chain of moulds M, presser I, and the resting or bearing-band N, all arranged for joint operation, substantially as and for the purpose specified.

AUG. DIETZ.

Witnesses:

A. R. HAIGHT,
THO. W. MANN.