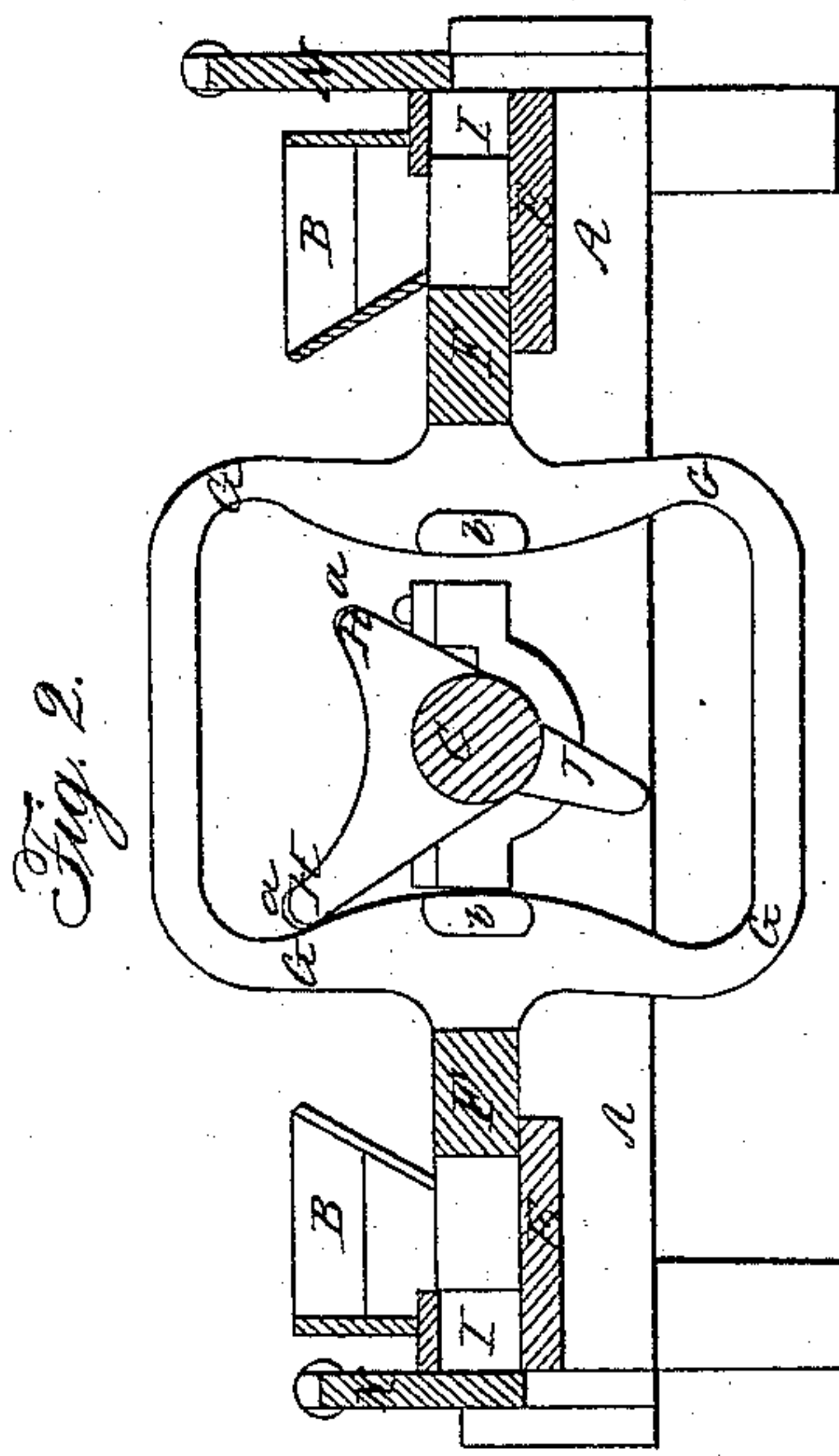
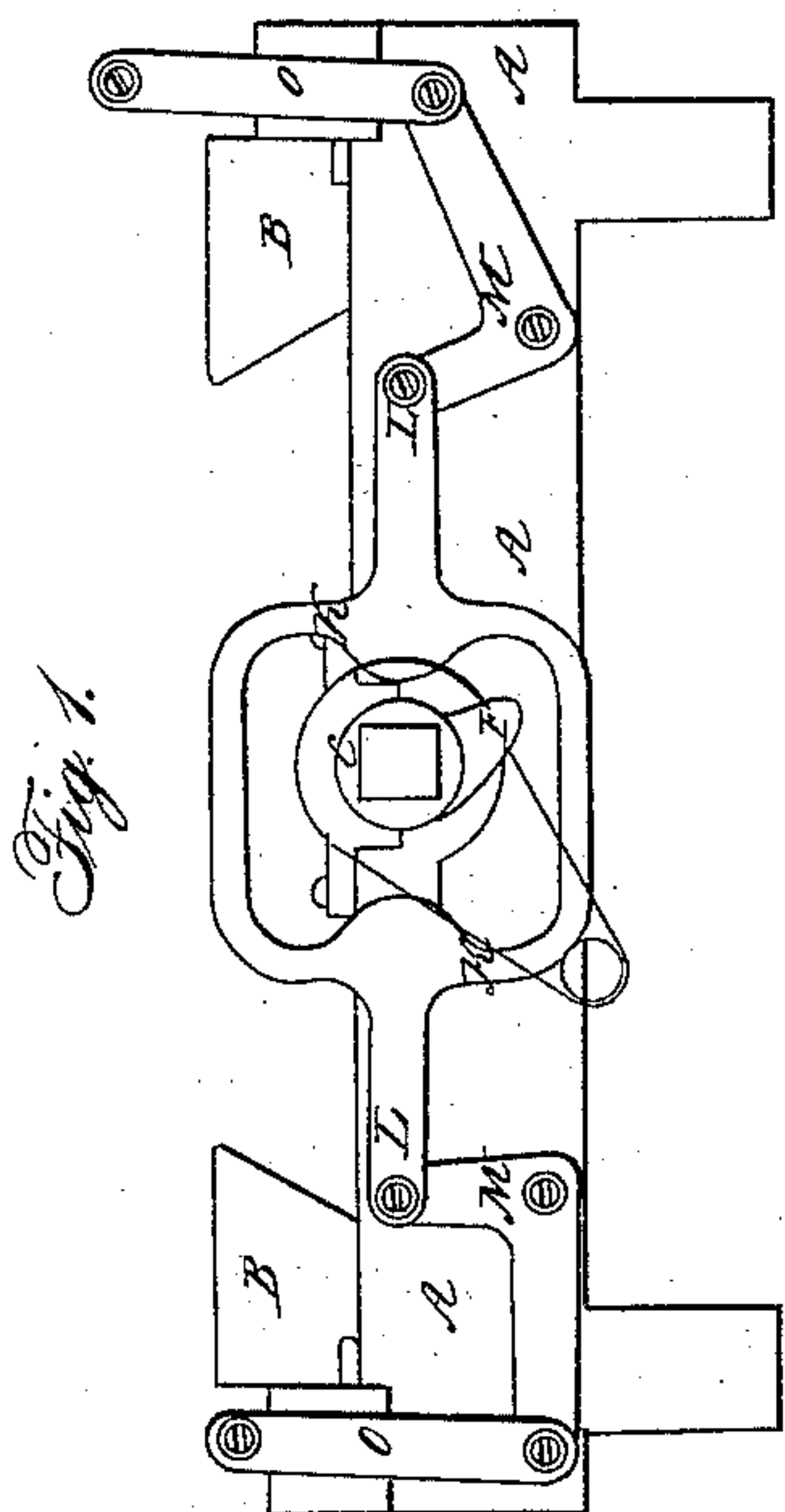
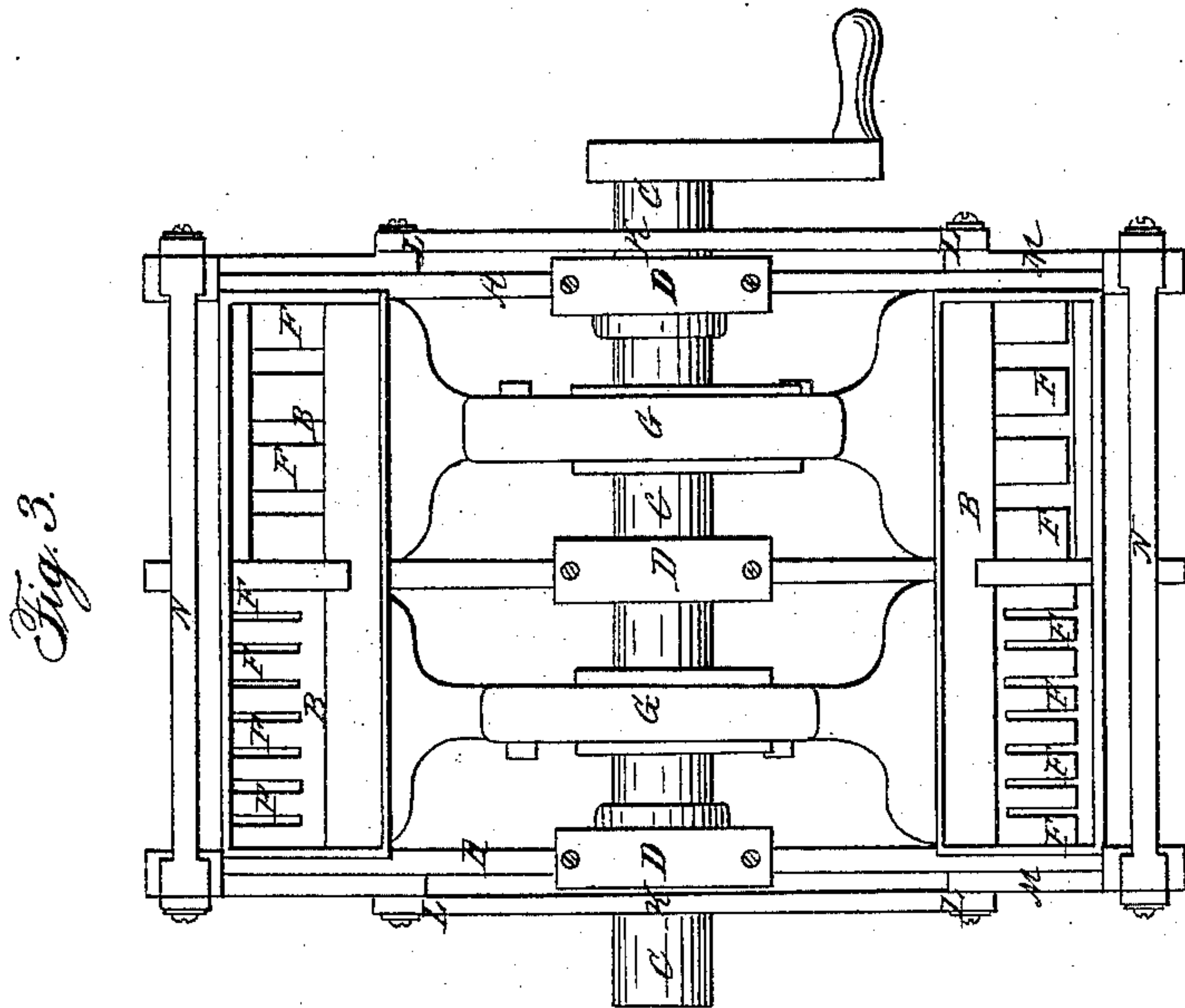


J. B. COLLEN.
Peat Machine.

No. 61,318.

Patented Jan. 22, 1867.



Witnesses:

John D. Patten
T. J. Chamberlain

Inventor:

John B. Collen
By Atty A. B. Stoughton

UNITED STATES PATENT OFFICE.

JOHN B. COLLEN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVED MACHINES FOR PRESSING FUEL INTO BLOCKS OR BRICKS.

Specification forming part of Letters Patent No. **61,318**, dated January 22, 1867.

To all whom it may concern:

Be it known that I, JOHN B. COLLEN, of the city of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Pressing Manufactured Fuel into Bricks or Blocks; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a side elevation of the machine. Fig. 2 represents a longitudinal vertical section through the same; and Fig. 3 represents a top plan.

Similar letters of reference where they occur in the several figures denote like parts of the machine in all of the drawings.

The object and purpose of my invention are to provide an efficient machine for pressing fuel (whether made of fine coal, coal-dust, coal-tar, and other substances mixed up or compounded into a soft or pasty nature, or whether of natural peat) into a brick or block, for the purpose of transportation and for improving its burning properties.

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

On each end of a substantial frame, A, I arrange a hopper, B, into which the composition or peat is placed, and from whence it is taken automatically and pressed into bricks, and delivered from the machine ready to be dried, and then transported and used as fuel. At about midway of the frame there is a shaft, C, supported in suitable boxes or bearings D D, which shaft may be revolved by any known gearing, and by any known power, and this shaft gives motion to the several moving parts of the machine through a series of cams and collars or yokes, as will be explained. Underneath the hoppers there is a bed-plate, E, upon which the followers F move and are supported. These followers F are connected to a cam-yoke, G, within which a cam-projection, or rather two cam-projections, H, on the shaft C revolve and act. The cams H may have friction-rollers *a* in their ends, to cause them to move more freely against the yoke, and with less friction. As the shaft revolves the cams H strike al-

ternately against the yoke, moving it and the followers at either side of it first in one direction and then in the opposite one. The followers force the composition or fuel into molds I, and press it into bricks or blocks, and afterward push the bricks or blocks out of the molds, whence they can be taken away by attendants on the machine, or by a traveling belt or apron, to some convenient place, where they are allowed to dry.

I have shown two sets of cams and two sets of yokes and followers, as operated by the shaft C. Any number can, of course, be arranged and operated within the capacity of the power used, and they may be all alike, except, as I have shown, the followers and molds may be greater or smaller, to turn out greater or smaller bricks or blocks, as may be preferred. On the faces of the yokes G there are cam ledges or projections *b b*, against which a cam, J, on the main drive-shaft strikes, for the purpose of starting back the followers, and releasing them and the pressed material or bricks, so that a gate may rise to allow the bricks or blocks to be pushed out of the molds, as will be explained in the operation of the machine. Outside of the main frame A of the machine, and upon the shaft C, are arranged two tappets or cams, P, (one only being seen in the drawings, viz, in Fig. 1, but both alike and acting together,) which work against the cam-yokes K arranged in the line of their path, and these cam-yokes are pivoted by their arms L to bell-cranks M, which in turn are pivoted to the main frame A. The long arms of these bell-cranks or crank-levers M are connected respectively to the gates N N, one at each end of the machine, and for each hopper, by links O O. As the yokes K are moved back and forth by the cams P, they raise and lower alternately the gates N, so as to allow the pressed bricks or blocks at one end of the machine to be pushed out of the molds, while at the other end of the machine the ends of the molds are closed by the gate preparatory to the pressing of a series of bricks or blocks at that end, and vice versa. The gates slide in ways properly prepared for them, and are otherwise supported, so as to resist the very severe pressure that comes against them, which amounts to a good many tons. The molds are made slightly tapering so that the bricks may

be readily pushed out of them, and the corners of the molds as well as the followers are rounded off, so that the bricks or blocks shall not have sharp corners, which would chafe and be broken off in transportation and cause waste and dirt.

The operation of the machine is as follows: The hoppers having been filled with the fuel composition, peat, or fine coal, that is to be pressed into bricks or blocks, the power to drive the machine is applied. The molds at one end having been closed by the dropping of the gate, the followers at that end moving through the hopper force the material into the molds, and compress it into quite a solid brick or block. Then the followers recede a little to take away the heavy pressure that is against the gate, and then advance again to push the pressed bricks or blocks clear through and out of the molds, from whence they may be taken away by attendants on the machine, or by a carrying apron or wheel, to a suitable place where they may dry and harden, when they are ready to be used as fuel. When the followers recede, after pushing out the bricks or

blocks, those at the other side or end of the cam-yoke begin and go through with a similar operation, the gate at that end having been lowered by the same device that raised the opposite one, and thus the machine turns out the pressed bricks or blocks first at one end and then at the opposite one, the only attention required being to supply the hoppers with the material that is to be pressed into bricks and blocks, and the removing of the same to some suitable place where they may dry or harden.

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

A machine constructed, arranged, and operated substantially as herein described and represented, for the purpose of pressing artificial or natural fuel in a fine or granular state into blocks or bricks for transportation, and for burning, as set forth:

JOHN B. COLLEN.

Witnesses:

J. F. GIRARD,

JOHN DONALD.