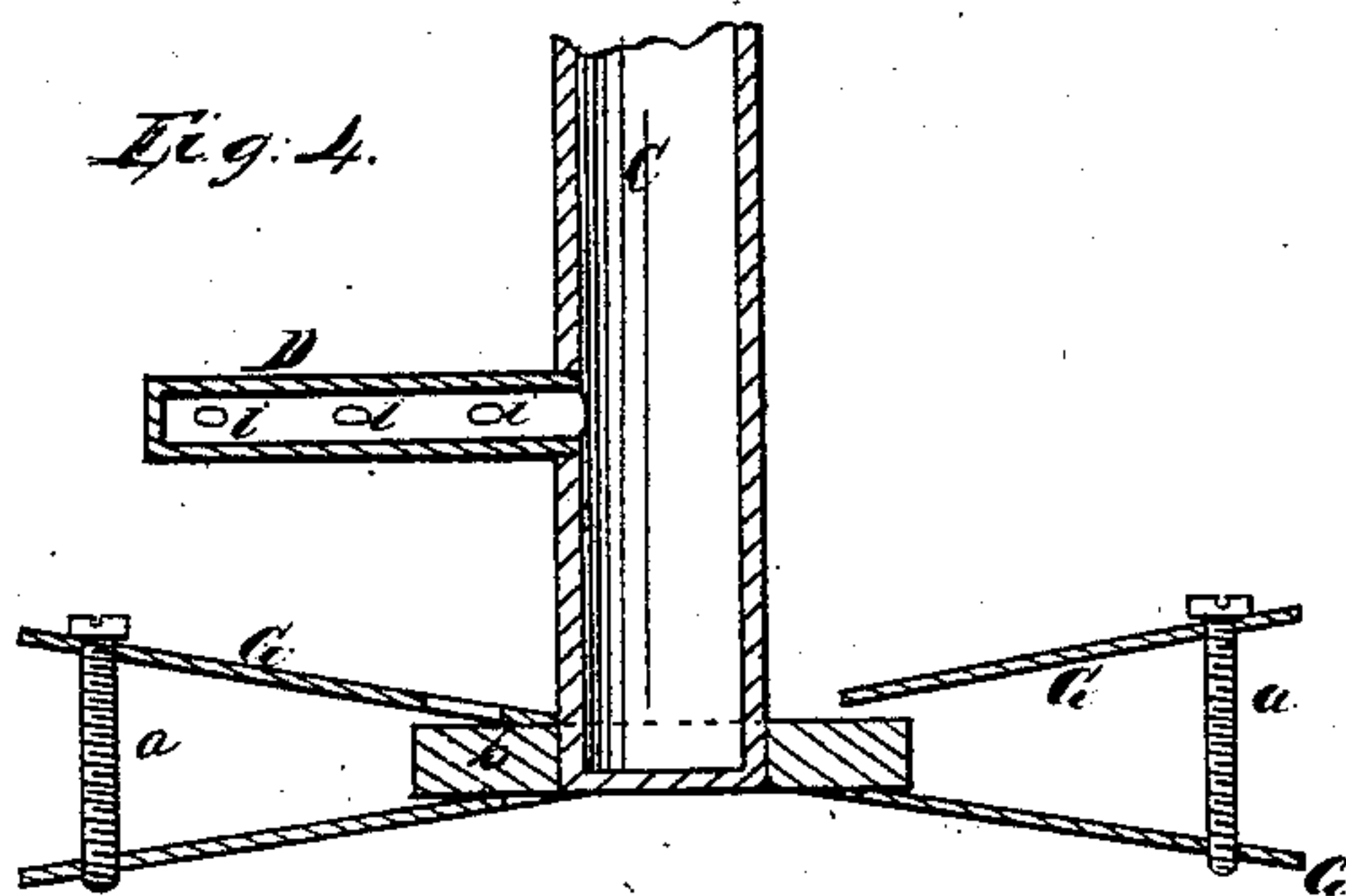
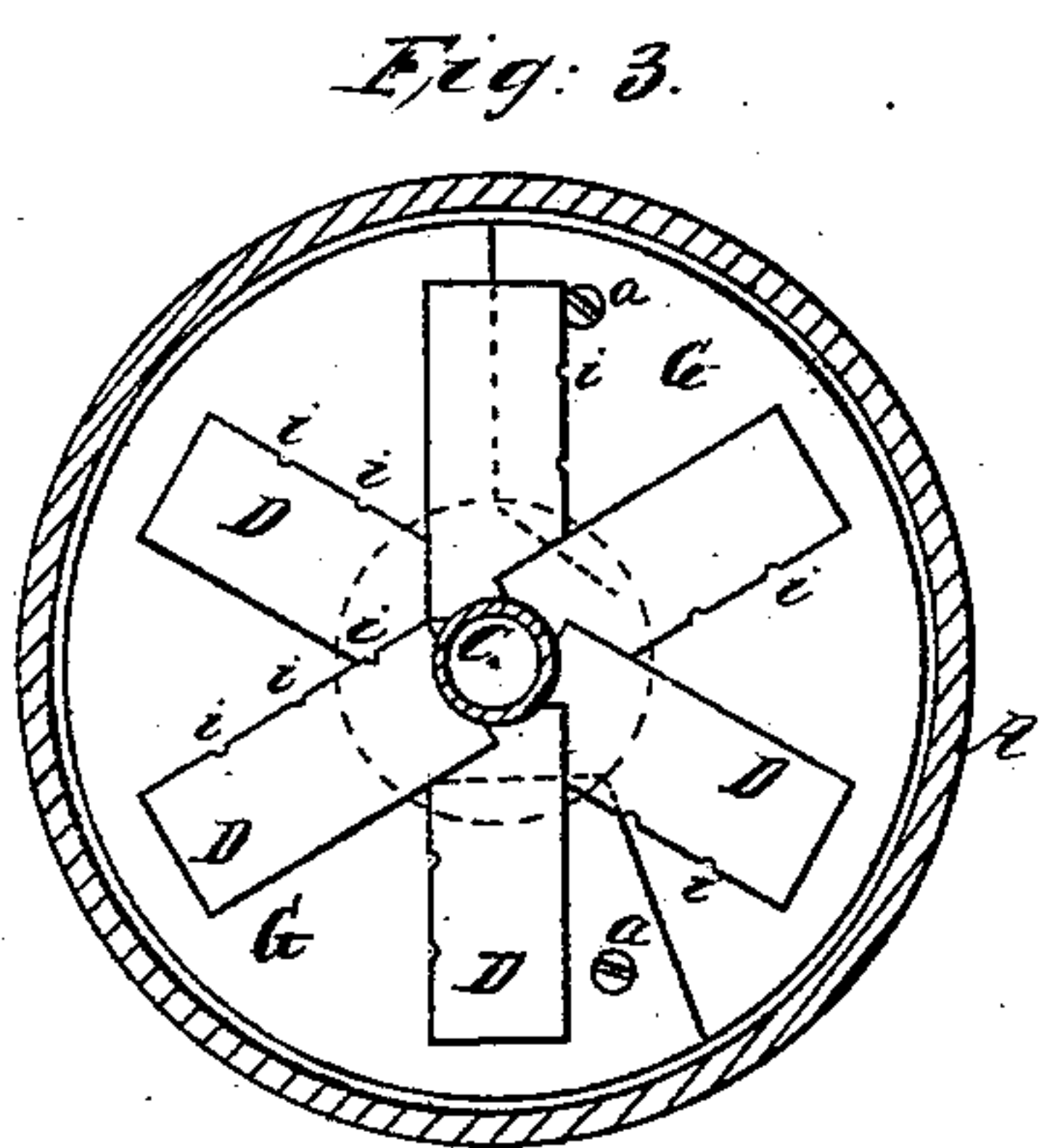
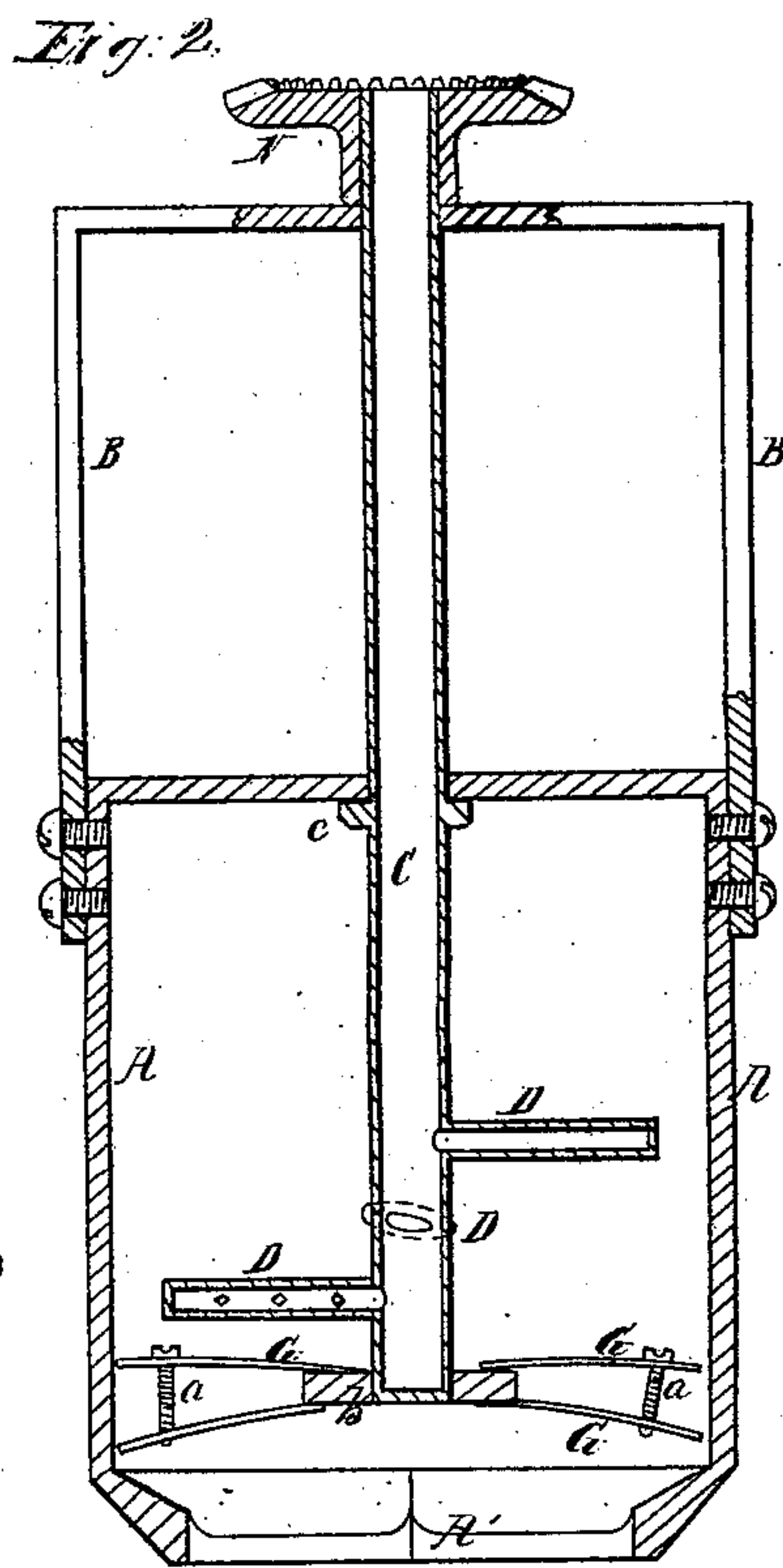
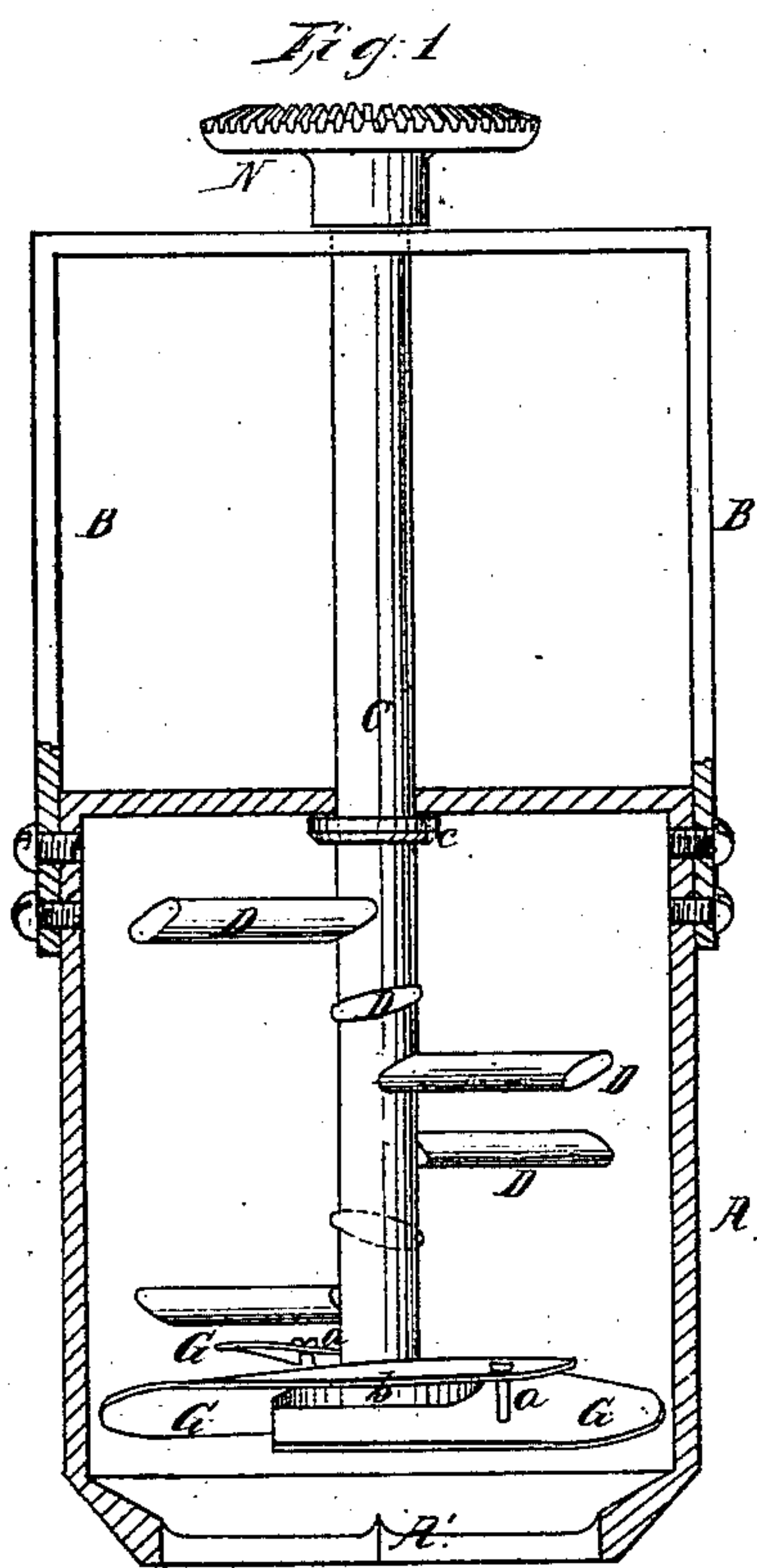


*J. W. Pease,
Pug Mill.*

N^o 84,901.

Patented Dec. 15, 1868.



Witnesses:

*R. J. Campbell.
L. H. Campbell.*

Inventor:

John W. Pease

*By
Mason, Sewich & Lamm.*

United States Patent Office.

JOHN W. PEASE, OF BELMONT, NEW YORK, ASSIGNOR TO HIMSELF,
LEONARD WILLETS, AND ISAAC WILLETS, OF SAME PLACE.

Letters Patent No. 84,901, dated December 15, 1868.

IMPROVED BRICK-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, JOHN W. PEASE, of Belmont, in the county of Allegany, and State of New York, have invented certain new and useful Improvements in Brick-Making Machinery; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a diametrical section through the sheet of the pug-mill, showing the mixing and disintegrating-apparatus therein.

Figure 2 is a diametrical section through the pug-mill shell and its mixing and disintegrating-apparatus.

Figure 3 is a horizontal section through fig. 1.

Figure 4 is an enlarged sectional view of the same feeder.

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

This invention relates to certain novel improvements, which are designed for preparing clay for being moulded into bricks, by thoroughly disintegrating, kneading, and mixing the clay, preparatory to conveying it into moulding-machinery.

The invention is also designed to provide a practical mode of introducing steam or fluid into a body of clay, during the process of mixing and kneading the same.

The nature of my invention consists in the employment of hollow, perforated, and spirally-arranged stirring-blades, in combination with a hollow driving-shaft, feed-regulating blades, and a pug-mill box, for the purpose of allowing the introduction of steam or fluid throughout the entire mass of clay in the mill, during the process of treating the clay, as will be hereinafter explained.

The invention further consists in a feeder, placed at the bottom of the pug-mill shaft, and so constructed that the feed of the machine can be nicely regulated, according to the temper of the clay, as will be hereinafter explained.

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

In the accompanying drawings—

A represents a cylindrical pug-mill case or shell, terminating at its lower end in a contracted portion, through which the clay is fed, and by which the clay is more or less condensed in its outward passage.

B is a frame, which is erected over the case A, for the purpose of serving as bearings for a central vertical shaft, C, carrying the feeding and mixing-devices, and also a spur-wheel, N, which latter is applied fast to the upper end of this shaft C, so as to form a connection between the same on a convenient motive-power.

The hub of wheel N supports the shaft C upon frame B, and the fixed collar c prevents the shaft from rising during the treatment of the clay.

The shaft C is hollow, but closed at its lower ex-

tremity. Its upper end is designed to receive, in a suitable manner, a pipe leading to a steam-generator, for the purpose of conducting steam to the clay in the case A.

Upon this shaft C, I apply a number of hollow blades, D, which are properly feathered and arranged in a spiral manner around the axis of their shaft, as shown in the drawings. The outer extremities of these blades are closed, but the back edges thereof are perforated, as shown at *i*, for the purpose of allowing steam from the hollow shaft to issue in jets, and in this manner be intimately mixed with the clay in the mill-case, as the shaft C is rotated and the blades forced through and through the clay.

It has been found in practice that clay is materially benefited by the use of steam with it just before it is forced into the brick-moulds, and during the operation of tempering it. The introduction of the steam into the body of clay in the pug-mill, through the blades, which are used for stirring, kneading, and mixing the clay, will more thoroughly moisten the clay than can be done by any other means.

The blades D being feathered as described and shown, and bevelled so as to form knife-edges, they will successively operate to press the clay downward while it is being tempered, and allow it to be taken by spiral or sectional screw-blades G G, and forced out of the mill.

In pug-mills hitherto used, if the clay is too soft, it offers comparatively little resistance to the feeding and mixing-devices, and is forced out of the mill too rapidly; and if it is rather too stiff, it may not be fed fast enough. To overcome this objection, I employ the two spiral or screw-blades G G, and apply them to a hub, *b*, fastened to the lower end of shaft C, so that their gathering-in edges are free to be adjusted; and, in combination with these adjustable edges, I use set-screws *a a*, or other equivalent device, for adjusting and holding the edges at any desired point. By this means, the feeding-capacity of the blades G can be adjusted according to the consistency of the stock which it may be required to use in the manufacture of bricks.

It will be seen that the hollow propelling-blades are so applied to the hollow shaft, and so perforated, that, beside operating as propellers and disintegrators of the clay, they will leave water or steam (whichever may be used) in thin sheets in their "wake," and thus uniformly distribute moisture throughout a mass of clay while it is being tempered, and while being moved through a vertical pug-mill. The blades cut through the clay, from the centre to the circumference of the mill-case, and divide the clay in horizontal planes, leaving steam or water between each horizontal division of clay, so that the kneading-operation may be effectually performed.

Having described my invention,

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

1. The combination of the hollow, perforated, and spirally-set taper-arms D, with hollow shaft C, and with the feeding-blades G G, substantially as described.

2. Adjustable feeding-blades G G, applied to the shaft of the pug-mill, for the purpose of regulating the

feed of the clay to brick-making machinery, substantially as described.

Witness my hand, in matter of my application for a patent for improvement in machinery for making brick.

Witnesses:

J. W. PEASE.

J. V. CAMPBELL,
JULIUS HIRSCH.