

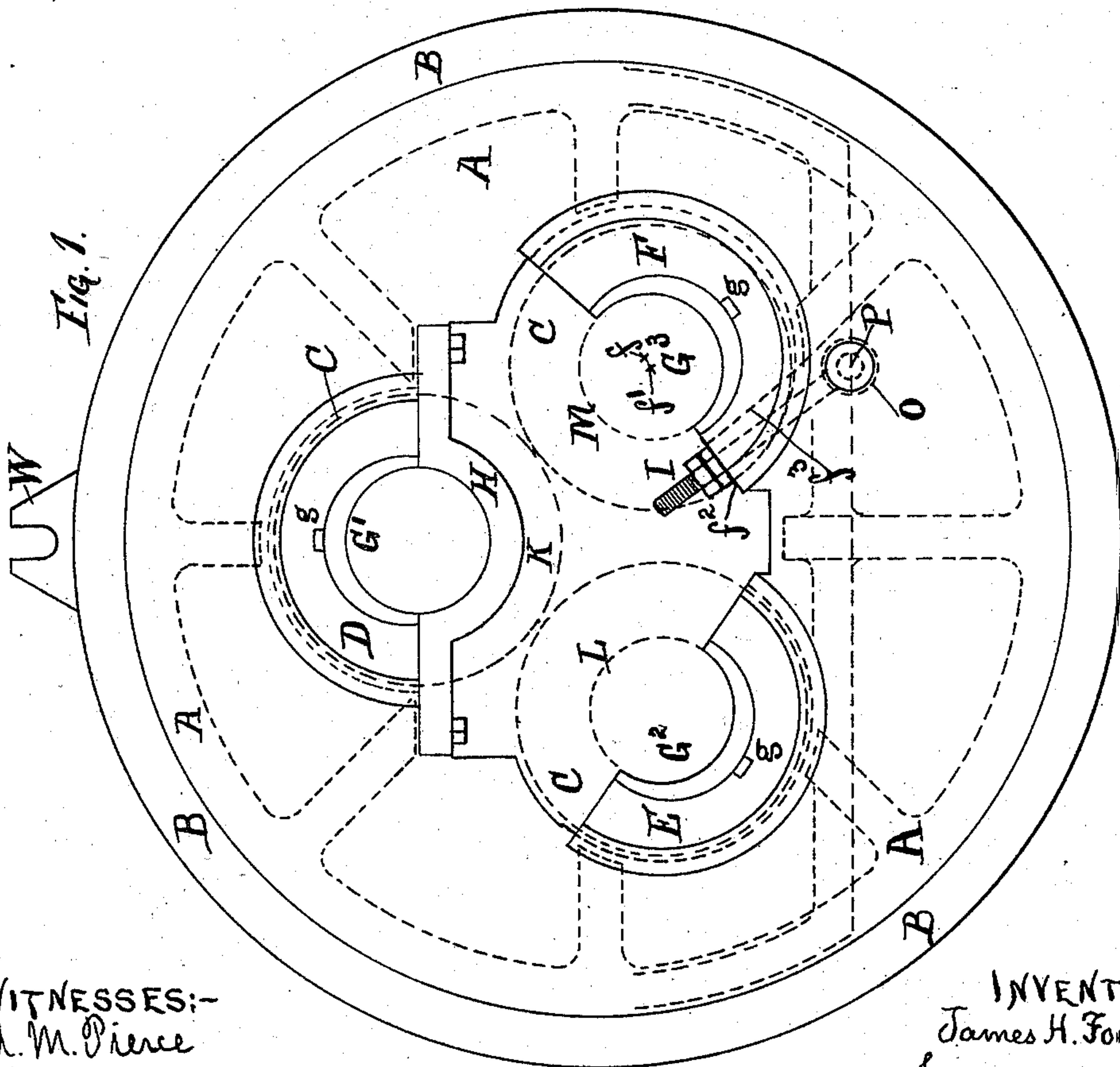
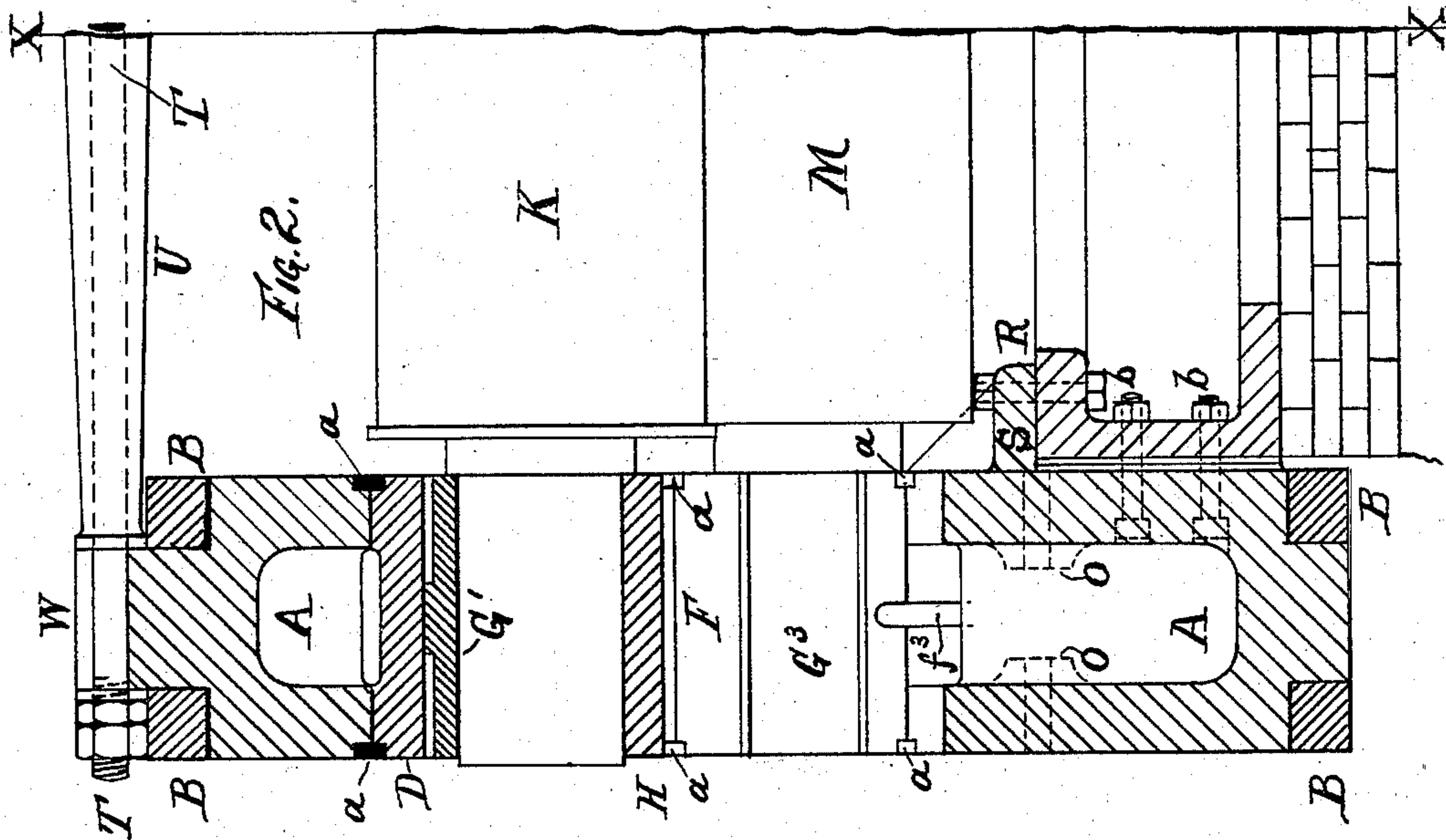
(No Model.)

2 Sheets—Sheet 1.

J. H. FOGARTY.
CANE MILL.

No. 535,577.

Patented Mar. 12, 1895.



WITNESSES:-
A. M. Pierce
C. S. Wright

INVENTOR:-
James H. Fogarty
by Wm H. Weightman
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(No Model.)

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Fig. 4.

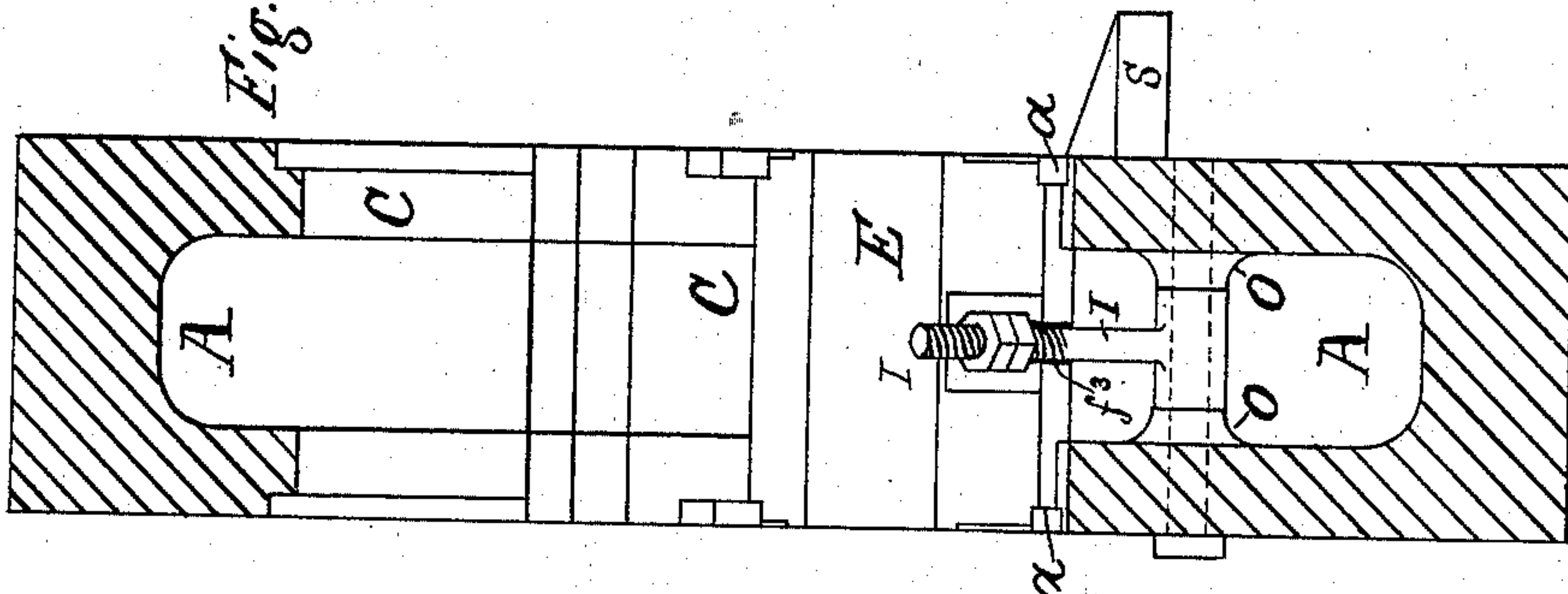
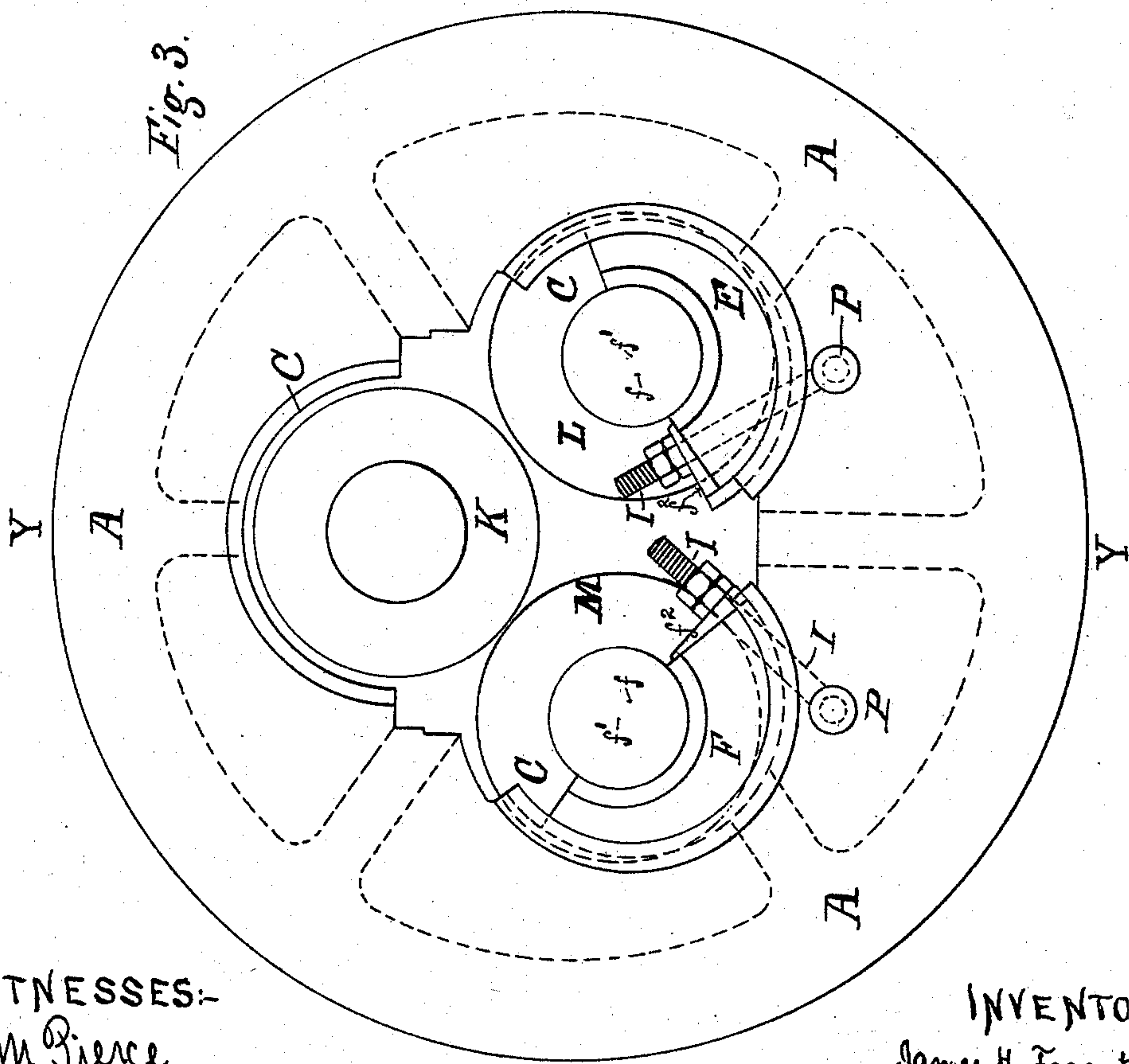


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES H. FOGARTY, OF NEW YORK, N. Y.

CANE-MILL.

SPECIFICATION forming part of Letters Patent No. 535,577, dated March 12, 1895.

Application filed June 28, 1894. Serial No. 515,924. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. FOGARTY, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Cane-Mills, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates especially to and has for its main object, an improvement in the construction of the cheek pieces for cane mills, whereby the same may be cast in one piece if desired, and means provided for the easy insertion or withdrawal of the rolls, whereby the replacing or readjustment of any one of the rolls may be accomplished without disturbing the others or without disturbing the general alignment of the mill or its cheek pieces.

Other improvements consist in the construction, arrangement and combination of the several parts or portions, hereinafter shown, described and claimed.

In the accompanying drawings, Figures 1 and 3 represent each a face elevation of my improved housing or cheek pieces for cane mills. Fig. 1 shows a single bearing block eccentrically mounted, Fig. 3 showing two. Fig. 2 represents a half vertical, sectional elevation of cheek piece and half mill, line X, X, indicating the center line of the mill, both ends or cheek pieces being made alike, or duplicates of each other. Fig. 4 is a vertical section through Y, Y, Fig. 3.

Similar letters of reference designate like parts or portions in all the figures.

Letter A, designates the main body of the cheek pieces, preferably cast in one piece but which may be divided and fitted together in parts as may be desired.

B, designates one or more metal straps or rings of steel, wrought iron or like metal of great tensile strength, made use of when desired or necessary to assist the cast portion of the cheek pieces in resisting the strain developed by the crushing of the material being passed between the rolls.

C, designates the several openings provided and located to permit of a free horizontal insertion or withdrawal of each of the rolls. These openings are made of a slightly larger diameter than that of the rolls or their flanges.

Letters D, E, and F, designate upper and lower bearing blocks here shown in Fig. 1 provided with bearing brasses G' , G^2 , and G^3 , within which the roll-shafts revolve while at work.

Letter H, Figs. 1 and 2, designates an under yoke or cup for taking the weight of the upper roll when not in use. When in use, the pressure of course reverses and the thrust is upwardly against the inverted bearing G' , and its bearing block D.

Letter I, in Figs. 1, 3 and 4, designates an adjusting bolt for varying the position of the bearing block F.

Bearing block F, Fig. 1, and bearing blocks E and F, Fig. 3, are shown eccentric to the circle of the shaft bearing. Their bearing circles or circumferences are struck from a center f , eccentric to the shaft circle whose center is at f' .

Letters K, L and M designate the three rolls constituting the mill illustrated, the rolls K and M being shown in full lines in Fig. 2, and all three in dotted lines in Fig. 1.

Letter O, designates the bearing lugs, and P, the carrying pin upon which the adjusting bolt I, centers and acts. By the screwing up or releasing of the nuts on bolt I, the edge f^2 of the bearing blocks can be moved up or down and the whole centering upon point f , moves the bearing blocks, to raise or lower the rolls as may be necessary to more or less close the space between operating pairs. A slot f^3 , formed in the bearing blocks, provides a passage through which bolts I, reach their carrying pins P and O.

In the operation of cane mills of this kind rolls L, and K, receive the cane and give it the first squeeze, while rolls M, and K, give it the second. In general practice rolls K and L are set more or less apart to suit the material to be treated, and are kept regularly at such position, but rolls K and M are kept to an approximately close contact according to the judgment of the operator and the requirements of the work. Close adjustment is therefore necessary between rolls M and K. Where the mill does the final or finer rolling of a train, ready adjustment is considered desirable not only between the discharging rolls K and M but also between K and L, the receiving rolls. Any other well known method

of adjustment of course may be used, the method as shown, however, being preferred since no change of adjustment varies the reliability of the bearing blocks to take the thrust of rolls.

The bearing blocks and bearing brasses may be made of a single piece as shown in Fig. 3 or they may be made separate and feathered together at *g*, as shown in Fig. 1.

To secure a reliable support of the housings or cheek pieces upon the mill bed, projecting flanges or lugs *S*, are provided to be bolted to bed plate at *R*, vertical and horizontal bolts *b, b*, being used. To meet any side thrust of operation, tie bolts and sleeves as shown at *T*, and *U*, are used, connecting the cheek pieces together by means of slotted lugs *W*. All the bearing blocks are shown held in position against side movement by the ring portions *a, a, a*, &c.

To permit the withdrawal of either one of the lower rolls, the retaining rings *a, a*, are removed and the weight of the roll taken from the bearing blocks by overhead tackle. Either bearing block may then be withdrawn or skidded from its position by means of tackle and eyebolts attached to the block leaving a liberal opening for the exit of the roll itself. This is accomplished by overhead suspension and tracks. As the upper roll does not exert any pressure against its bearings except while at work, its bearing blocks may be readily withdrawn upon the removal of the retaining rings *a, a*. The yoke *H* is also removed and a free exit for the upper roll is provided.

Figs. 3 and 4 of the drawings show the cheek piece with the upper retaining rings *a, a*, bearing block *D* and yoke *H* removed. In Fig. 3, the roll *K* is shown in position ready for removal.

Either one or both of the bearing blocks *D* and *E* may be made eccentric and adjustable as well as bearing block *F*, and such adjustability of the bearing block when made eccentric, may be controlled by the use of lugs, set screws, or by any well known method. These eccentric bearing blocks with or without the brasses may be applied to bearings

in all styles of machines besides those of sugar rolls wherein the same approach and receding of the shafts to and from each other are desired, for throwing in and out of gear or in and out of contact as may be necessary.

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

1. In combination with the bearing blocks of a roller mill, a cheek piece made of a single casting and provided with perforations through which, said bearing blocks being removed, the rolls may be inserted or withdrawn longitudinally, as and for the purposes set forth.

2. In combination with the bearing blocks of a roller mill, a cheek piece provided with perforations through which the rolls may be inserted or withdrawn longitudinally, one or more strengthening rings, and an under yoke or cup for taking the weight of the upper roll when not in use, as and for the purposes set forth.

3. In combination with the bearing portion or neck of a shaft, a bearing block eccentric thereto, a fixed supporting base or frame and means for the adjustment of said bearing block, substantially as and for the purposes set forth.

4. In combination with the connecting bed plate and rolls of a roller mill, cheek pieces having perforations opposite to and in line with the rolls, through which they may be longitudinally inserted or withdrawn, bearing blocks resting within said perforations, and an upper tie-bolt connecting said cheek pieces, substantially as and for the purposes set forth.

5. In combination with a cheek-piece of a roller mill, bearing blocks, one or more of which are mounted eccentrically to the shafts supported, and means for adjusting and holding said eccentric bearing blocks to the required position, substantially as and for the purposes set forth.

JAMES H. FOGARTY.

Witnesses:

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