

No. 672,223.

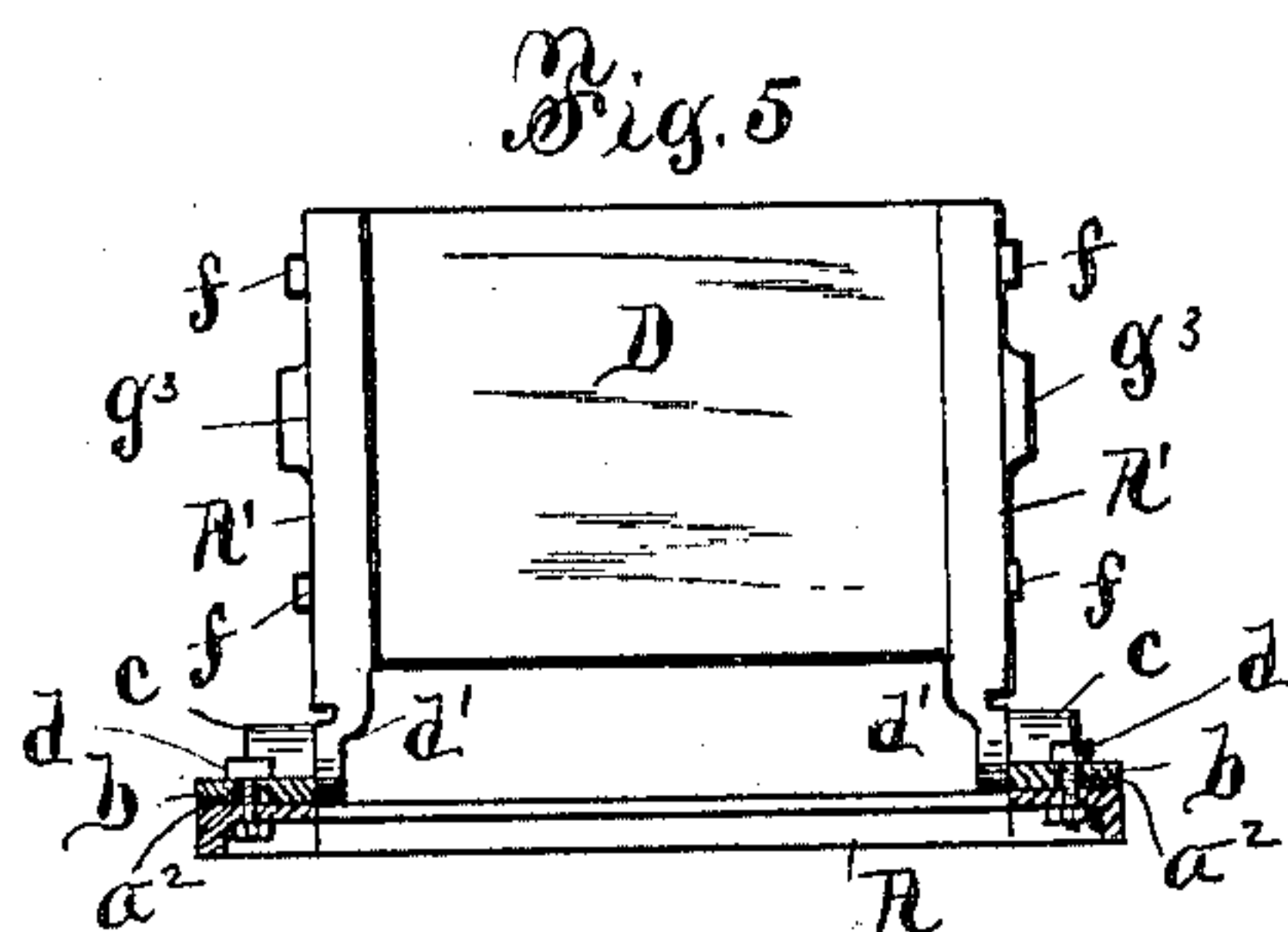
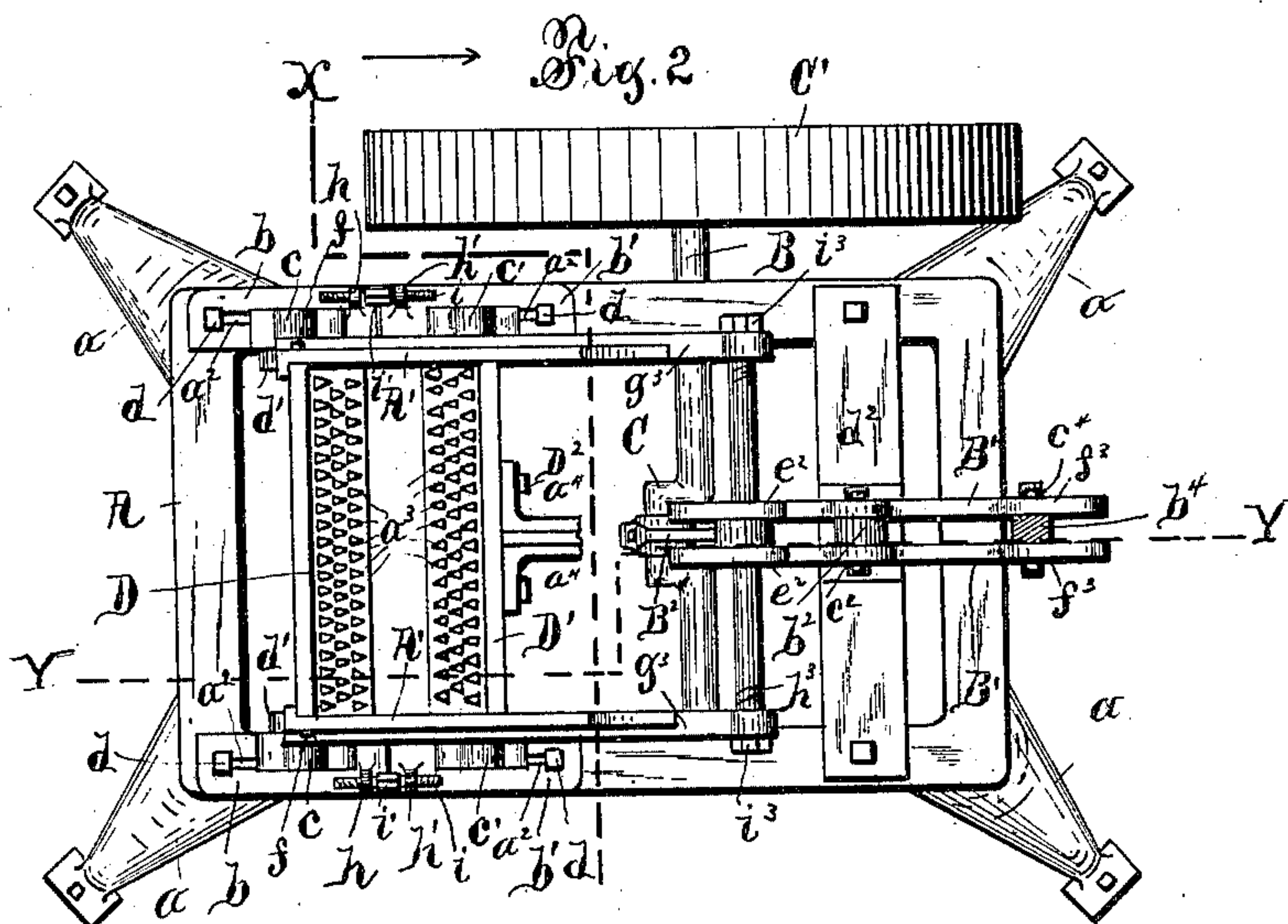
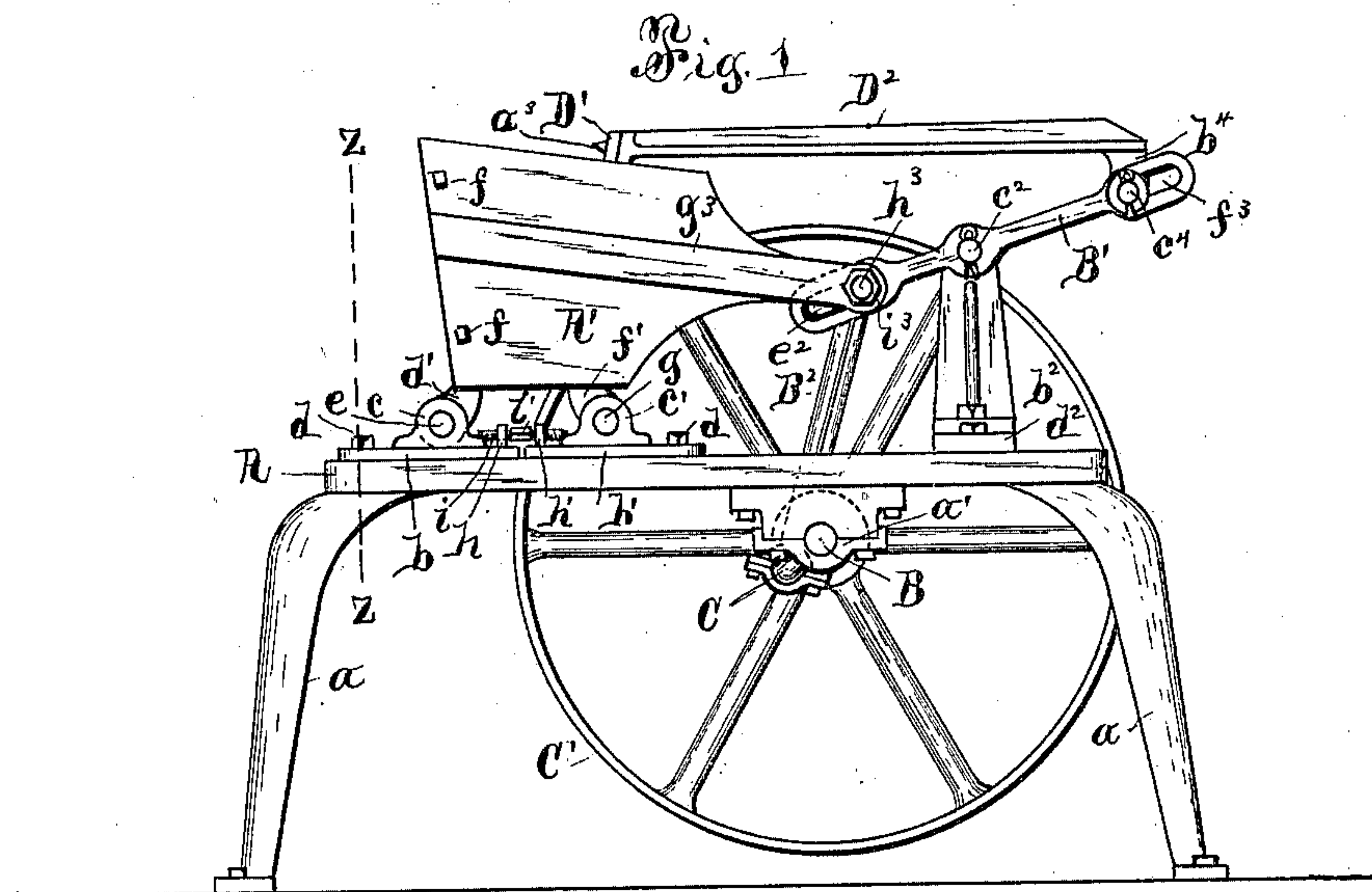
Patented Apr. 16, 1901.

H. H. BOGGS.
CRUSHING MACHINE.

(Application filed July 5, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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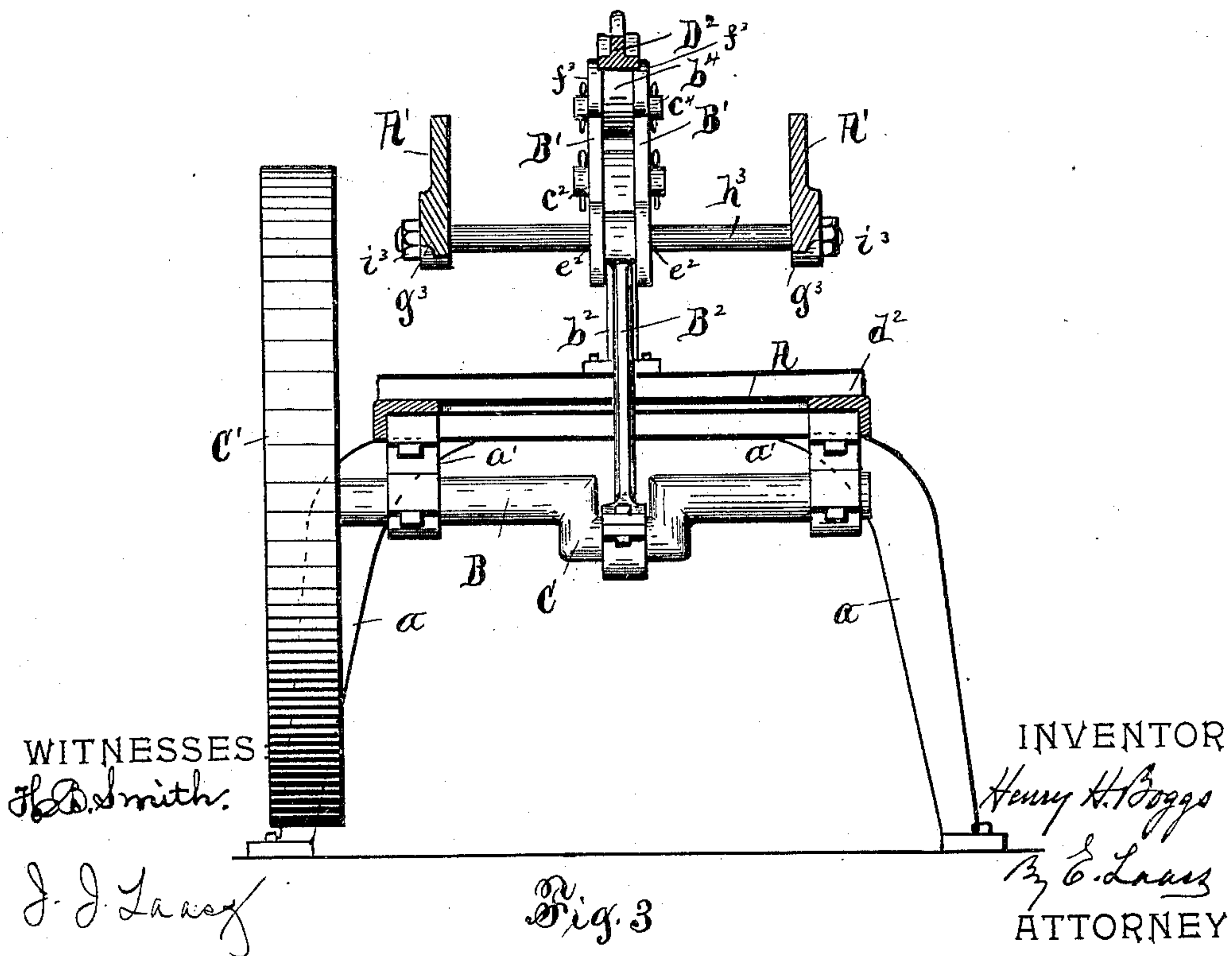
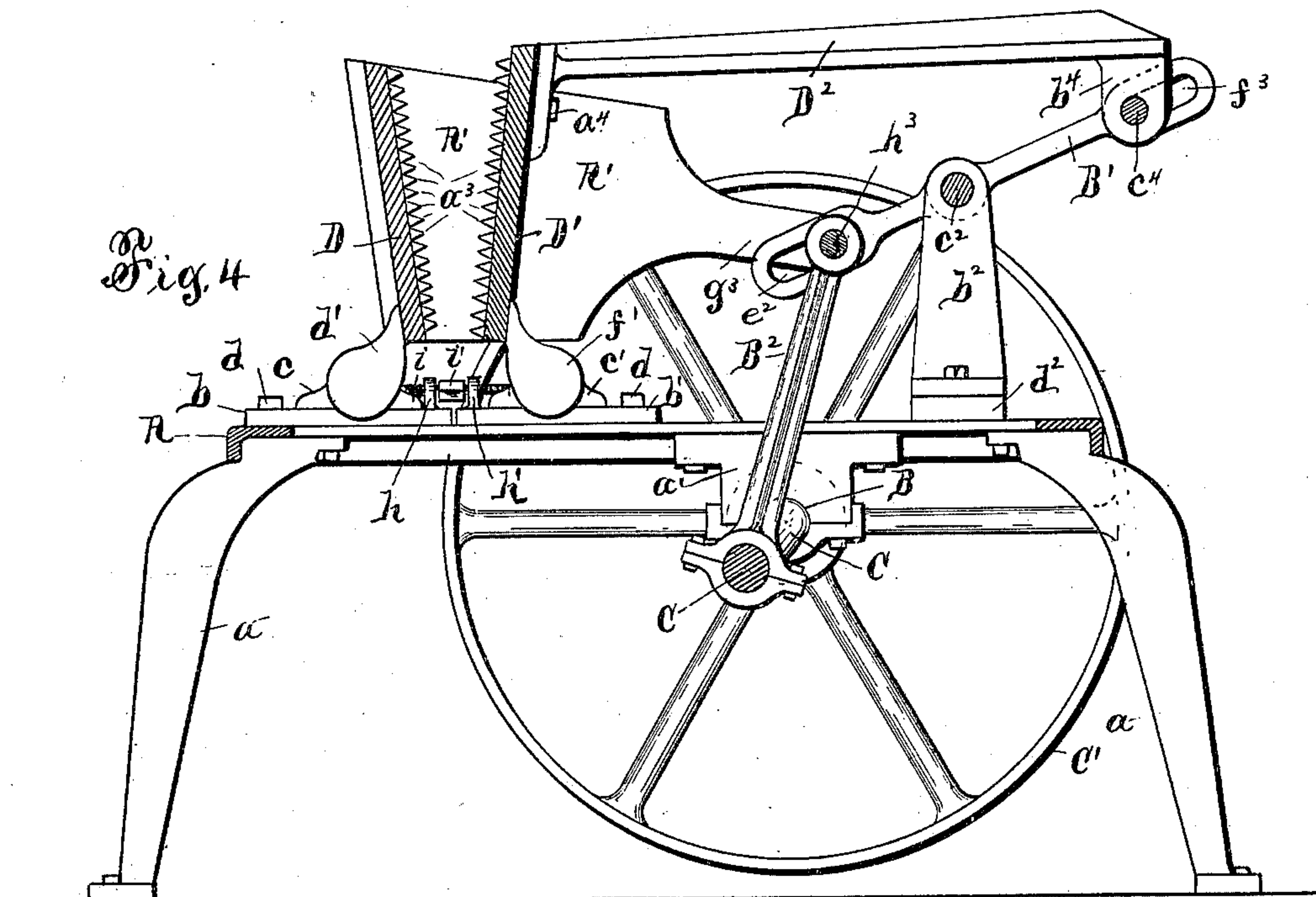
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UNITED STATES PATENT OFFICE.

HENRY H. BOGGS, OF SYRACUSE, NEW YORK.

CRUSHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 672,223, dated April 16, 1901.

Application filed July 5, 1900. Serial No. 22,468. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. BOGGS, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Crushing-Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to a machine which is intended more particularly for the purpose of crushing ice, although it may be employed for operating on other substances.

The object of the invention is to produce a machine which shall be simple, strong, and durable in construction and at the same time very efficient in its operation.

To that end the invention consists in the novel construction and combination of the component parts, as hereinafter fully described, and set forth in the claims.

In the annexed drawings, Figure 1 is a side elevation of my improved crushing-machine. Fig. 2 is a plan view, the arm which extends from one of the jaws being broken away. Fig. 3 is an enlarged vertical transverse section on line X X in Fig. 2. Fig. 4 is an enlarged longitudinal section on line Y Y in Fig. 2. Fig. 5 is a vertical transverse section on line Z Z in Fig. 1.

Referring to the drawings, A represents the supporting-frame, which may be of any desired form and is provided with the usual legs *a a*.

B denotes the main shaft, which is journaled in suitable boxes *a' a'*, secured to the under side of the frame. At the intermediate portion of the shaft B is formed a crank C, and to the end of said shaft is secured the driving-pulley C'.

D D' represent a pair of movable opposing jaws, between which the ice or other substance is placed to be crushed, which jaws receive their movement from the main shaft B by mechanism which will be shortly explained.

On top of the frame A are mounted two pairs of plates *b b* and *b' b'*, each pair being disposed at opposite sides of the frame. Said plates are formed on their tops with journal-

boxes *c c* and *c' c'*, respectively, and are attached to the frame by means of bolts *d d*.

A' A' represent two parallel vertical plates, which are disposed oppositely and are each formed at the lower edge with an ear *d'*, having a stud *e* projecting therefrom, by which said plates are pivoted in the aforesaid journal-boxes *c c*. To the outer ends of the plates A' A' is secured the jaw D, preferably by means of bolts or screws *f f*. The opposing jaw D' is disposed to move freely between said plates A' A' and is formed with ears *f' f'* at its lower end, each having a stud *g* projecting from it, by which the latter jaw is pivoted in the journal-boxes *c' c'*.

In order to adjust the jaws D D' toward and from each other when desired for the purpose of crushing the ice or other substance to fine or coarse particles, I form the aforesaid plates *b b b' b'* on their tops with projections *h h h' h'*, respectively, formed with eyes which are screw-threaded in opposite directions, and through said projections pass right-and-left screw-rods *i i*, formed with nuts *i' i'* between the projections by which to turn said rods, whereby the plates can be shifted longitudinally on the frame A, and thus said jaws are moved. To permit said plates *b b b' b'* to be shifted, I provide the same with longitudinal slots *a² a²*, through which the aforesaid bolts *d d* pass, which bolts serve to clamp the plates in their required positions.

The jaws D D' consist, preferably, of plates formed on their opposing faces with pointed projections *a³ a³*; but they may be of any other suitable form or construction.

B' B' denote a pair of parallel rock-arms, which are pivoted to a post *b²*, as indicated at *c²*, which post is mounted on top of the frame or, more directly, to a cross-bar *d²*, secured to the frame. Said rock-arms are formed at their respective ends with longitudinal slots *e² e²* and *f³ f³*.

From the aforesaid vertical plates A' A' extend a pair of horizontal parallel arms *g³ g³*, preferably formed integral therewith, and to the free ends of said arms is rigidly secured a shaft *h³* by means of nuts *i³ i³*, applied to the screw-threaded ends of the shaft. Said shaft *h³* passes freely through the slots *e² e²*

of the rock-arms B' B' and is connected to the aforesaid crank C on the main shaft by means of a pitman B², which is pivoted to said crank and to the shaft h³ between the rock-arms, as clearly shown in Fig. 2.

To the back of the jaw D' is rigidly secured one end of an arm D² by means of screws or bolts a⁴ a⁴, the opposite end of which arm is formed with an ear b⁴ on its under side, by which it is pivotally and adjustably secured in the aforesaid slots f³ f³ in the outer ends of the rock-arms B' B', as indicated at c⁴.

I do not wish to be limited to the specific construction herein shown and described, as the same may be modified to a great extent without departing from the spirit of my invention.

What I claim is—

1. In a crushing-machine, the combination with a supporting-frame and main shaft, of a pair of oppositely-disposed vertical parallel plates pivoted to said frame, a jaw secured to the pivoted ends of said plates, a pair of arms extending from the other ends of the plates, an opposing jaw pivoted to the frame and movable between said plates, a shaft rigidly secured to the free ends of said arms, a pitman connecting the latter shaft to the main shaft, an arm extending from the other jaw, and a rock-arm connecting the latter arm to the aforesaid rigid shaft substantially as described.

2. In a crushing-machine, the combination with a supporting-frame and the main shaft provided with a crank, of a pair of oppositely-disposed vertical parallel plates pivoted to said frame, a jaw secured to the pivoted ends of said plates, an opposing jaw pivoted to the

frame and movable between said plates, a pitman pivoted to the aforesaid crank and connected to said plates, a rock-arm connected to said pitman, and an arm connecting said rock-arm and latter jaw substantially as described.

3. In a crushing-machine, the combination of a pair of pivoted jaws, a main shaft provided with a crank, a pair of parallel arms connected to one of said jaws, a shaft rigidly secured to the free ends of said arms, a pitman pivoted at one end to said crank and at its opposite end to the rigid shaft, a rock-arm formed with a longitudinal slot at each end, the slot at one end loosely engaging the rigid shaft, and an arm secured in the slot at the other end and attached to the other jaw substantially as described.

4. In a crushing-machine, the combination with the supporting-frame and the main shaft provided with a crank, a post secured to the frame, a pair of rock-arms pivoted to opposite sides of said post and having their end portions slotted longitudinally, a pair of pivoted jaws, a pair of arms extending from one of said jaws, a shaft rigidly secured to the free ends of said arms and passing loosely through one end of the rock-arms, an arm extending from the other jaw and pivoted between the other ends of said rock-arms, and a pitman pivoted at one end to the aforesaid crank and at its opposite end to the rigid shaft between the rock-arms substantially as described.

HENRY H. BOGGS.

Witnesses:

J. J. LAASS,
H. B. SMITH.