

(No Model.)

H. P. HOLLAND.
ORE FEEDER.

No. 556,188.

Patented Mar. 10, 1896.

Fig. 1.

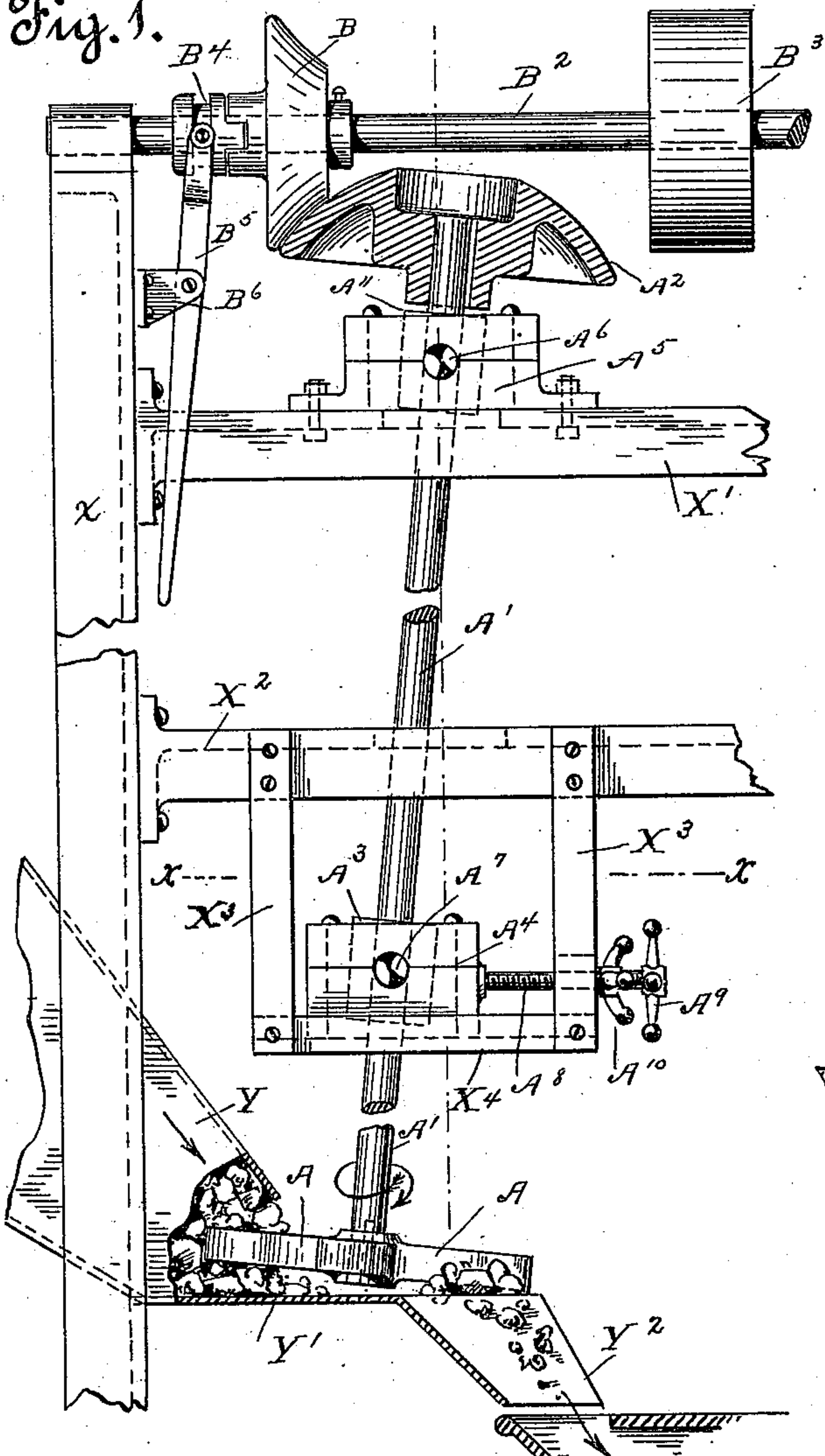


Fig. 2.

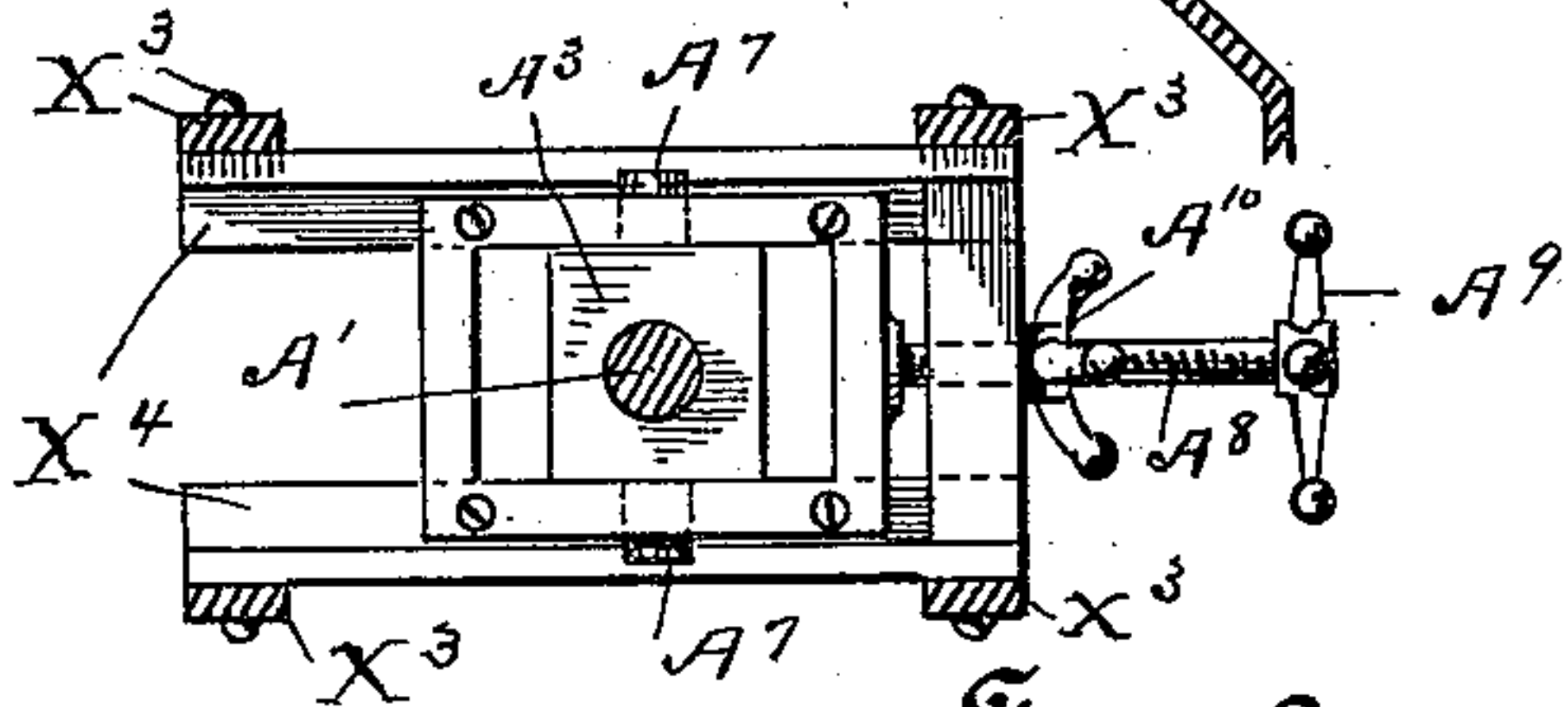
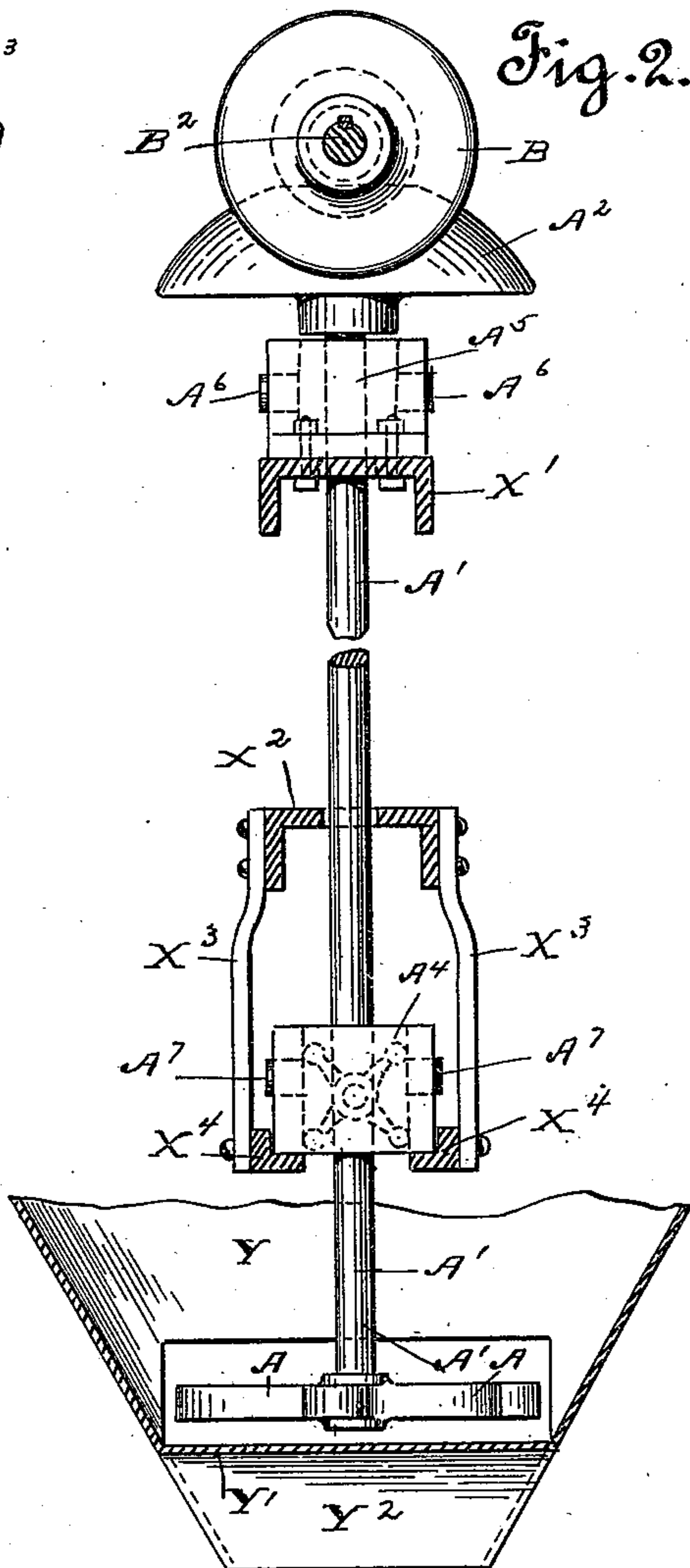
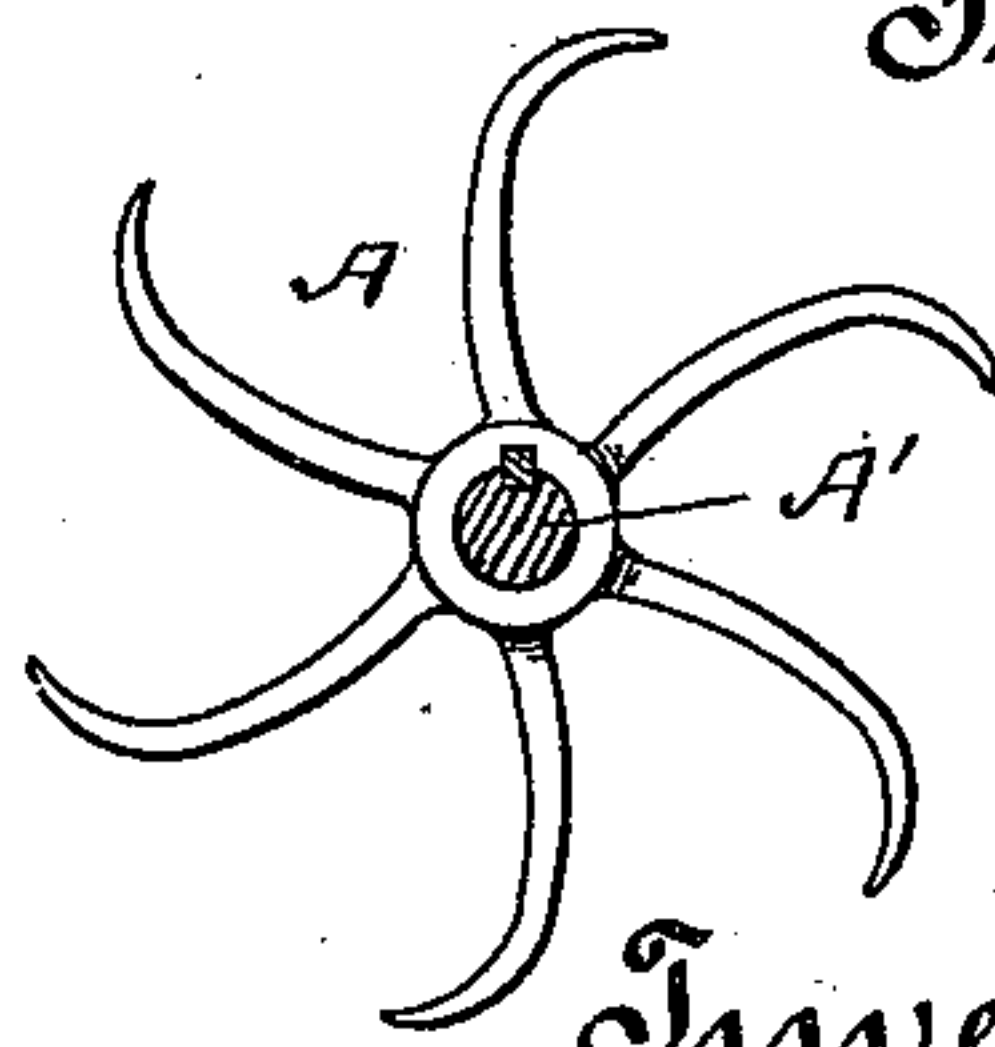


Fig. 4.



Witnesses.

Fig. 3.

H. J. Monteverde,

Baldwin Vale

Inventor.

Henry P. Holland

per Boone & Muddock

attys.

UNITED STATES PATENT OFFICE.

HENRY P. HOLLAND, OF OAKLAND, CALIFORNIA.

ORE-FEEDER.

SPECIFICATION forming part of Letters Patent No. 556,188, dated March 10, 1896.

Application filed June 13, 1895. Serial No. 552,729. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. HOLLAND, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Ore-Feeders; and I do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to ore-feeders; and it consists in the novel construction and arrangement of the parts whereby ore is fed to a stamp mill or oven with any degree of rapidity as desired.

In the drawings, Figure 1 is a side elevation of this invention, showing it as operating in the mouth of the hopper and delivering the ore into the retort of a furnace. Fig. 2 is a front elevation of the same. Fig. 3 is a detail view in plan of the swinging frame. Fig. 4 is a detail view in plan of the rotary shovel.

This invention operates in conjunction with the ordinary feed hopper or chute which is provided with the platform Y' and the supplemental chute Y². When in operation the rotating shovel is thrown forward over the platform Y' until its scoop-shaped blades extend into the mouth of the hopper Y, as shown in Fig. 1. In this position the lower end of the shaft A' carrying the rotary shovel A rests just above the platform Y'. In this position it is supported in trunnioned guides A³ and A¹¹. At the top it is provided with the convex-shaped friction-drum A². Resting upon said convex drum A² is the friction-drum B, which is loosely mounted on the driving-shaft B². The motive power is applied to this ore-feeder through the pulley B³, shaft B², and drums B and A². The drum B is thrown into action by means of the clutch B⁴, which is operated by the hand-lever B⁵, the end of which extends down to within grasp of the operator.

The shaft A', as above mentioned, is supported in the trunnioned guides A³ A¹¹. The trunnions of these guides are carried in the journaled boxes A⁴ and A⁵, the latter of which is stationary, being securely bolted to the extension X' of the frame. The journal-box A⁴ is movable in and out to throw the rotary shovel to and from the mouth of the hopper

Y. To accomplish this the said journal-box is mounted upon the tracks X⁴ X⁴ of the swinging frame X³ X³ and is provided rigidly attached thereto with the threaded screw A⁸, the threads of which engage a suitable threaded perforation in the front of the frame X³ X³. The screw A⁸ is provided on its outer end with the spoked hand-wheel A⁹ by means of which it is turned. The said screw is provided with the large lock-nut A¹⁰ to set the screw rigidly in position.

The meeting faces of the drums A² are formed in section to a line struck from a center taken on the center of the stationary trunnions A⁶. The face of the drum B is concaved to conform to the convex shape of the drum A². By means of this construction the shaft A' may be swung around on the trunnions A⁶ while maintaining the frictional contact between the said drums. In its operation the rotary shovel A is driven in the direction as shown by arrow at Fig. 1. The scoop-shaped shovels enter the mouth of the hopper Y, and each takes its proportion and carries it around over the table Y' and delivers it into the chute Y² to the furnace or mill. The quantity delivered, it will be observed, depends on the distance to which the shovels A are introduced into the mouth of the hopper Y. This distance may be regulated by throwing the lower end of the shaft A' in or out by means of the screw A⁹, so the quantity handled is within control of the operator.

When it is desired to use this feeder in connection with a stamp-mill, the pulley B³ is substituted by a pawl and ratchet, whereby when the stamps fall the shaft A' is turned a predetermined distance and delivers the necessary amount of ore to the mill.

The frame X, X', X², X³, and X⁴ may be of any suitable material and made in any desired form. That shown in the drawings is constructed of angle-iron and is supported on four uprights X.

Having thus described this invention, what I claim is—

1. In an ore-feeder such as described the combination with a rotary shovel provided with scoop-shaped blades adapted to extend into the mouth of a hopper or chute, of a mechanism to rotate said shovel, a shaft connecting the said shovel and driving mechanism

and pivotally mounted in the frame of the feeder, and suitable guides for the said shaft adapted to be advanced and receded to insert the rotary shovel into the mouth of the hop-
5 per or chute substantially as described.

2. In an ore-feeder such as described the combination with a rotary shovel provided with scoop-shaped blades adapted to extend into the mouth of a hopper or chute, of a shaft
10 for the said shovel pivotally mounted in the frame of the feeder and provided with a convex-shaped friction-drum the face of which is curved from the center of the pivotal bearing of the shaft, a driving mechanism to rotate
15 said shaft having a friction-drum to impinge upon the convex drum on the said shaft, and suitable guides for the said shaft adapted to be advanced and receded to insert the rotary
20 shovel into the mouth of the hopper or chute substantially as described.

3. In an ore-feeder such as described the combination with the rotary shovel A provided with scoop-shaped blades adapted to extend into the mouth of a hopper or chute, of a mechanism to rotate said shovel, a shaft 25 for the said shovel mounted in trunnioned guides A³, A¹¹ the latter of which is stationary and supports the said shaft, the journal-box A⁴ adapted to receive the trunnions A⁷ and mounted in the swinging frame X³, and suitable 30 devices attached to the said swinging frame and engaging the said journal-box to advance and recede the same substantially as described.

In testimony whereof I have hereunto set 35 my hand this 1st day of June, 1895.

HENRY P. HOLLAND.

Witnesses:

J. M. NOUGUES, Jr.,

CHAS. J. ARMBRUSTER.