

No. 846,792.

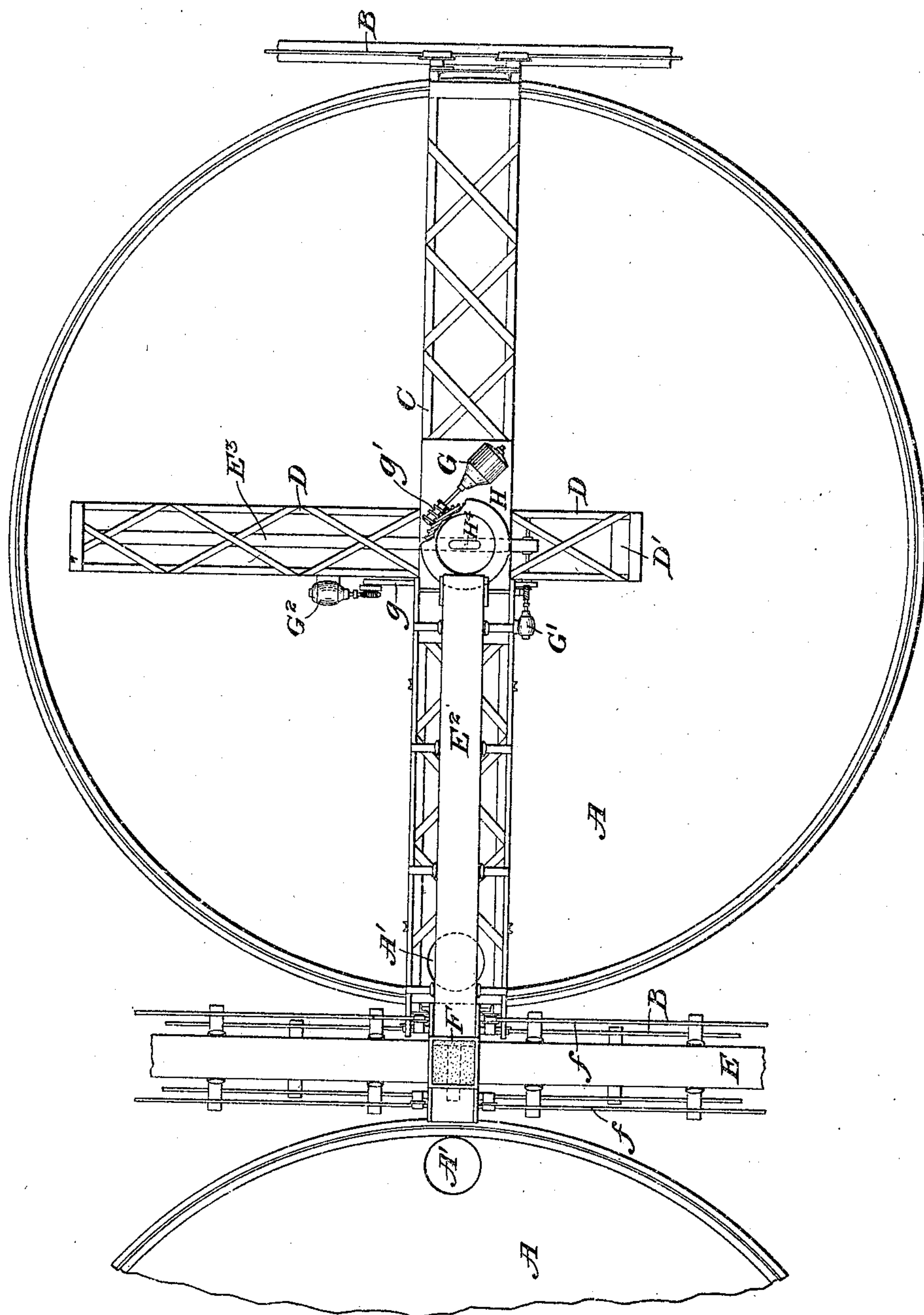
PATENTED MAR. 12, 1907.

J. E. KENNEDY & F. J. HOBSON.  
DISTRIBUTING DEVICE FOR ORES.

APPLICATION FILED SEPT. 5, 1906.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses  
Chas. Clagett  
Anita Burke.

Joseph E. Kennedy and Francis J. Hobson  
Inventors  
By their Attorney J. J. Johnston

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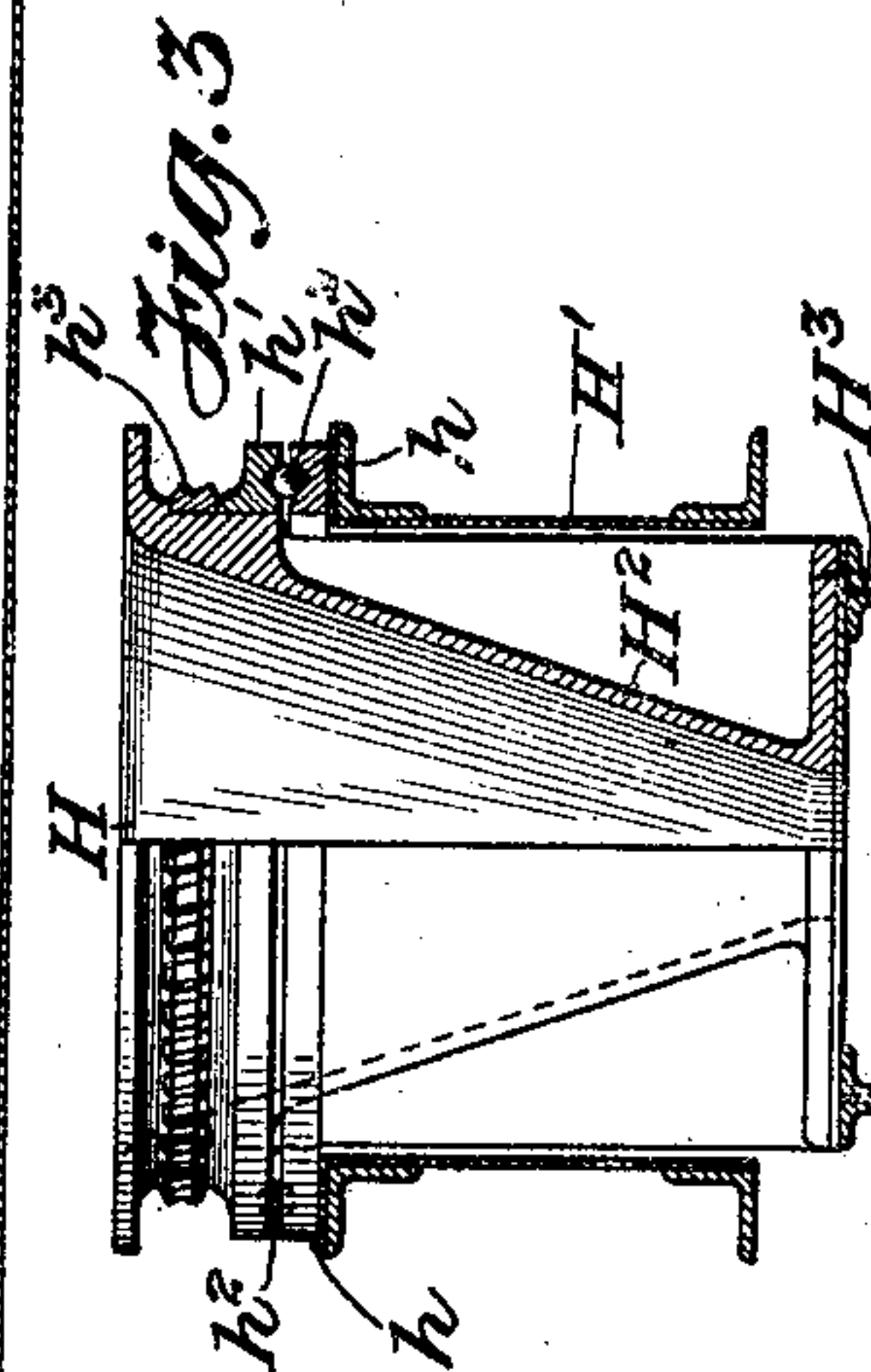
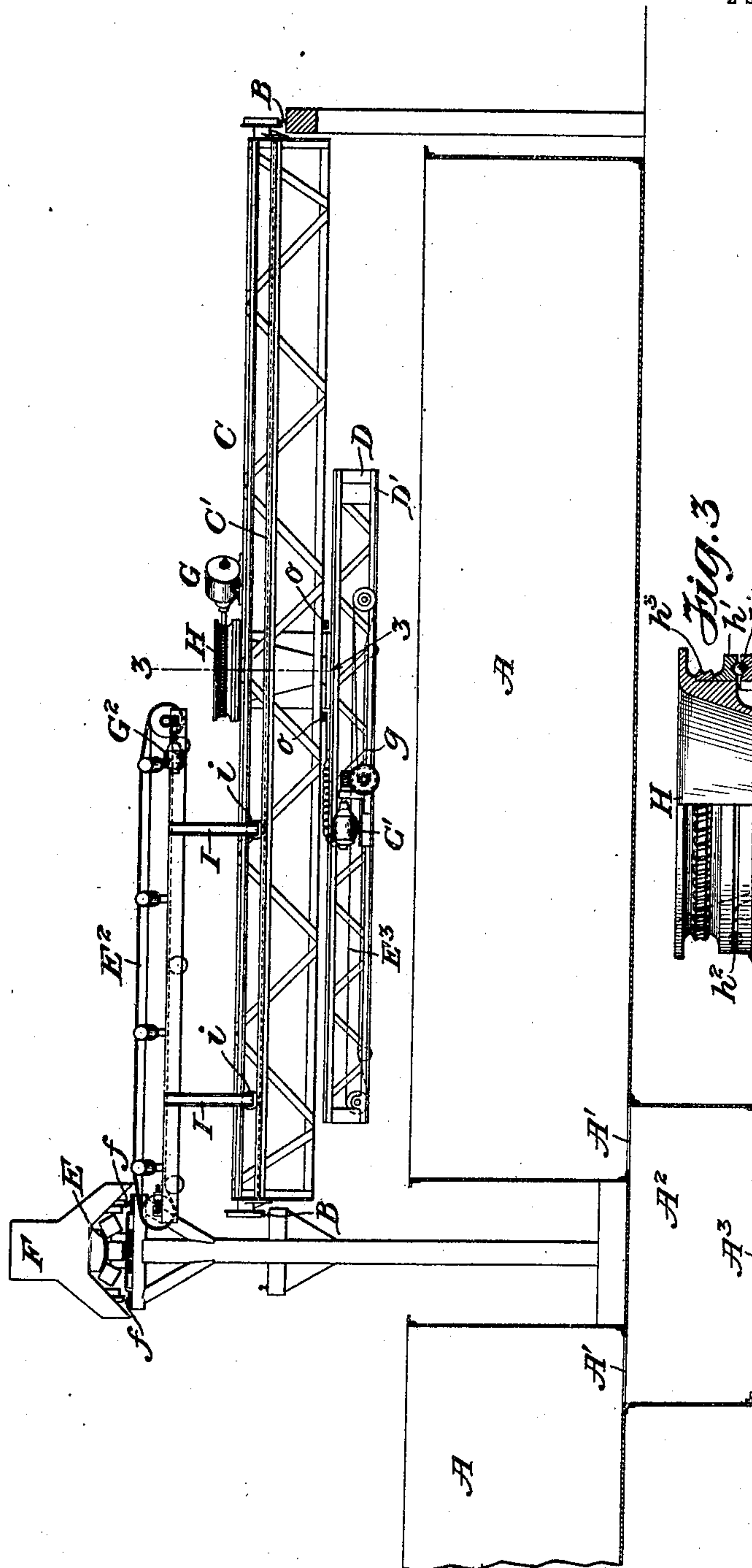
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2 SHEETS—SHEET 2.

Fig. 2



Witnesses  
Chas. Clagett  
Anita Burke.

Inventors,  
Joseph E. Kennedy and Francis J. Hobson,  
By their Attorney, J. Johnston.



# UNITED STATES PATENT OFFICE.

JOSEPH E. KENNEDY, OF NEW YORK, N. Y., AND FRANCIS J. HOBSON, OF GUANAJUATO, MEXICO.

## DISTRIBUTING DEVICE FOR ORES.

No. 846,792.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed September 5, 1906. Serial No. 333,360.

*To all whom it may concern:*

Be it known that we, JOSEPH E. KENNEDY and FRANCIS J. HOBSON, citizens of the United States, and residents, respectively, of New York city, in the State of New York, and Guanajuato, in the Republic of Mexico, have made certain new and useful Improvements in Distributing Devices for Ores, of which the following is a specification.

Our present invention has relation to devices for distributing finely-divided ores in leaching-tanks so that they may be deposited in the tanks to substantially uniform depth over the whole area. To this end we have arranged a series of tanks in such relation to a track that a single distributing device may be used to serve them all. In brief, the arrangement consists of a cross-beam, usually a truss, arranged upon wheels running upon the tracks and spanning the tanks. From a bearing centered in the truss we revolve a distributing-arm, which consists of a suitable framework carrying a conveyer which moves radially. Through the bearing we arrange a channel which serves as a hopper, and upon the upper surface of the main truss, which spans the tank, we arrange a conveyer, which delivers material to the hopper. Material may be brought to the first conveyer by any suitable arrangement, though preferably a belt conveyer runs through the whole length of the series of tanks and is provided with a movable tripping device of approved construction, so that it may deliver the materials to be treated into any of the tanks; as may be desired. By adjusting the speeds of the various conveyers to the particular material to be treated it is possible to deliver it to any part of the tank desired.

The accompanying drawings show embodiments of our invention.

Figure 1 is a plan of our improved distributor, and Fig. 2 is a side elevation of the parts shown in Fig. 1 with the tanks in section. Fig. 3 is a detail of the hopper-bearing.

A A are the tanks, having the discharge-openings A' communicating with a common chamber A<sup>2</sup>, also having a discharge-opening A<sup>3</sup>, beneath which may be arranged any suitable device (not illustrated) for removing the discharged material.

B B are tracks arranged upon each side of the tank for the support of the distributing arrangement. The latter consists of a cross-

beam or truss C, which may be run along upon the tracks by any suitable power to a position over any one of a series of tanks. (Not illustrated.) Mounted in the center of the truss C is the hopper H, revolved by the motor G and more fully to be described presently. Supported by the hopper is the revolving beam D of the distributor. A box D' is provided upon the short arm of this for counterbalance-weights. Driven by the motor G' upon the revolving beam D is a belt conveyer E<sup>3</sup>, moving from the center to the circumference, motion being communicated to it by the belt g from the motor. We have shown a worm-gear as a means of driving; but this is unimportant, since any suitable arrangement of gearing or supporting devices may be employed. The motor is supplied with current through the slip-rings o o. (See Fig. 2.) No regulating devices for the various motors are shown, since the particular type used is immaterial.

Fig. 3 shows the hopper-bearing, partly in side elevation and partly in section. An opening having walls H' is made in the truss, and upon the upper surface of the truss is disposed the ring h, forming the lower member of the ball-bearing, of which h' is the upper member, the balls being shown at h<sup>2</sup> h<sup>2</sup>. The worm-gear h<sup>3</sup> surrounds the upper end of the hopper, receiving its motion, as already pointed out, from the motor G, which drives a worm G'. (Shown in Fig. 1.) The inner part of the hopper is conical, as is common in such devices, and it is provided at the bottom (see Fig. 1) with an elliptical discharge-opening H<sup>4</sup>, parallel with the belt E<sup>3</sup> of the conveyer. The wall of the hopper is shown in section at H<sup>2</sup>, and the revolving beam D is secured to it by the angle-irons H<sup>3</sup>.

For convenience of illustration we have shown the beam D at a right angle to the beam C in Fig. 1, and in Fig. 2 substantially parallel to it.

Mounted upon tracks C' is a traveling conveyer E<sup>2</sup>, of common type, driven by the motor G<sup>2</sup>. The direction of motion of this belt is from the circumference to the center, and it delivers its discharge into the hopper from one side or the other of the apparatus as the distributor may be receiving material, being mounted upon legs I I, carrying the wheels i upon the tracks C'. Upon the left of the tracks is shown a belt conveyer E, of com-



mon construction, having a tripping device F, which runs upon rails *ff*, so that it may be moved from one tank to another, as may be desired, and deposit the material upon the belt E<sup>2</sup>. This part of the apparatus being old and well known, no further description of it is required.

Our improved conveyer may be operated by regulating the speeds of the motors driving its various parts to deposit material in any part of the tank desired, and by adjusting these relative speeds in accordance with the nature of the material supplied by the conveyers the latter will be deposited to a uniform depth. Operating from a fixed height, so that the material is loosened by its fall through the atmosphere, the distribution is even, and the tendency to lump it in particular places is wholly avoided.

The machine is simple and easy to understand and operate and does not require to be raised or lowered into or out of the tank, thus taking relatively a small power to operate and avoiding accident from improper manipulation in moving it from one tank to another.

Having thus described our invention, what we claim, and desire to protect by Letters Patent of the United States, is—

1. In a device for distributing finely-divided material, a transverse beam or truss, a conveyer for carrying material to the center of the truss; a revolving arm journaled at the center, a radially-moving conveyer carried by the arm for distributing the material, and a communication between the conveyer upon the truss and the distributing means.

2. In a distributing device, the combination of a fixed conveyer for carrying material to a central point, with a second radially-moving conveyer having also a movement of revolution and receiving and distributing the material from the central point.

3. In a distributing device the combination with a tank, of a transverse truss or beam carrying a central hopper, a conveyer depositing material in the hopper, a second conveyer carried upon a revolving arm and moving outward radially, receiving from the hopper and distributing the deposited material, and independent driving means for the conveyers.

4. In a distributing device, the combination with a tank, of a transverse beam or truss carrying tracks, a central hopper in the truss, means for distributing the material received in the central hopper, and a conveyer longitudinally adjustable upon the tracks on the truss; whereby the hopper at the center may be supplied with material by a single conveyer from either end of the truss as desired.

5. In a distributing device, the combina-

tion with a tank or tanks, of a transverse beam or truss, a conveyer longitudinally adjustable upon the truss, a central hopper in the truss, means for distributing in the tank the material received by the central hopper, and means for bringing the material to the adjustable conveyer upon the truss; whereby the hopper may be supplied with material by a single conveyer, from either end of the truss as desired.

6. The combination of a transverse beam or truss having a central hopper, a revolving arm journaled to move around the axis of the hopper, distributing means carried by the revolving arm, and means for carrying to the hopper the material to be distributed.

7. The combination, with a series of tanks, of a transverse beam or truss carried upon tracks so as to span the tanks, conveying devices at the side of the tanks, a conveyer upon the truss, a shifting trip adapted to deliver material from the side conveyer to that upon the truss at desired points, and a radially-moving and revolving conveyer carried by the truss for distributing the delivered material evenly within the tank selected, as described.

8. The combination, with the transverse beam or truss, of a distributing device, an opening through the truss, and a hopper, rigid with the distributing device, journaled in the opening.

9. The combination, with the transverse beam or truss, of the hopper having an enlarged upper end and a smaller longitudinal discharge-opening, and a revolving arm carrying a radially-moving conveyer, substantially parallel to the discharge-opening of the hopper.

10. The combination, in a distributing device, of the three conveyers, the one bringing the material to the circumference of the location at which the material is to be distributed; the second receiving the material from the first and carrying it to the center of distribution, and the third receiving it from the second at such center and distributing it radially, as described and for the purpose set forth.

11. The combination of the transverse beam or truss, the revolving distributing-arm, and the ball-bearing hopper revolving with the distributing-arm.

In witness whereof we have hereunto set our names in the presence of two witnesses.

JOSEPH E. KENNEDY.

FRANCIS J. HOBSON.

Witnesses as to Kennedy:

M. A. NELSON,

ANITA BURKE.

Witnesses as to Hobson:

P. S. SUJAN,

LUIS CALDERON.