

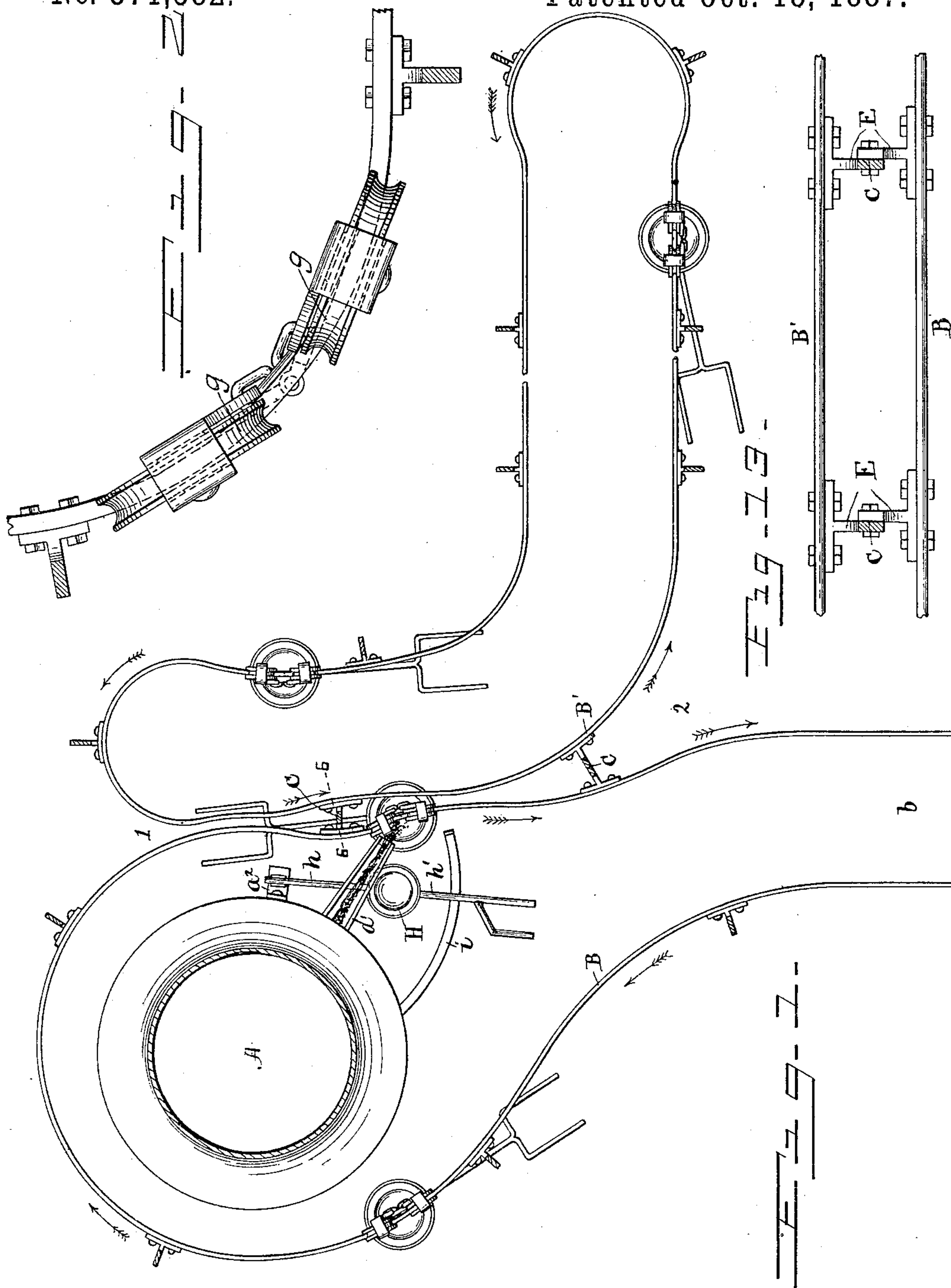
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J. M. HAYS.
FOUNDRY APPARATUS.

No. 371,582.

Patented Oct. 18, 1887.



WITNESSES.
Rex Smith,
Geo. T. Smallwood

INVENTOR.
Joseph M. Hays,
by A. M. Smith, atty.

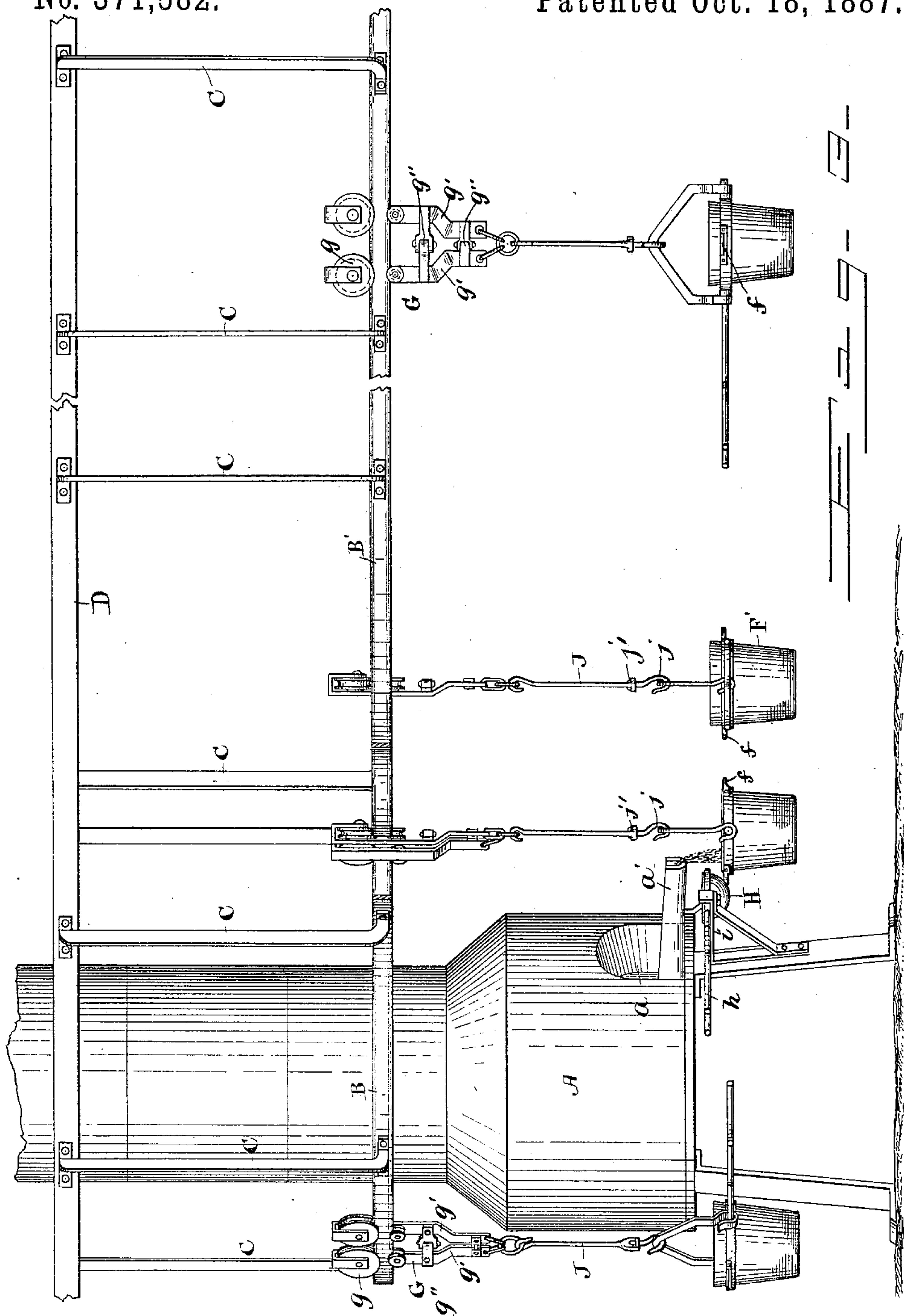
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WITNESSES,

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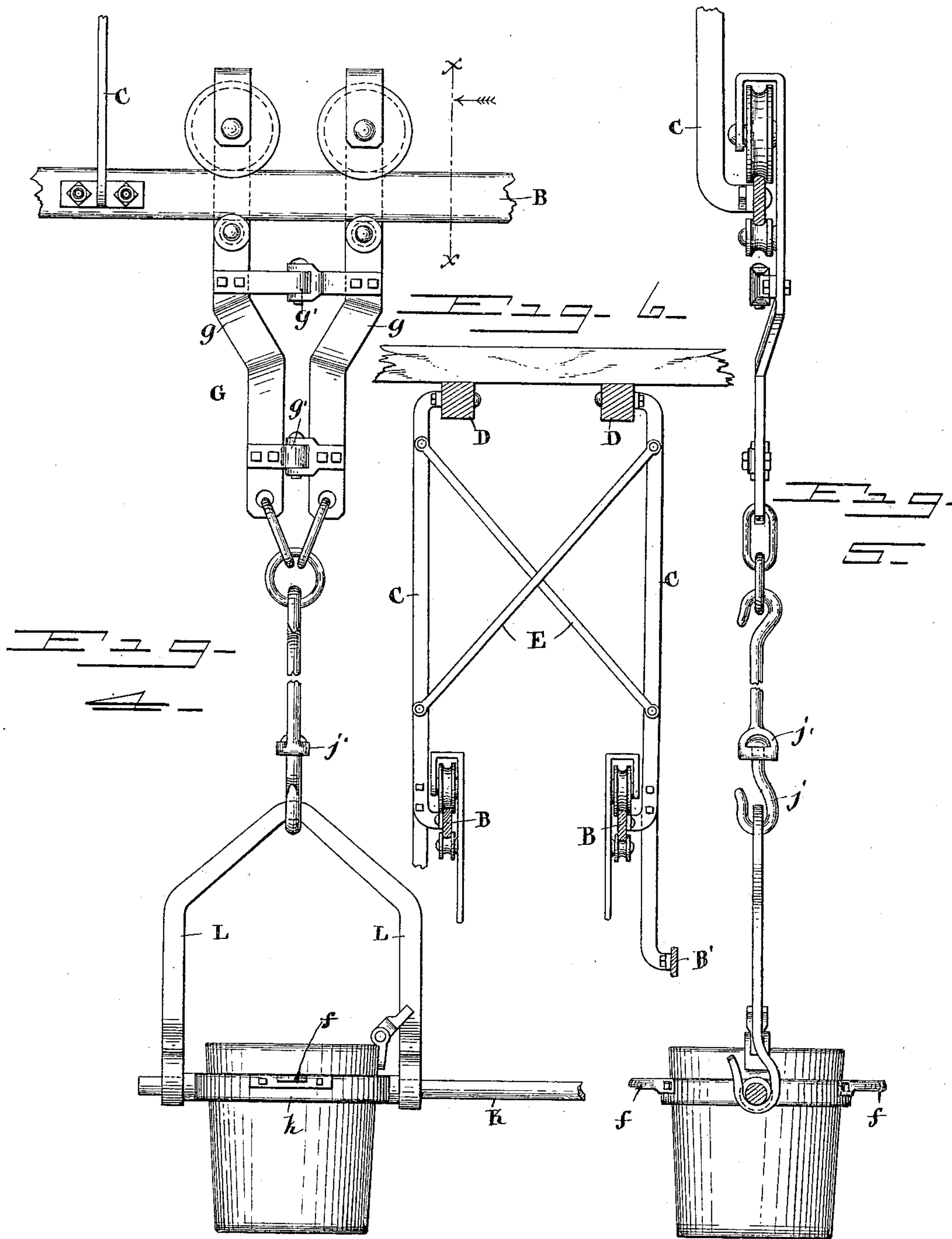
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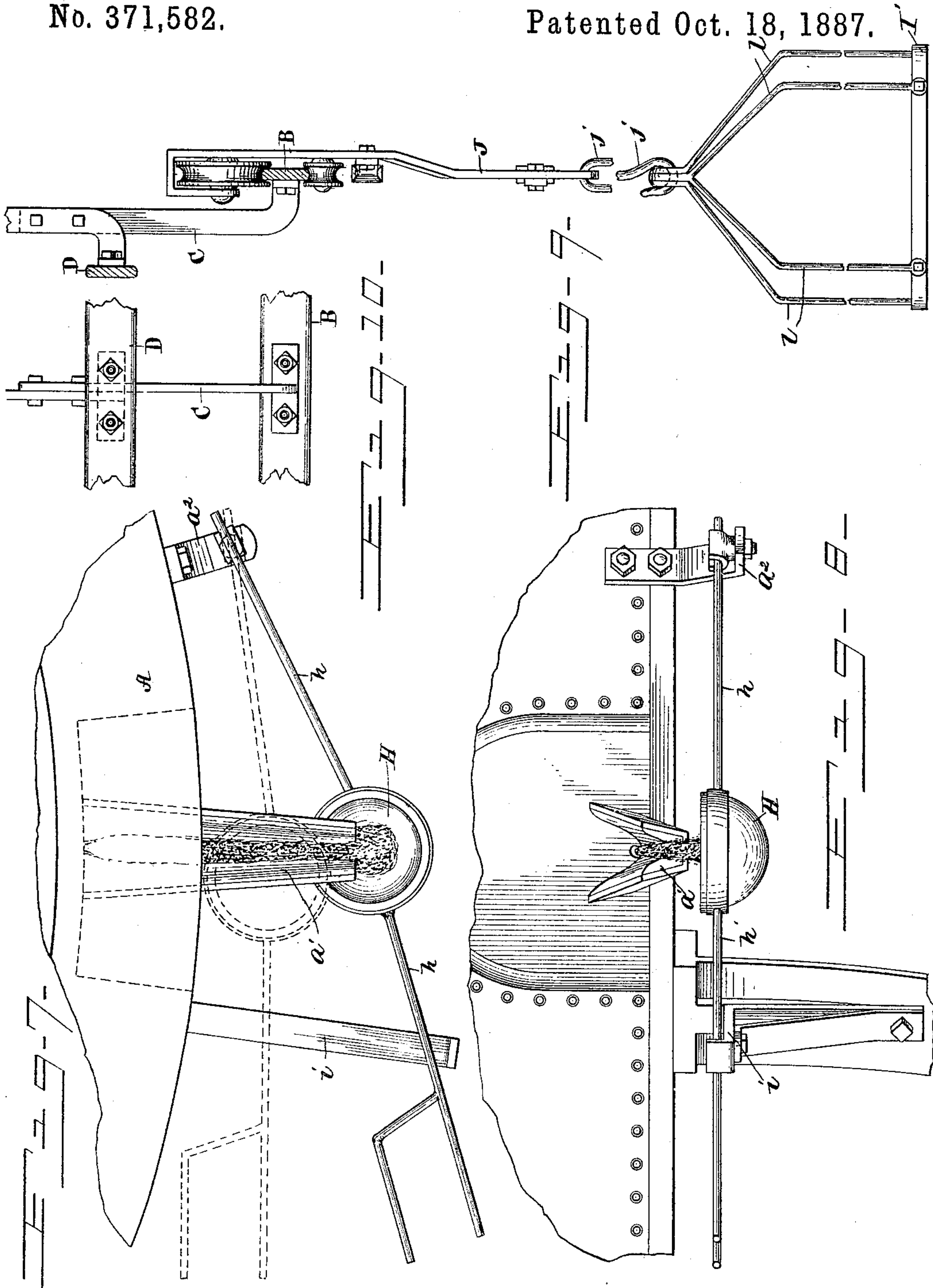
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Geo. T. Smallwood.

INVENTOR.
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(No Model.)

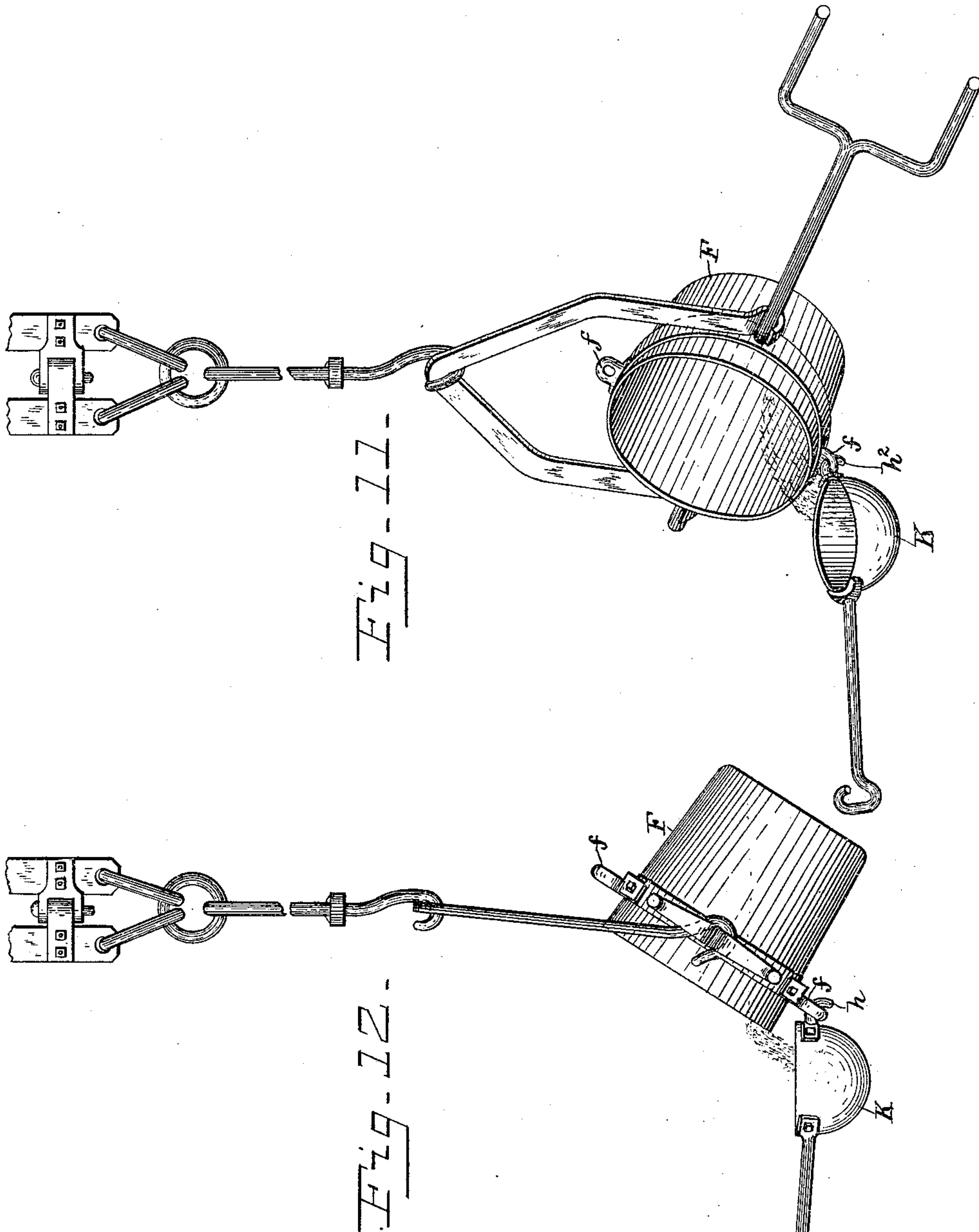
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J. M. HAYS.

FOUNDRY APPARATUS.

No. 371,582.

Patented Oct. 18, 1887.



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UNITED STATES PATENT OFFICE.

JOSEPH M. HAYS, OF AKRON, OHIO, ASSIGNOR TO LEWIS MILLER, OF
SAME PLACE.

FOUNDRY APPARATUS.

SPECIFICATION forming part of Letters Patent No. 371,582, dated October 18, 1887.

Application filed February 8, 1887. Serial No. 226,993. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH M. HAYS, of Akron, county of Summit, and State of Ohio, have invented a new and useful Improvement in Foundry Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to apparatus or plants employed in making castings; and the object of my invention is to permit a practically continuous flow of the metal into a series of carrying ladles or vessels, and to catch all drippings which may fall from the melting-furnace during the passage of said carrying ladles or vessels past the mouth of the furnace.

My invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a plan view of a melting-furnace with my improvements applied thereto, the upper part of the furnace being shown in section. Fig. 2 is a plan view of a curved portion of one of the tracks or ways, showing the action of the rollers which sustain one of the ladle-carriers. Fig. 3 is a side elevation of the plant shown in Fig. 1. Fig. 4 is a side elevation of one of the carriers with its portable ladle. Fig. 5 is a sectional view on the line $x x$ of Fig. 4. Fig. 6 is a detached view on the line 6 6 of Fig. 1. Fig. 7 is a plan view of the mouth of the furnace, showing the manner of attaching the small ladle. Fig. 8 is a side elevation of the construction shown in Fig. 7. Figs. 9 and 10 illustrate a modified construction of one of the carrier-hangers. Figs. 11 and 12 illustrate the positions of one of the carrying-ladles in discharging into a small ladle. Fig. 13 illustrates a plan view of the construction shown in Fig. 6.

In the said drawings, Figs. 1 and 2, A designates a melting-furnace, and B designates a continuous curved track or way which surrounds said furnace and extends laterally away therefrom at one side thereof, as shown at b in Fig. 1.

B' designates a similar railway, also con-

tinuous or endless in form, and which through a part of its length extends parallel with and close to the track B. These tracks are preferably suspended by hangers C from stringers D, or other suitable overhead supports, and at the point where the said tracks approach each other they may be bound together by tie pieces E E. (See Figs. 6 to 13.) These tracks or ways B B' are each designed to carry a number of ladles or vessels, F, which are supported thereon by trucks or carriers G, having rollers g , which run directly upon said tracks. Each carrier G is composed of two bars, g' , as best shown in Fig. 4, and said bars are connected together by hinge or knuckle joints, so that as the carriers pass around the curved portions of the track their rollers shall properly vary their relative positions, and thus avoid all cramping or binding upon the track.

The furnace A is provided with a small ladle, H, which is provided with arms $h h'$, one, h , of which is pivoted at its outer end upon a bracket, a^2 , which is secured to the furnace-wall near the mouth a thereof, and the opposite arm, h' , is supported upon a curved bar, i , extending horizontally outward from the furnace-wall near the door a . A spout, a' , extends outward from the mouth a of the furnace and above the ladle H, so that as said ladle is moved outward from the furnace it shall come directly under the outer end of said spout and catch any drippings which may fall therefrom during the intervals between filling the large ladles F. The ladles F are passed continually by the mouth of the furnace and are each preferably connected to the rod or chain J by a hook, j , and swivel j' , so that said ladles may be readily turned, as required, in filling and pouring. Handles K, each having a ring, k , into which the ladle is set, are provided for supporting said ladles, and the said handles are arranged to turn in the lower ends of yokes L, the latter being connected to the swivels j' by the hooks j .

In order to insure the proper position of the larger ladles relative to a small ladle, K, while pouring from one to the other, the rings k are provided with one or more loops, f , and the small ladle is provided with a hook, h^2 , for entering said loops f , and thus properly connecting said ladles while pouring the melted

metal. The relations of the loop and hook may be reversed, if desired.

In Fig. 9 a ring, L, is used for sustaining the portable and traveling ladle, said ring being supported from the hook *j* by means of rods *l*, having eyes at their upper ends to embrace the said hook.

It will be seen from the foregoing description that the ladles may be rapidly carried to the mouth of the furnace and passed therefrom to be emptied, that the molten metal may flow continuously from the furnace when tapped, and that all drippings from the furnace are saved and utilized by means of the small ladle at the mouth of the furnace.

By arranging the track B so as to partially surround the furnace A and then extend away from said furnace the filled and empty ladles do not interfere with each other's movements in receding from and approaching the furnace and an extensive area of the foundry or plant is covered by the single track, so that great number of molds may be filled almost simultaneously and at widely-separated points. The arrangement of the track B' relative to the track B is such that a material extension of area reached from the furnace is obtained, and two sets of portable ladles may be filled, practically, simultaneously without interfering with each other.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a foundry apparatus, the combination, with a melting-furnace, of a continuous suspended or overhead track, B, partially surrounding said furnace and extending laterally away therefrom, substantially as described.

2. In a foundry apparatus, the combination, with a melting-furnace and a continuous suspended overhead track or way partially surrounding said furnace and extending laterally away therefrom, of a second continuous overhead track or way extending off at an angle to the first track and approaching close to the latter at the mouth of the furnace, substantially as and for the purpose set forth.

3. In a casting apparatus, an auxiliary ladle mounted upon the furnace contiguous to its mouth and made movable radially to catch the drippings from the furnace, as specified.

4. The combination, with a melting-furnace, of an endless track or way extending toward and away from the furnace-mouth and a carrying-ladle supported movably upon said track, and an auxiliary ladle having a hook for engaging an eye on the carrying-ladle while receiving metal therefrom, substantially as described.

In testimony whereof I have hereunto set my hand this 5th day of February, A. D. 1887.

JOSEPH M. HAYS.

Witnesses:

O. L. SADLER,
W. K. MEANS.