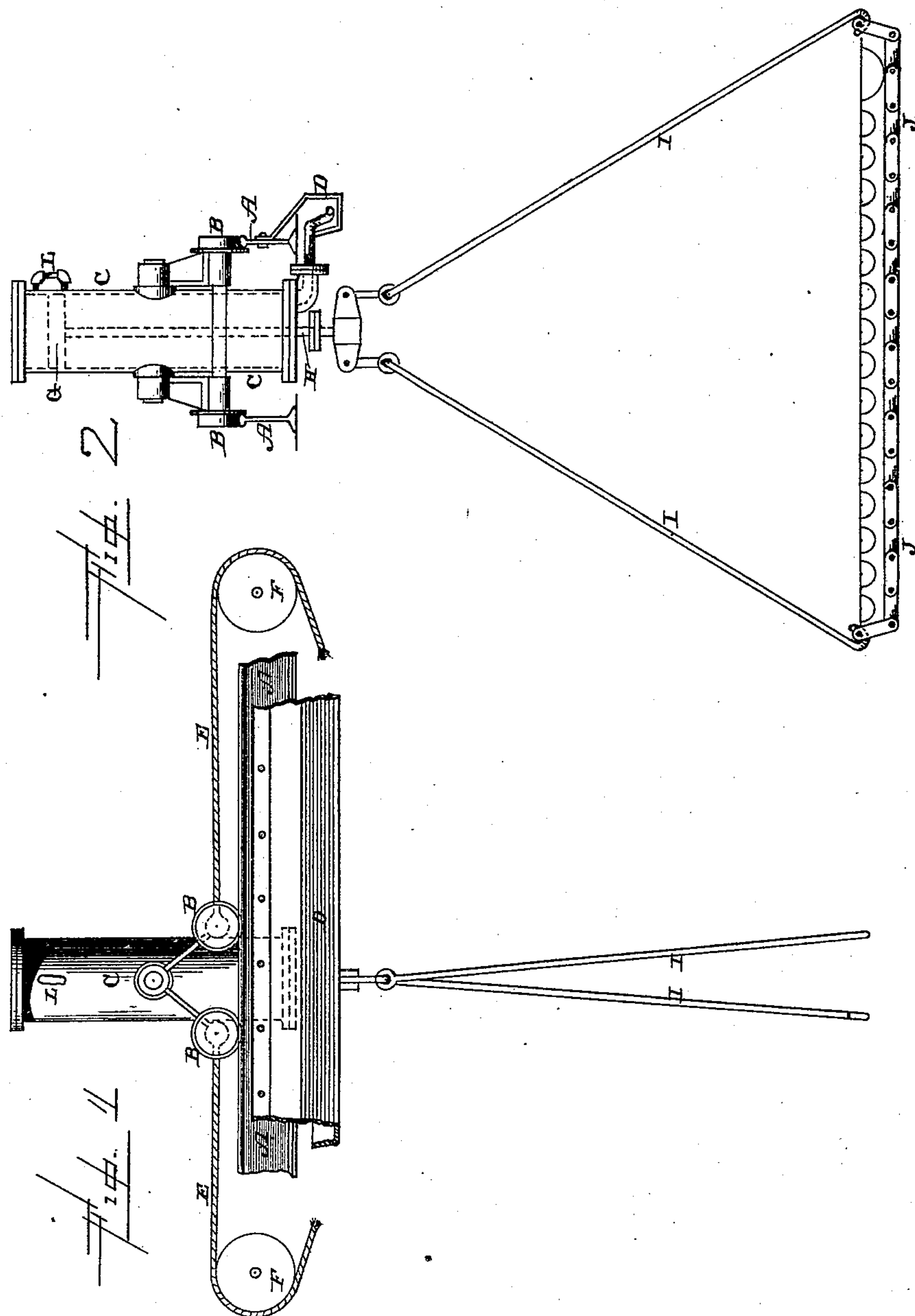


(No Model.)

J. W. SEIGH.
HOISTING APPARATUS.

No. 352,631.

Patented Nov. 16, 1886.



WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN W. SEIGH, OF JOHNSTOWN, PENNSYLVANIA.

HOISTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 352,631, dated November 16, 1886.

Application filed June 14, 1886. Serial No. 205,140. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. SEIGH, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and
5 useful Improvements in Hoisting Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it,
10 reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in hoisting apparatus; and it consists in, first, the combination of the elevated stationary track,
15 a cylinder mounted upon wheels, and which is adapted to be moved back and forth upon the track, a piston which is placed in the cylinder, and which has attached to its lower end suitable grappling hooks or rods, which connect with the chains, which are passed under-
20 neath the bed of pig-iron for the purpose of raising the pigs from their bed, breaking them apart, and moving them from one place to another; second, the combination of the cylinder mounted upon an elevated track, the piston moving in the cylinder and provided with grappling rods or hooks upon its lower end, and a steam-pipe which admits steam to the
25 upper side of the piston after the piston has been raised to a certain point, and thus causes the steam to act as a spring or buffer to the piston, whereby the piston is prevented from injuring the cylinder; third, the combination of the track with a suitable trough or pro-
30 tector, in which a flexible steam-tube is placed for the purpose of protecting it from the heat of the metal, all of which will be more fully described hereinafter.

The object of my invention is to provide a
40 steam hoisting apparatus which will not only raise the pigs of cast-iron from the bed in which they are cast, but break them apart and convey them to any desired point without the necessity of the great manual labor which has
45 heretofore been necessary for work of this kind.

Figure 1 is a side elevation of a hoisting apparatus embodying my invention. Fig. 2 is an end view of the same.

A represents a stationary track, which is
50 placed overhead in the casting-room, and which extends from above the different points where

the pigs are cast to any desired point either in the room or outside of it. Mounted upon this track by means of the wheels B is a vertical cylinder, C, of any desired length or di- 55 ameter, and which is connected by means of a flexible steam-tube with the boiler, which is located at any convenient point. This steam-tube, being made of any of the usual materials employed in making such tubes or pipes, would be readily destroyed by the heat from the cast- 60 ings if no means were taken to protect it. For this purpose to one of the rails of the track is secured a suitable trough, D, in which the tubing is supported, and which trough also 65 serves to protect the tubing from the heat of the castings. This tubing, being flexible, readily follows the movement of the piston as it is being drawn toward either end of the track by means of the rope, wires, or chains E, which 70 are passed around the guiding-drums F, located at opposite ends of the track. By pulling upon these wires, ropes, or chains the cylinder can be moved to any desired point in the casting-room. 75

In the cylinder is placed a piston, G, which has the piston-rod H connected to its under side, and which rod projects through the lower cylinder-head, as shown. To the lower end of this piston-rod are connected a number of 80 grappling hooks, rods, or other similar devices, I, which are adapted to be connected to the chains J, which are buried in the sand of the casting-bed. There may be any number of these rods I and any number of chains to which 85 they are connected. The chains being sunk in the sand of the casting-bed so as to extend directly under the pigs or cast-iron, which are cast together in the usual manner, when steam is admitted to the cylinder its pressure against 90 the under side of the piston forces the piston upward in the cylinder, and then the chains, being raised upward at their ends, not only raise the pigs out of their beds, but break them apart at the same time. This elevation of the 95 pigs is to be performed while they are still heated, so that the sprues which connect the pigs together will be readily broken.

In order to prevent the piston being forced upward with sufficient force against the upper 100 head of the cylinder to break or injure some of the parts, I make two holes through the side

of the upper portion of the cylinder, and in these holes fasten the pipe L. A suitable distance is left between the ends of the pipe so that after the piston has been raised above the lower end of the pipe steam will instantly pass through the pipe into the upper part of the cylinder and above the piston, and this steam will form a cushion to prevent the piston from striking against the upper cylinder-head.

10 The steam is admitted to the upper portion of the cylinder only after the piston has been raised above or up to the lower end of this pipe.

Heretofore when the pigs have been cast they have had to be broken apart by workmen and then elevated one at a time from their beds and conveyed singly from the casting-room. This requires a great deal of labor, and, owing to the great heat to which the workmen are subjected, only the very strongest laborers can be employed for this purpose. By means of the construction here shown all of this labor is avoided, for it is only necessary to embed the chains in the sand before the pigs are cast, and then after the castings have been made connect them to the cylinder, admit the steam, and then draw the cylinder with its raised load toward the end of the packing-room.

30 Having thus described my invention, I claim—

1. The combination of the movable cylinder provided with wheels which bear upon the track A, a protecting-trough which is secured to one of the rails of the track, and a flexible steam-tube which is connected at one end to the cylinder, and which is supported in and protected from the heat of the iron by the trough, substantially as shown. 35

2. The combination of the cylinder mounted upon wheels, the piston, the piston-rod, the grappling rods or hooks, and the chains, which are to be sunk in the sand bed before the castings are made, substantially as described. 40

3. The combination of the track, the cylinder mounted on wheels and placed upon the track, the piston provided with grappling rods or hooks, the chains, and the short pipe L, connected at both ends to the upper portion of the cylinder, and which only admits steam to the top of the cylinder, to form a cushion for the piston when the piston reaches a certain height in the cylinder, substantially as set forth. 45

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. SEIGH.

Witnesses:

B. LEWIS BLACKFORD,
F. A. LEHMANN.