

(No Model.)

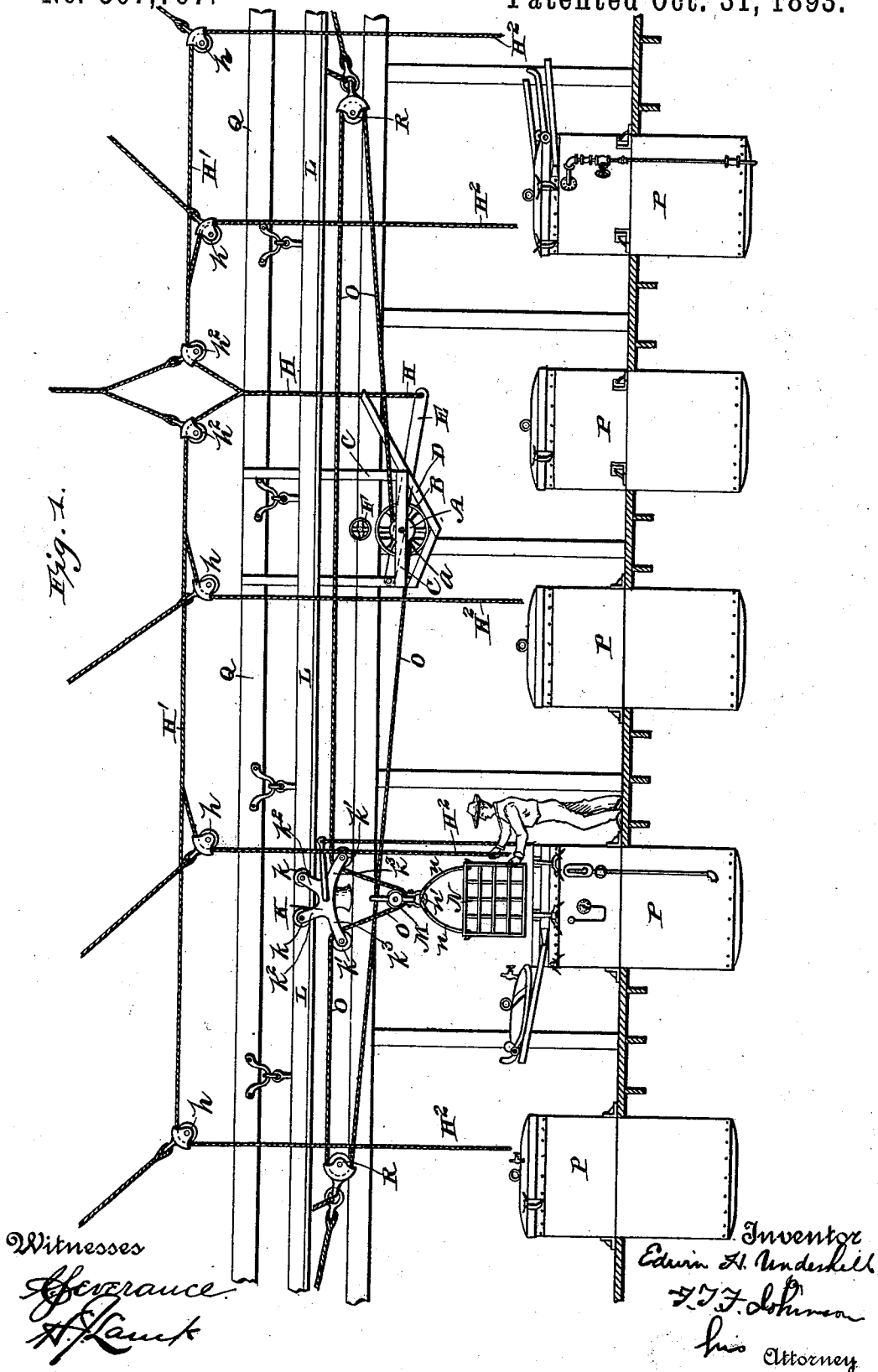
2 Sheets—Sheet 1.

E. H. UNDERHILL.
ELEVATED CARRIER.

No. 507,767.

Patented Oct. 31, 1893.

Fig. 1.



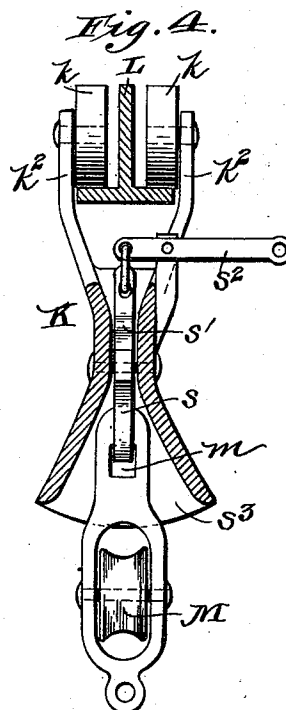
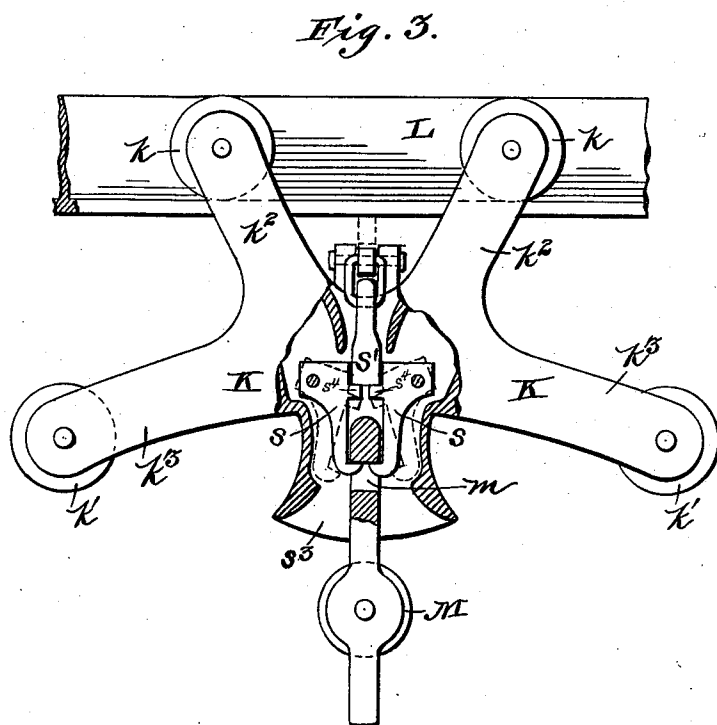
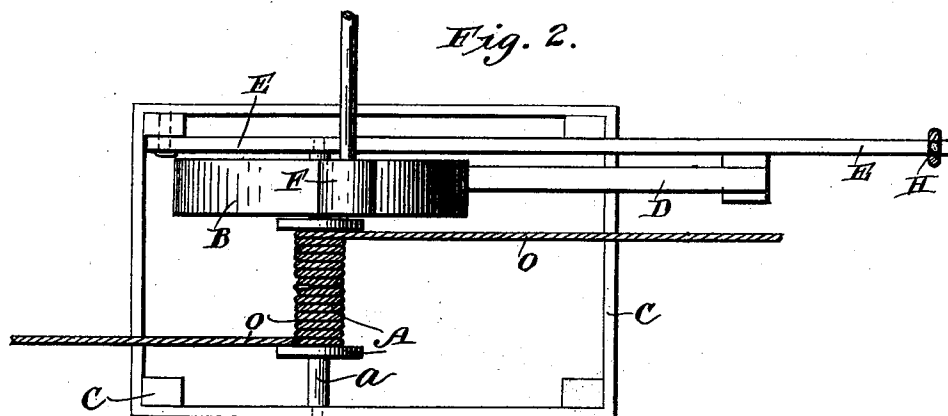
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2 Sheets—Sheet 2.

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ELEVATED CARRIER.

No. 507,767.

Patented Oct. 31, 1893.



Witnesses
 Reverence.
 H. Lauck

Inventor
Edwin H. Underhill
by
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UNITED STATES PATENT OFFICE.

EDWIN H. UNDERHILL, OF FREMONT, OHIO.

ELEVATED CARRIER.

SPECIFICATION forming part of Letters Patent No. 507,767, dated October 31, 1893.

Application filed June 8, 1893. Serial No. 476,991. (No model.)

To all whom it may concern:

Be it known that I, EDWIN H. UNDERHILL, a citizen of the United States, residing at Fremont, in the county of Sandusky and State of Ohio, have invented certain new and useful Improvements in Carrying and Lowering Devices for Use in Canning-Factories; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in devices and mechanisms, for carrying, raising and lowering crates, weights, &c., and lowering and raising the same into and out of kettles or vats, or other places.

The invention refers more particularly to and is designed for use in canning factories where the loads to be raised, transported and lowered are very great, ranging in weight usually from four hundred to one thousand pounds, and often more, requiring the combined labor of two, three, four and sometimes more persons to raise and lower the loaded crates out of and into the kettles or vats.

The object of this invention is to enable one person at any and all times and at any place along the line of carriage to operate and transport the loads with ease, thus doing away with the labor of a great number of persons.

The invention consists essentially of a track or way, traveler thereon, a tightening rope or belt for raising and lowering the loads, ropes, pulleys, levers, &c., for operation as set forth. And it further consists in the novel construction and arrangement of parts hereinafter described, illustrated in the drawings, and pointed out in the claims hereunto appended.

Referring to the accompanying drawings, Figure 1 represents a view in elevation of my improved raising, lowering, and carrying device. Fig. 2 is a top view of the drum and pulley for operating the device for raising and lowering the loads. Fig. 3 is a side view of the traveler, a portion of which is broken away to show the clutching device. Fig. 4 is

a central sectional view of the traveler showing the clutching device therein.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

Referring to the drawings by letters, B is a friction pulley mounted upon a shaft *a* of a drum A, and is keyed to said shaft in any suitable manner for the purpose of causing the said shaft to rotate when the pulley B is rotated.

C, C is framing or support in which the shaft *a* of the drum A is suitably journaled, and is secured, preferably, upon a beam or support Q running the length of the establishment, and held in a position above the rows of kettles or vats P, in any suitable manner.

D is a support and brake for the pulley B, and is located beneath said pulley, and supports the said pulley when it is removed from contact of the pulley on the end of the power shaft.

E is a lever secured to the framing C at one end, and at its other end to a rope H, as shown. One end of the drum shaft *a* is journaled in the lever E, for the purpose of throwing the pulley B thereon in contact with the pulley F on the end of the power shaft, as is evident.

F is a pulley secured at the end of the power shaft, and is located above the pulley B, which contacts with it when the device is operated. When the outer end of the lever E is raised the friction pulley B is brought into contact with the pulley F, and caused to revolve, revolving the shaft *a* and the drum A thereon, causing the rope O to be wound from both sides upon the drum or spool, as is evident.

L, L, is a track suspended from, or secured upon the support Q. This track L, is preferably T-shaped in cross section, as shown in Fig. 4, and extends lengthwise of the establishment, just above the rows of kettles or vats P, and suspended, preferably, beneath the support Q, as shown.

K is a traveler that rides upon the track L, and has, preferably, four arms k^1, k^2 , each provided at its end with a wheel or roller k^3 , as shown in Figs. 3 and 4. The arms k^1, k^2 , are

placed a sufficient distance apart to prevent the traveler K from swaying or wobbling. It is evident that instead of four arms k^2 , I can use two, one on each side of the rail, but I prefer to use four as shown, as it will make the traveler run both easier and smoother, as the whole weight of the load is carried by these arms. Besides the arms k^2 , k^2 , there are lower arms k^3 , k^3 , which are at or nearly at right-angles to a vertical line drawn through the traveler and in the same plane with the arms k^2 , k^2 , and are provided with grooved wheels or pulleys k' , k' , over which pass the rope O for a purpose hereinafter described.

15 N is a crate or carriage, and n , n , are suitable arms that are secured to a clevis n' on the lower end of a pulley M, as shown. The arms n are provided with hooks on their lower ends for attachment to the bars of the

20 crate N for the purpose of raising and lowering it.

n' is a clevis or link to which the upper ends of the arms n are fastened in such manner that they can be attached and detached from the crate at will. The clevis n' is pivoted to the lower end of a pulley M, through which passes the rope O, as shown. O is a rope or belt that is secured to the drum A, and passes through and is supported by pulleys R, R, secured at each end of the track L, L, as shown. The rope or belt O in addition to passing through the pulleys R, R, also passes over the pulleys k' , k' , in the lower arms k^3 , k^3 , of the traveler K, and also through the pulley M, as shown.

35 H' is a rope that extends the entire length of the track L, and is located above and to one side thereof, and passes over and is supported by pulleys h , h , h , h , h^2 , h^2 .

40 H^2 are ropes or handles by means of which the device is operated, being attached to the rope H' , and hang down by the side of a vat or kettle, as shown. Each rope H^2 has a pulley h through which it passes before it is secured to the rope H' .

45 h^2 , h^2 , are pulleys over which the rope H' passes. The rope H is secured to the rope H' between the pulleys h^2 for a purpose hereinafter explained.

50 P, P, P, P, are vats or kettles of any suitable construction and are placed in line directly beneath the track L, as shown in Fig. 1. These kettles or vats are provided with steam tight covers, gages, &c., as is usual.

55 The traveler K is provided in its interior with clutching mechanism for the purpose of clutching and holding the pulley M when it is desired to move a load or weight from one portion of the track to the other. At the lower

60 part of the traveler is a wide flaring mouth or opening s^3 . Above the opening s^3 within the traveler are eccentrically pivoted hooks or catches s^4 , and have their lower ends hooked, as shown in Fig. 3. The upper corners of

65 these pivoted hooks are cut away so as to leave a recess between the hooks for the purpose of receiving a block s' which fits therein

and locks the hooks. On the inner sides of said hooks adjacent to each other are lugs or projections s^4 against which the top of the pulley M strikes, and driving upward, causes the hooks to close and grip the pulley, as is evident. s^2 is a lever, pivoted upon the traveler K between the arms k^2 , and connected to the locking block s' , at one end and to a rope at the other, as shown, and is for the purpose of releasing the pulley M from the hooks, by withdrawing the locking block from its recess between the upper ends of the hooks s , permitting them to fall apart and release the pulley and its load.

The operation of this device is as follows: The crate having been loaded and it being desired to move the load to a vat or kettle at a distance from the place of loading, one of the handles or ropes H^2 is pulled. This tightens the rope H' , and pulls the rope H up between the pulleys h^2 , h^2 , which raises the lever E and brings the friction pulley B in contact with the pulley F on the end of the power shaft, which is always kept in motion, and which communicates motion to the friction pulley and to the drum A, and as the rope or belt O is wound upon the drum it will raise the crate beneath the traveler to raise and bring it up to and engage it with the clutching mechanism in the traveler, where it is firmly gripped and held until released. When the pulley M to which the crate is connected has been secured to the traveler the pulley B is permitted to swing from the pulley F and the rope O will become slack. The load secured upon the traveler is then pushed or pulled to the desired position above a crate. When in position above a crate the rope O is again tightened as before, and the pulley M released from the traveler and allowed to fall gradually into the vat by manipulating the ropes H^2 , &c. When it is desired to remove the crate from the vat the first described operation is repeated, as will be apparent.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a raising, lowering and carrying device the combination of the track L, a traveler K thereon having arm or arms k^2 for mounting said traveler on the track, and arms k^3 , k^3 , provided with pulleys k' in their outer ends, and a gripping mechanism within said traveler consisting of a pair of eccentrically mounted hooks s^4 , s^4 , chamber or recess between the inner upper ends of said hooks, a block s' , and a lever connected to said block; with a drum A rigidly secured to a shaft at one end of which is journaled in a stationary bearing and the other end in a pivoted lever E, a friction pulley B also mounted on said shaft, pivoted lever E, and an endless rope or belt passing through said arms k^3 , k^3 , over the pulleys k' , k' , the ends of the said rope being secured to the said drum and adapted to wind upon the said drum from opposite directions

simultaneously, and the pulleys R, R, at or near the ends of the track L, all arranged substantially in the manner and for the purpose set forth.

5 2. In a raising and lowering device a traveler having arm or arms k^2 by means of which the said traveler is mounted on a track, arms k^3 , k^3 , at or nearly at right angles to the arms k^2 and provided with pulleys in their outer
10 ends for carrying a rope or belt, a gripping device consisting of a pair of eccentrically mounted hooks s^4 , s^4 , in said traveler, cham-

ber or recess between the inner upper ends of said hooks, a block s' adapted to set in said recess and lock the hooks, a lever connected 15 with said block for manipulating said block, as and for the purpose set forth.

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

EDWIN H. UNDERHILL.

Witnesses:

MAMIE QUILTER,
H. G. EDYERTON.