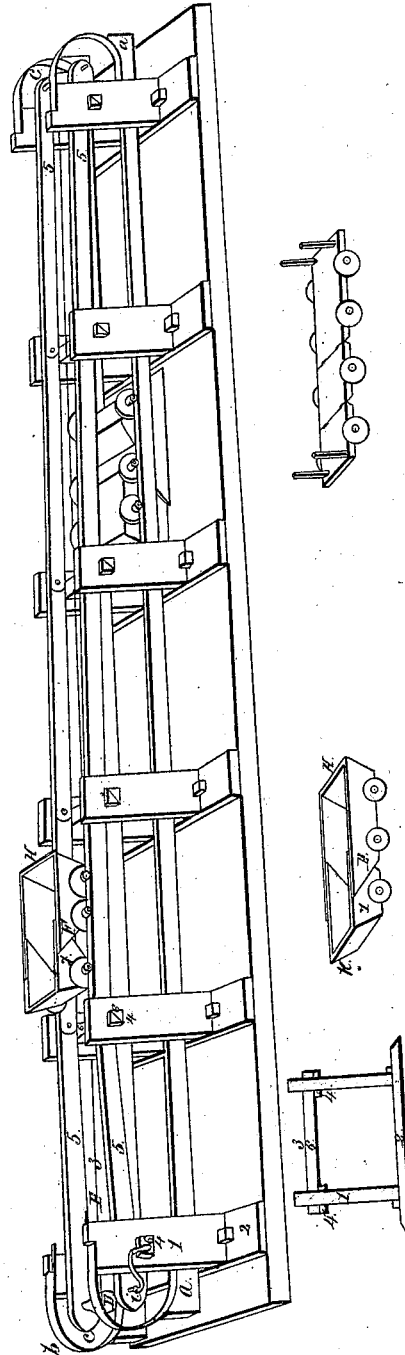


J. Ring.

Excavator.

No. 1,669.

Patented July 1, 1840.



UNITED STATES PATENT OFFICE.

JARVIS RING, OF OGDEN, NEW YORK.

MACHINE FOR REMOVING EARTH, &c.

Specification of Letters Patent No. 1,669, dated July 1, 1840.

To all whom it may concern:

Be it known that I, JARVIS RING, of Ogden, in the county of Monroe and State of New York, have invented a new and useful Machine—viz., a Double-Track Portable Railway—to be Used for Removing Earth, Clay, Stone, Gravel, Bales, Boxes, Casks, Cordwood, or any Ponderous Materials; and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

The railway stands on or is supported by any number of frames or bents according to the length of the railway. The bents are framed with two posts (1) made of joist of suitable size connected with a sill by mortises in the sill and tenons on the lower ends of the posts and stand at right angles with the sill (2) as far apart as the required width of the railway (3) and a girder (6) nigh the upper end of the posts of equal length with the sill between the posts and parallel with the sills connected with the posts with tenons and mortises and fastened with chase wedges (7). The rails are framed with plank or joist. The length, width and thickness can be varied according to the size of the railway and the weight they are to support. The four uppermost end rails, two for each end of the railway, are framed with a half circle at the outward end (5) of convenient diameter and extend beyond the bent to which they are bolted far enough to admit a wheel of equal diameter with the outward ends of said rails to turn beyond the girder (6). The four end rails for the under track, two at each end of the railway, project farther from the bent than the upper rails and are framed with a concave circle (a) extended from the center of the upper circle (b) far enough to let the trucks pass freely and iron bands fastened to the concave ends of the under rails are turned up over the round ends of the upper rails at equal distance therefrom and fastened to the upper end of the posts (1) forming a groove (c) that conducts the cars from one rail to the other. The other or inward ends of said rails and all the intervening rails in either track are framed with circular or socket joints, the circular tenons on one rail to correspond with the circular socket on the other. The tenons being half the thickness on each rail and shaped to-

gether without making any variation or crook in the track. The two lengths thus framed can be connected together by putting a bent where the ends of the rails in the two lengths lap together and iron bolts put through the center of said circular tenons and through the posts with nuts and screws on the ends of said bolts outside the posts secure the rails (5) in their proper place, the joints of the upper rails where lapped together resting on the ends of the girders (6) inside of the posts (1) to help support the weight of heavy loaded cars. The under rails (a) are secured to the same posts below the girders (6) in manner aforesaid so far below as to compare with the circular grooves (c) at each outward end, thus forming a double track railway, one track directly over the other the length of two rails. Put another bent with four rails of equal lengths framed and secured as aforesaid between the other two lengths. Make the track three lengths. By continuing to add bents with rails as aforesaid can be extended to any desirable length.

The iron railing is fastened on the upper side of the wooden rails with screws or bolts. The strakes to lap over the socket joints of the wooden rails so as not to prevent the rising or lowering of bents on uneven ground. The wheels (D) one at each end are hung on the center of a shaft, with gudgeons at each end that run in boxes placed in the center of the circular ends of the upper rails, the diameter of the wheels to correspond with the circular ends of said rails (5), the gudgeons or shaft to extend through outside the boxes far enough to admit of cranks (i) or cogwheels or whirls to be annexed thereto according to the power to be applied to turn the wheels. A chain or belt (E) is extended around over the wheels (D) at each end of the machine. The ends of said chain or belt are fastened together with hooks or buckles, making a continued chain or belt that rests on the outward surface of both wheels (D). When chains are used a groove in the rim of the wheels and iron forks in the wheel, the power is applied to keep the chain from slipping on the wheel (D). The power to turn the wheels and move the cars can be applied at either end and turned either way. When the tracks are lengthened as aforesaid a corresponding length of chain or belt (E) must be added. The cars are formed with

sectional parts. Section first consists of four cast iron trucks (F), of convenient size where they bear on the rails, with a rim on the inner edge that runs within the rails to
 5 prevent them from running angling across them. The trucks are attached to iron axles of the proper length by having a hole through the center of such size as to permit the rounded end of the axle to pass through
 10 far enough to admit of pins in the ends. The outer ends of the trucks are cast concave or hollowing that the ends of the axles may not project beyond them. The bottoms of the cars are of planks or other suitable tim-
 15 bers the length to correspond with track (3). To the bottom of section 1st is attached two of the aforesaid axles at such distance one before the other that said trucks may pass over the circular ends of the rails and the
 20 bottoms not interfere with the wheels (D). The axles are secured to the bottoms with bolts or screws. The second section has but one axle with two trucks (F) matched to the bottom as aforesaid. The hind part of sec-
 25 tion 1st and fore part of section 2nd being framed with a miter from the upper side of each bottom the mitered edges are secured nigh together with strong butts or hinges (G). The top or box of the cars are made
 30 with boards or sheet iron, the sides to stand at right angles with the bottom. The forward end of sect. first projects angling from the bottom both being secured in their place with knees of wood or iron fastened with
 35 screws or rivets. The hinder ends of the sides of the box project back from the bottom at an angle of forty five or more degrees (K). The second section has no ends
 40 across if the third is to be added, but the sides are secured as aforesaid and project at

both ends, the forward end lapping by on the inside of section 8. The third section can be added in like manner and an end board across the hindmost end, which forms
 45 a car of three sections or an eight wheel carriage that will pass in the grooves from one track to the other, shutting and opening on said hinges. By adding sections in form of section second the cars can be made as
 50 endless as the chain that draws them. The cars are fastened to the chain or belt with staples and links between them opposite each other that they may pass over the ends at the same time, the one balancing the other.
 55 Friction rollers at the side of the girders (6), the top of the rollers a little above the girder, will prevent friction from the sag of the chain or lengthy track (3). For removing cordwood, bales, boxes, casks, stone, or
 60 other bulky articles the tops of the cars can be varied in form to suit the convenience of the same.

Said machinery can be operated upon or put in use by hand power with cranks; at-
 65 tached to the ends of the shafts the wheels hang on or with horse power, steam or any other power applied that will roll the wheels (D).

What I claim as my invention and desire to secure by Letters Patent is— 70

The making a double railway with one track above the other and rounded off at the ends to unite the two so that cars attached to endless chains or belts can run upon the two tracks for the purposes and in the man-
 75 ner described.

JARVIS RING.

Witnesses:

P. KANE,

W. R. GORDON.