(No Model.)

D. P. CAMERON.

SYSTEM FOR DUMPING CARS.

No. 510,674. Patented Dec. 12, 1893.

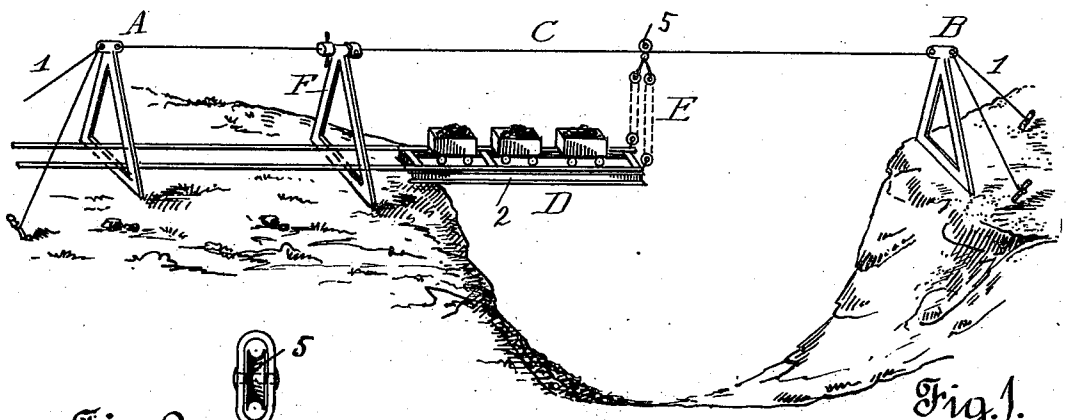

Fig. 1.

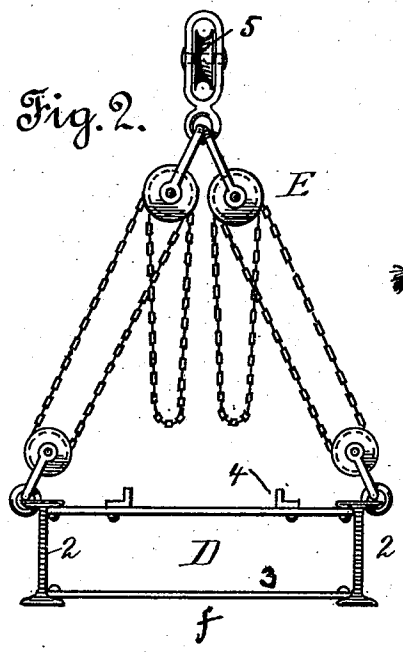

Fig. 2.

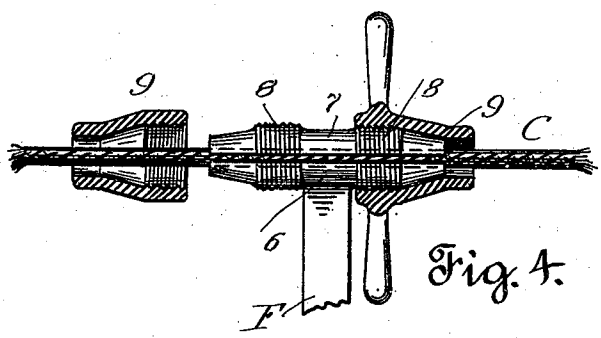

Fig. 4.

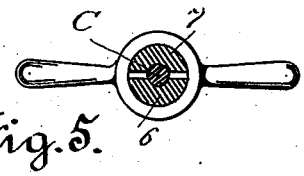

Fig. 5.

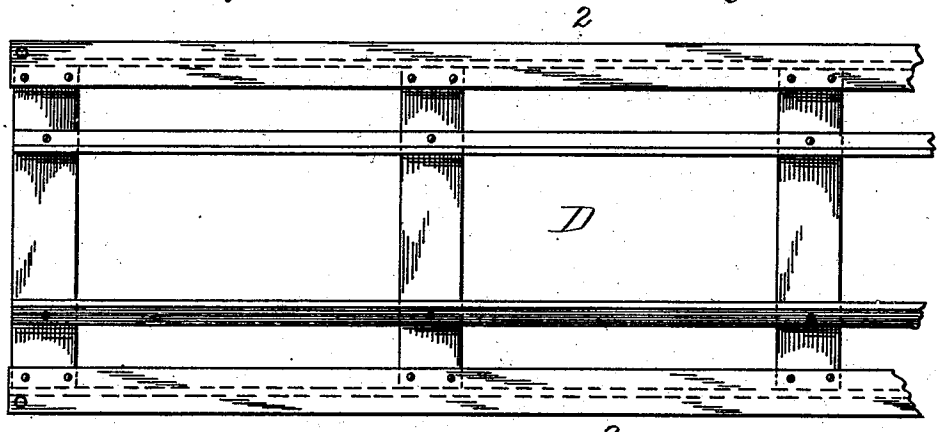

Fig. 3.

Witnesses.
H. Wolcott Everett.
J. P. Langhorne

Inventor
David P. Cameron
by Spear & Seely
Attorneys

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DAVID P. CAMERON, OF SAN FRANCISCO, CALIFORNIA.

SYSTEM FOR DUMPING CARS.

SPECIFICATION forming part of Letters Patent No. 510,674, dated December 12, 1893.

Application filed August 25, 1892. Serial No. 444,049. (No model.)

To all whom it may concern:

Be it known that I, DAVID P. CAMERON, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Systems for Dumping Cars; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to improvements in the methods and apparatus employed for dumping earth, sand or other materials into cuttings, and ravines in making fillings. In ordinary practice the material obtained by excavating, or from cutting down banks, is loaded into cars at or near the excavator, from which a railway track extends to the edge of the filling. As it is necessary to dump beyond the upper edge of the cutting to be filled, means must be provided for supporting the track; and it is usual to build wooden trestles for that purpose and to run the track out upon them, new trestles being built as the work progresses. As the lumber of these trestles is always filled around and abandoned, and new lumber used in building the successive trestles, the cost, not only in material but in the labor required is very great.

The object of my invention is to provide a method of and apparatus for dumping cars, by which I entirely do away with the necessity of providing expensive structures for temporarily supporting the track as the work progresses, thus greatly reducing the cost of dumping both in material and labor.

My invention consists generally speaking, in providing a movable section of railway track, and in suspending said track from a fixed cable and in the same vertical plane therewith the cable being stretched between supports at each side of the filling to be made, whereby the track may be projected beyond the edge of the filling, and the cars run out upon it, and dumped in the usual manner.

It consists also in special means for supporting the section of track, so as to permit it to be moved as the filling progresses.

It also consists in special devices for keeping the required strain or tension upon the cable; and finally in various details of construction which need not be here specifically set forth, but which are fully hereinafter described.

This specification should be read in connection with the accompanying drawings, in which—

Figure 1, is a general view showing my improved system of dumping cars. Fig. 2, is an end view of the movable section of track showing the manner of suspending, and of raising and lowering it. Fig. 3, is a plan of the movable track. Fig. 4, shows the special means for keeping the cable under strain. Fig. 5, is a cross section of Fig. 4.

My invention is ordinarily intended for use in making fillings by dumping material, brought to the filling place in cars. In the case illustrated in the drawings, it is assumed that the earth, sand, or other material is cut or excavated at some distance, and loaded into cars, which are then run upon a track to the edge of the filling. The drawings illustrate a ravine in process of being filled across.

A represents a support which I prefer to make of triangular form thus providing a base to insure stiffness and prevent either spreading or collapsing of the side pieces. A similar support B, is located beyond the end of the space to be filled, and the two are connected by a strong wire rope or cable C, put under tension. The strain of the cable is counteracted, and to supports A and B, firmly fixed by guys 1, as shown. The triangular shape of the supports enables the railway track to pass through them centrally. It will be understood that in making a filling the supports A and B, retain the positions in which they are originally placed, until the filling has been completed to its proper height on the line of the cable—in this case, across the ravine.

D represents a movable section of railway track, composed preferably of a rectangular metallic frame *f* constructed of I-shaped side beams 2, and suitable cross pieces 3, to stiffen the frame and carry the rails 4. The length of the frame will depend upon circumstances, but ordinarily it will be about thirty feet long, or the length of an ordinary rail. The forward end of the frame is suspended from the cable by a sheave 5, and system of chain blocks E, as shown in Figs. 1 and 2, this man-

ner of suspension permitting the end to be raised and lowered so as to adjust the track to the proper level and compensate for a possible sagging of the cable. The rear end of the frame, which rests upon the edge of the filling, as shown, should also be connected to the cable by chain blocks, in order, first to raise it slightly so as to permit sand or other material to be tamped under it to give it a good level bearing, and secondly to raise it sufficiently to allow the whole frame to move forward on the cable, when the filling has extended nearly to its end. It should be noted here that the drawings are simply intended to illustrate the action of my device, and not to show correct proportions or distances. In making large fillings, the cable might be several hundred feet long, requiring the movable track to be shifted many times before the filling is completed across the ravine, or to a point to which the main railway track can be extended. After the filling is completed to such a point, and track laid, the cable and its supports are removed and the filling extended in either direction laterally, by pinching the track sidewise, and dumping in the ordinary manner. Now if we suppose a cable of much greater length than that shown, it will be seen that an additional support will be desirable, which will be movable between the main supports A and B, so as to follow up the track D as it is extended. Such a support not only tends to prevent sagging and swaying of the cable, but also if properly constructed, maintains the tension originally given to such cable.

Taking Fig. 1 as an illustration, let us suppose that the filling has proceeded to a certain distance and that the track section D, has just been run forward on the cable until nearly its whole length projects beyond the edge of the filling. New rails are then laid behind it to complete the line, and the chain blocks are manipulated so as to get the proper level. The cable is first put under strain by giving a pull to the top of the support B, by any suitable tackle, such as ordinary chain blocks, by turn buckles on the guys, or in any other manner. Now to keep the tension, and to avoid sagging and swaying as far as possible, I provide the movable support F, constructed like supports A and B, excepting that it is furnished with special devices for pinching the cable. The support F is moved up as near to the edge of the filling as convenient as shown in Fig. 1. At its upper end is a two part sectional sleeve 6, 7, the lower section being rigidly connected to the top of the support. The upper section 7, may be lifted sufficiently to permit the cable to enter sidewise. Both sections are tapered toward their ends, (Fig. 4) and their semicylindrical portions are screw-threaded, as shown at 8. Correspondingly tapered and threaded nuts 9, are strung on the cable before it is stretched, which nuts when turned up on the sectional sleeve will compress it so as to pinch the cable tightly. The initial tension given the cable is thus maintained until it becomes necessary to shift the track D, forward, and move the support up a corresponding distance. Thus no matter what the length of cable may be, the movable support F, temporarily fixed while the cars are dumping, will always maintain the proper tension. Were this support not used, and the cable simply stretched between supports A and B, the movable section of track might no doubt be suspended and operated as described; but as the work progressed the liability of swaying and sagging of the cable would be greatly increased; whereas, by using the support F, I always provide for a fixed support for the cable, at the proper point—that is, near the rear end of the movable track.

I have shown in the drawings a train of dump-cars on the projecting track which are supposed to dump sidewise in the usual manner. If desired, to obtain greater strength, where very heavy work is to be done, I may employ two cables, placed side by side, a proper distance apart, and suspend the track from both of them. This besides giving the increased supporting strength, provides a sway-brace, each cable tending to prevent side sway of the other.

In making water fillings the operation of my system is the same as before described, excepting that in many cases, it will be necessary to make an artificial base for the support B, by driving piles at some distance from the shore.

My invention will also be found of great value in mining operations, enabling the dumps to be extended without the use of trestles.

What I claim is—

1. As a means for extending fillings, an elevated cable in combination with a movable section of railway track and in the same vertical plane with and suspended from such cable, substantially as and for the purposes set forth.

2. The combination of a main railway track for carrying dump-cars to a filling, of an elevated cable, and a movable section of track in the same vertical plane with and suspended therefrom, and adapted to project beyond the edge of the filling, substantially as and for the purposes set forth.

3. A system for permitting cars to be dumped beyond the edge of a filling, consisting of a stationary cable extending across the space to be filled, a section of railway track in the same vertical plane with said cable and adapted to be moved forward as the filling progresses, and adjustable suspension devices connecting such track to the cable, substantially as described and shown.

4. In combination with an elevated cable, extending between points of support upon opposite sides of a proposed filling, a movable section of railway track suspended from

said cable, and an intermediate movable support for the cable, substantially as and for the purposes set forth.

5. The combination of the supports A and B, connected by an elevated cable, with the suspended railway track movable upon such cable, and the intermediate support F, provided with clamping devices, substantially as and for the purposes set forth.

6. The method of making fillings which consists in suspending a section of railway track from an elevated cable extending across and above the whole space to be filled so that said track projects beyond the filling, continuing the filling to the end of said track, and then shifting said track forward on the cable, substantially as described and shown.

7. The combination with a line of railway track of angular supports, a cable stretched between and sustained by said supports, and a movable section of track suspended from said cable, for the purposes set forth.

8. The combination with an elevated cable of a movable section of railway track suspended from said cable by chain blocks, substantially as set forth.

9. The combination of a support for an elevated cable of a two part sleeve, tapered and threaded, adapted to receive the cable between them, and threaded and tapered clamping nuts for compressing the sleeve upon the cable, substantially as set forth.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 30th day of June, 1892.

DAVID P. CAMERON.

Witnesses:
L. W. SEELY,
M. R. BYRAN.