

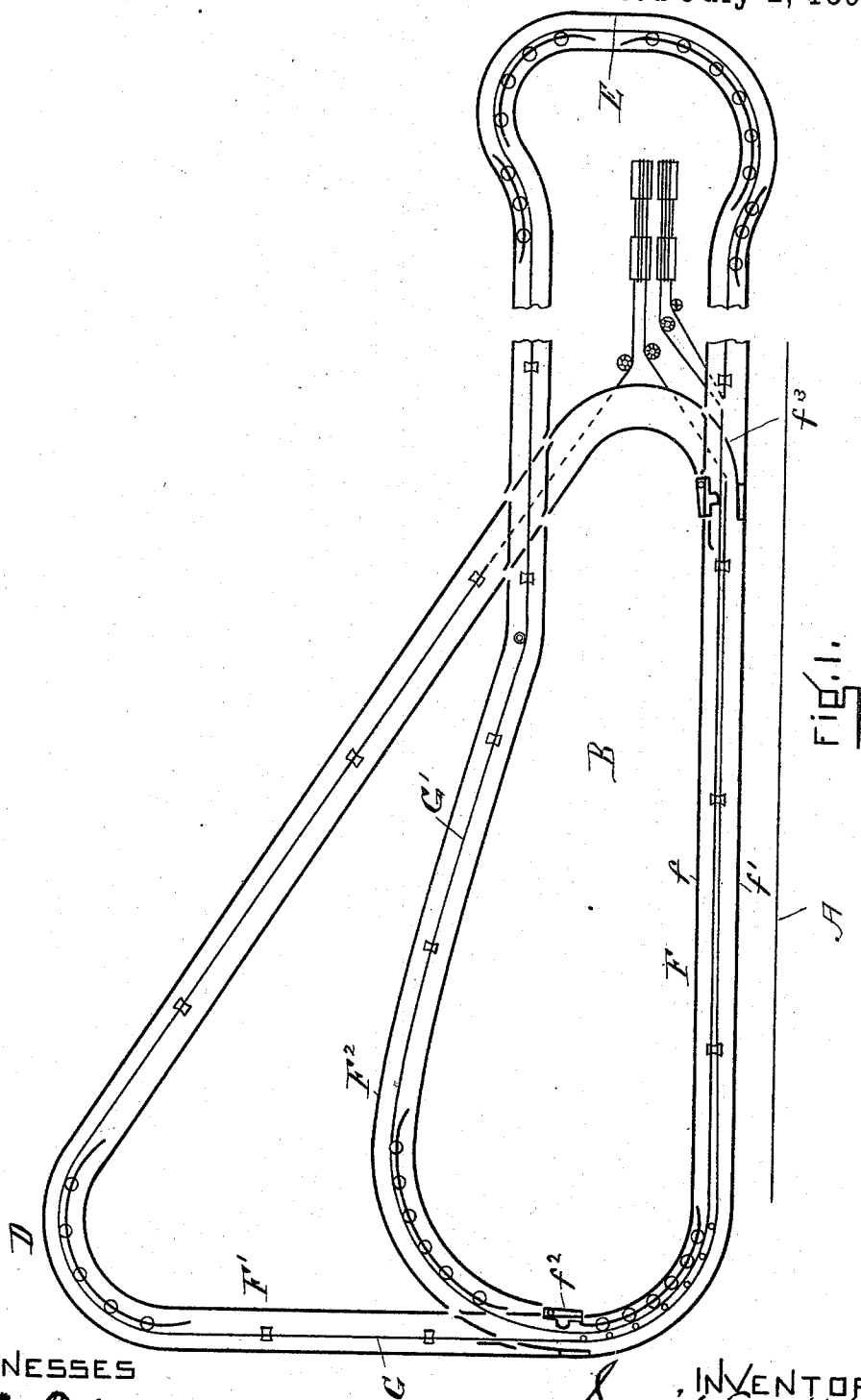
(No Model.)

3 Sheets—Sheet 1.

J. CAMPBELL.
SYSTEM FOR HANDLING COAL.

No. 542,077.

Patented July 2, 1895.



WITNESSES

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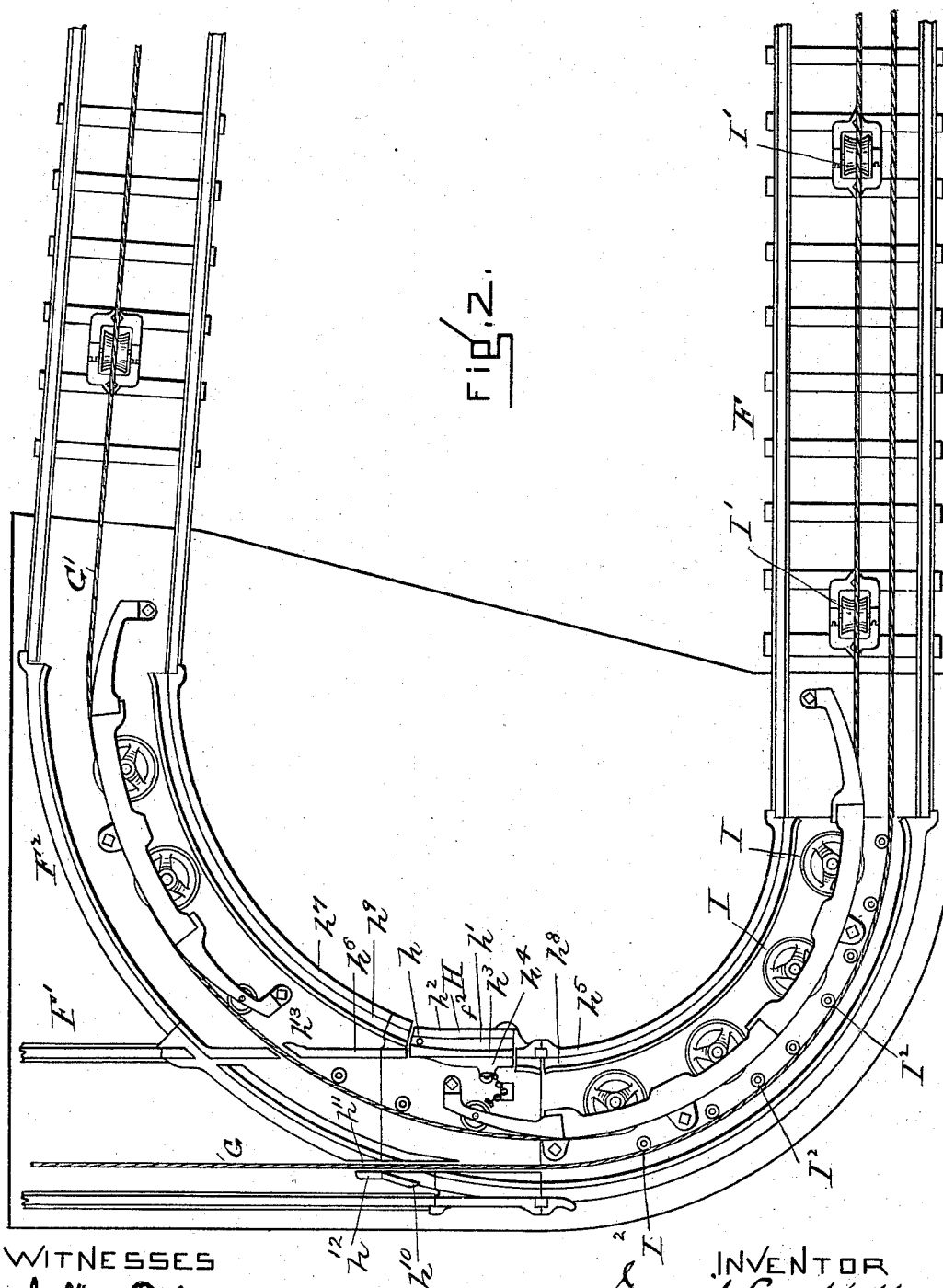
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3 Sheets—Sheet 2.

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Patented July 2, 1895.



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(No Model.)

3 Sheets—Sheet 3.

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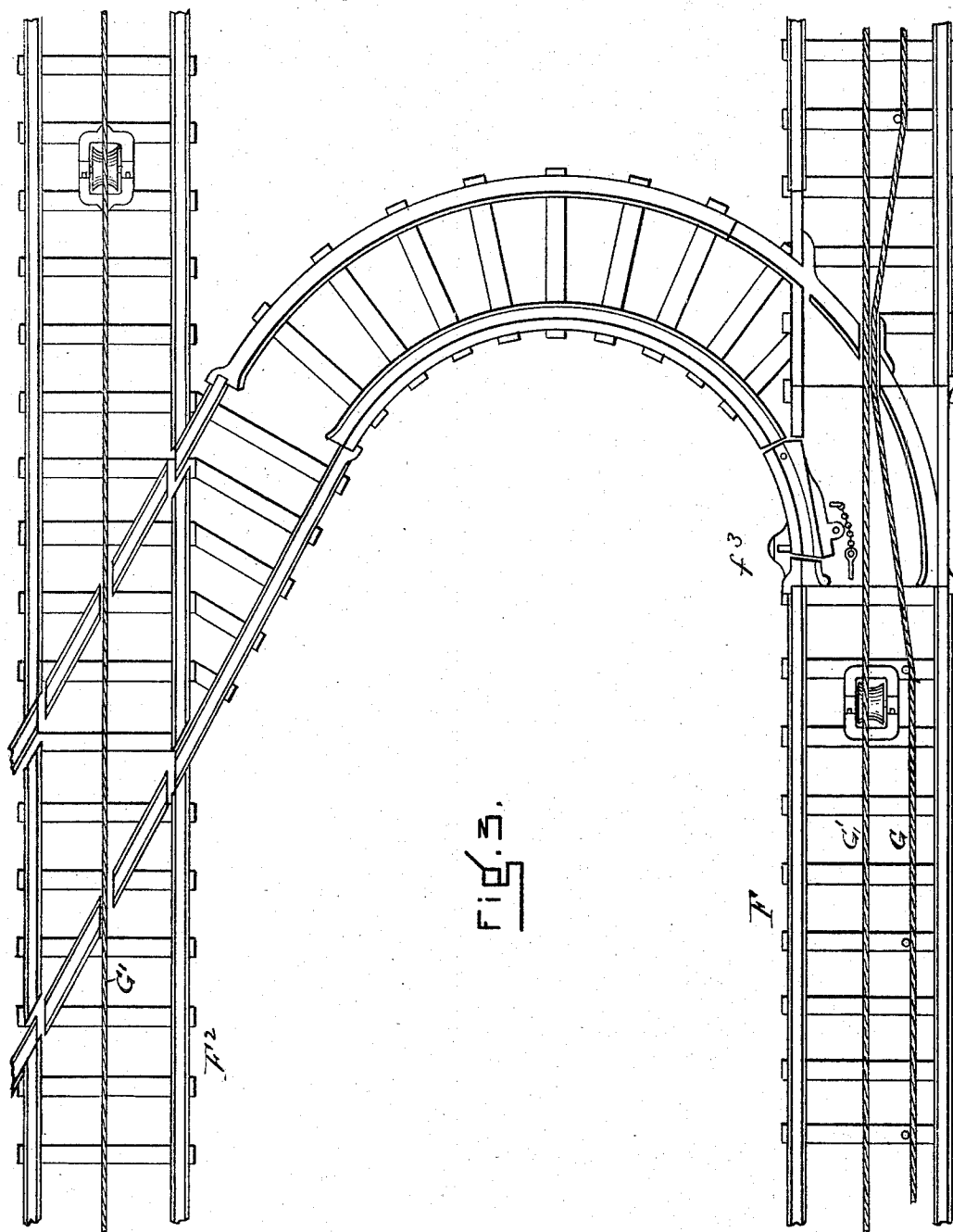


FIG. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

JEREMIAH CAMPBELL, OF CHELSEA, MASSACHUSETTS.

SYSTEM FOR HANDLING COAL.

SPECIFICATION forming part of Letters Patent No. 542,077, dated July 2, 1895.

Application filed January 19, 1895. Serial No. 535,478. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH CAMPBELL, a citizen of the United States, residing at Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Systems of Handling Coal, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

My invention comprises an apparatus for handling coal which involves the bringing together of two systems of distributing at a common point, whereby it becomes possible to receive various kinds of coal at a given station and distribute it with the same apparatus or portions of the same apparatus to different parts of the coal yard or wharf. This apparatus or system is especially desirable for use upon wharves where dockage is limited.

In the drawings I have not represented the relation which the apparatus bears to the wharf or vessel from which the coal is hoisted, neither have I shown the apparatus for hoisting and delivering it to the tram-cars, and I have not shown the cars; but the hoisting apparatus and cars are preferably of the type now usually employed, the hoisting devices preferably comprising a steam-shovel of the clam-shell type and its actuating mechanism.

In the drawings, Figure 1 is a view in plan of so much of the apparatus as is necessary for describing the operation of the system; and Figs. 2 and 3 are also plan views, enlarged, of sections of the same.

It will be understood that the vessel lies along the wharf at A, Fig. 1, and that the hoisting apparatus is within the space marked B, and that it is desired to deliver coal in the receiving-sections D and E of the yard from the point A. There is arranged close to the edge of the wharf or receiving-station A, and preferably parallel with it and extending for some distance along it a single-track F, having the rails ff' . This track F at the point f^2 separates into the tracks F' and F², the track F² running to the receiving-section E and returning entering the track F at f^3 , forming therewith a continuous loop and the track F', extending to the receiving-section D of the yard and then returning connecting with the

track F at the point f^3 , forming therewith a second loop-line, the track F thus being common to two loops. A separate cable for each loop is used for propelling the tram-cars upon such loop, namely, the cable G for the loop having the track F', and the cable G' for the loop having the track F², and these cables both extend between the tracks ff' to the track-section F.

The delivery or tram cars are adapted to be attached by any ordinary gripping device to either of the cables, and only one of the cables is used or in motion at the same time, the other cable at such time being separated from the cable in action by means of devices which are so placed as to hold it from the guiding-rolls over which the active cable is running. The said holding devices being common to the two cables and the said rolls also being common to the two cables where the two cables are together in the track-section F and the two cables being common to the same track-section F.

To provide for a separation of the tracks into the two loops and to prevent injury to the cables, I have devised switches of a peculiar character, and which are illustrated in Figs. 2 and 3. One is at the point f^2 or where the tracks diverge, and the other is at the point f^3 or where they come together. They each involve, however, the same features or elements, and a description of one will answer for a description of both. H is the switch-plate. It is pivoted at h , and has the flange-groove h' and the tread-sections $h^2 h^3$ and the arm or plate h^4 , in which is a hole to receive a locking-pin by which the switch is locked in one of its two positions. The tread-section h^2 of the switch-plate forms the continuation of the rail between the section h^5 and the section h^6 . The tread-section h^3 of the switch-plate forms the connection between the section h^5 and the track-section h^7 , and the groove h' forms the connection between the groove h^8 and the groove h^9 . The frog or rail h^{10} is of the usual type, with the exception that it has a deep groove h^{11} for the cable G, and the rail-section h^{12} is widened and extended to receive and hold the tread of the wheels as they cross the groove and cable. The same construction of groove and rail is shown at h^{13} in the rail-section h^6 , the con-

struction being such as to prevent the flanges of the wheels from dropping sufficiently to injure the cable while passing over the groove.

It will be understood that whichever cable is in action it bears against the rolls I at the curve and upon the rolls I' in the track-section F, and that the cable not in action is moved from contact with the rolls I I' and held from contact with them by the holding pins or devices I², as otherwise it might not only interfere with the grip of the tram-car, but it also would be worn by the rotation of the said rolls against it, the rolls, of course, being revolved by the action of the moving cable.

In use the track-section F is connected with either the section F' or F² by movement of the switch f², and the cable of that section is set in operation and the cable of the other section is moved out of position along the track F and upon the curve and held out of position by pins or suitable holding devices. The cars are then loaded at the station A and transferred by the cable to the dumping-point and returned by it to be again loaded. When it is desired to convey coal to another section of the yard by means of the other track the switch f² is changed, the cable which was operative is stopped and moved from its operative relation to the rolls I I' and the other cable released from its holding-pins and set in operation.

While I have described this invention as applicable for handling coal I would not be understood as limiting it to that use.

While I prefer that the two cables of the system be not operated at the same time and be separated from each other in the track-section F when one is in operation, I do not wish to limit my invention to such use of the cables, as it is obvious that they may both be run or operated at the same time, thereby providing for the delivery of cars to either of the

two sections D or E; but when so used it will be necessary to turn, either automatically or by hand, the switch H, in order that the cars may run with their respective cables, and this, of course, is not necessary when one only of the cables is used.

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

1. The combination of a track system F', its cable G, the track system F², its cable G', the track F with which both systems connect and through which the cables G G' extend, and means within said track F for separating the cables whereby the operative cable is maintained in contact with its holding and guiding rolls while the inoperative cable is held from contact therewith, as and for the purposes described.

2. The combination of the track F, the two cables G, G' traversing said track, the rolls I, I', and the pins I², as and for the purposes described.

3. The combination of a track section F, the track section F', the track section F², the cable G extending from the track section F into the track section F', the cable G' extending from the track section F into the track section F², and the switch comprising the pivoted frog H having the rail section h², h³ separated by the groove h', and the rail h⁶ having the diagonal recess across it through which the cable G' runs and the laterally extending tread support h¹³, and the rail having the recess h¹¹ through which the cable G runs, the said rail having the tread support h¹² extending beyond the line of the rail, as and for the purposes described.

JEREMIAH CAMPBELL.

Witnesses:

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