

No. 760,249.

PATENTED MAY 17, 1904.

J. T. RICHARDS.
SYSTEM OF RAILROADING.
APPLICATION FILED JAN. 18, 1904.

NO MODEL.

fig. 1.

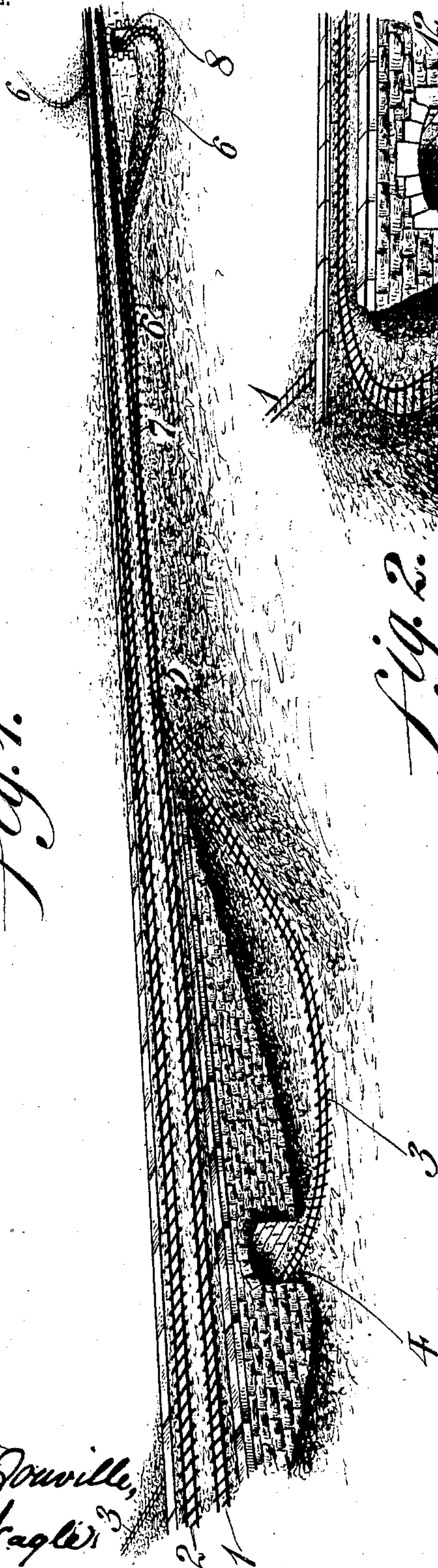


fig. 2.

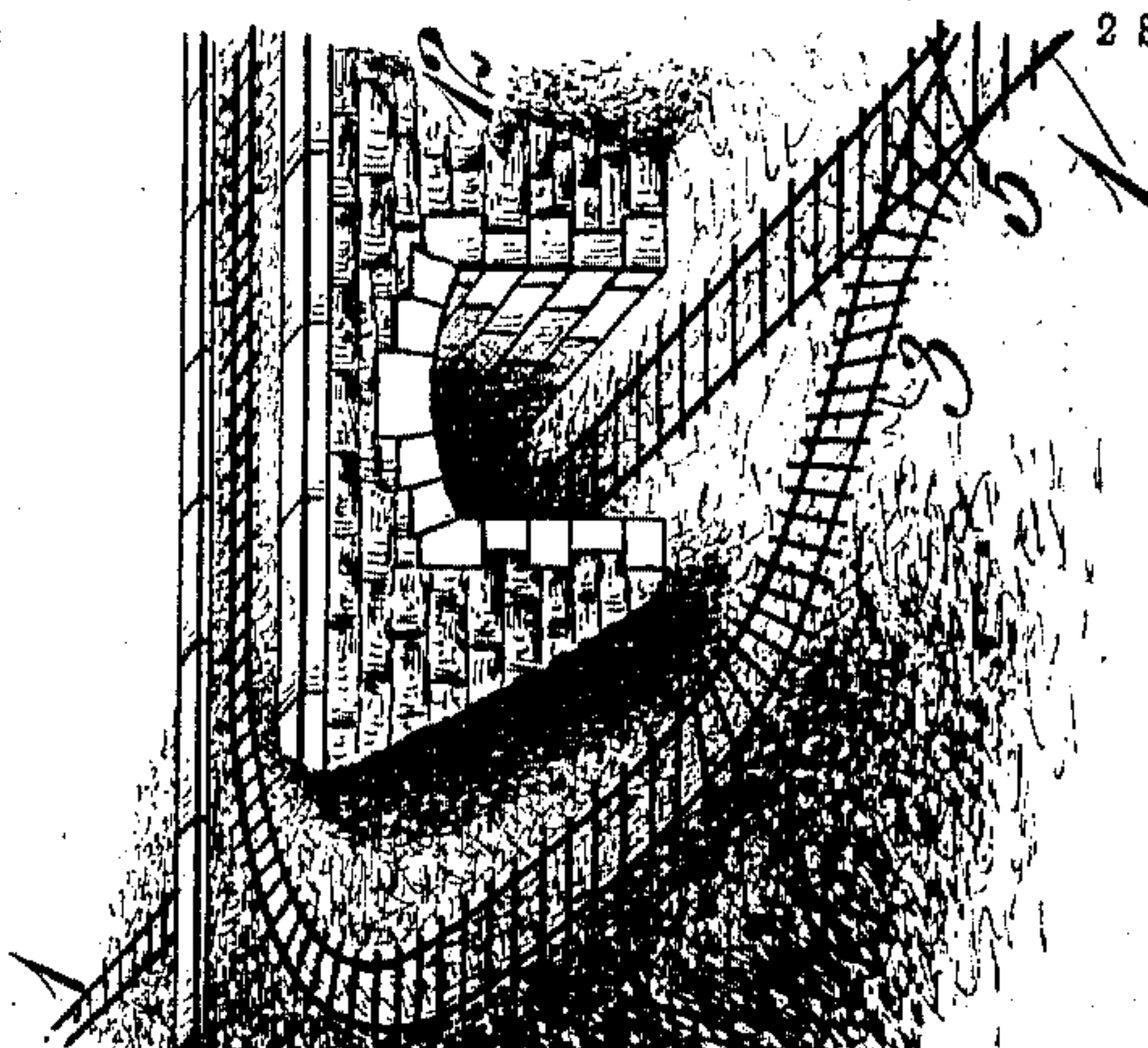
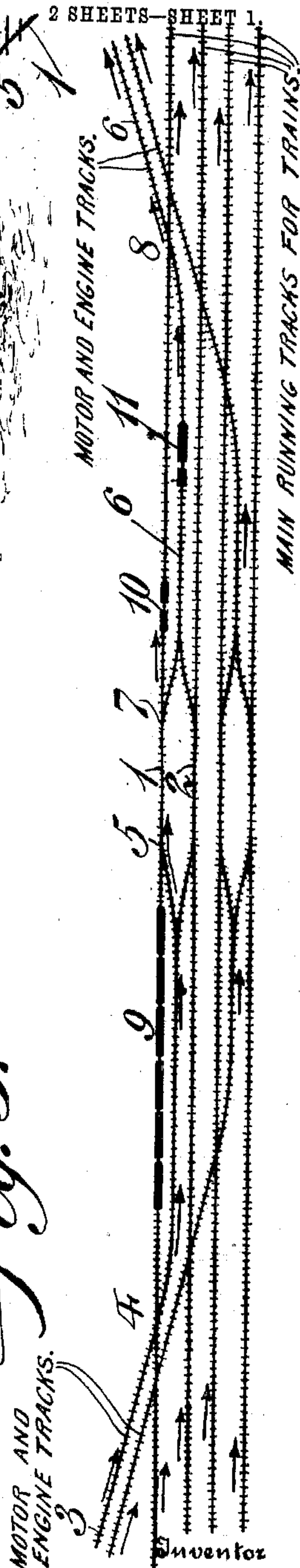


fig. 3.



Witnesses

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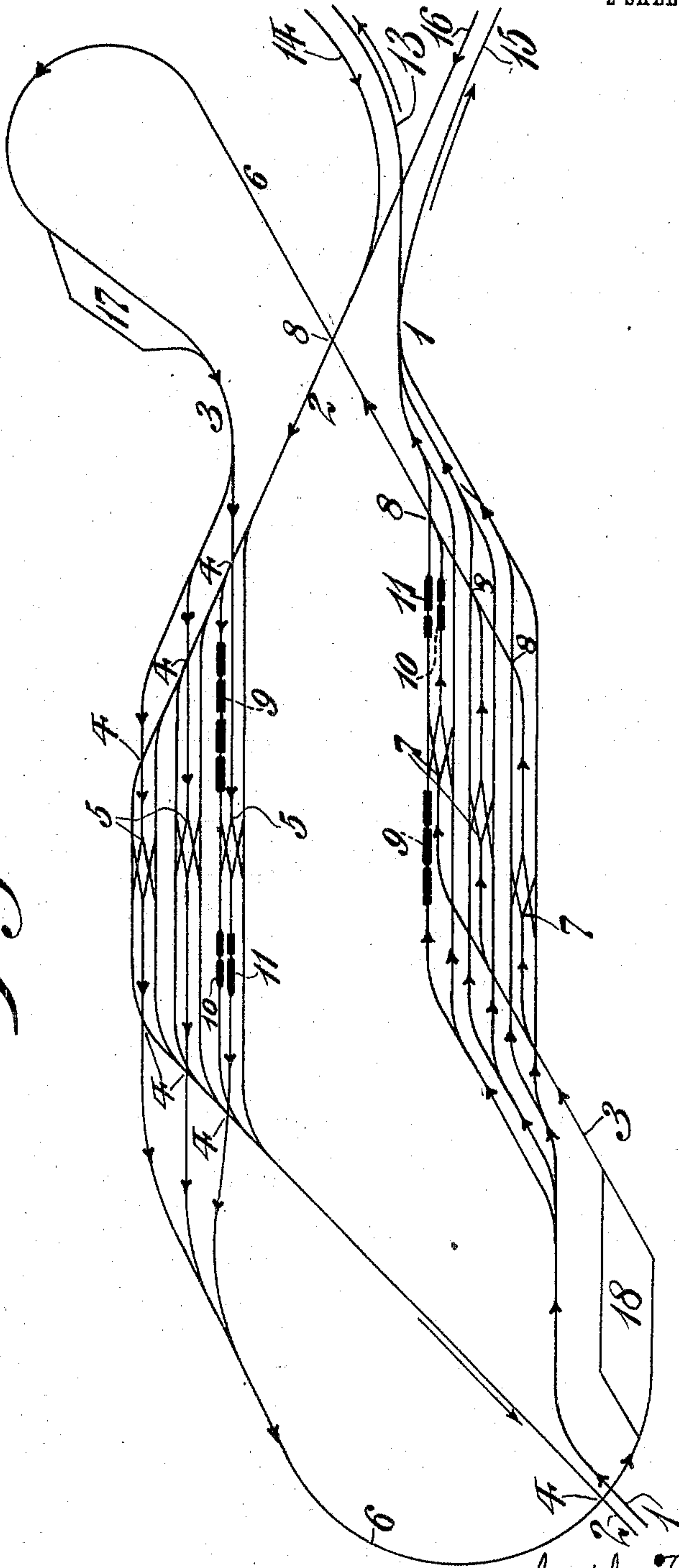
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2 SHEETS—SHEET 2.

Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH T. RICHARDS, OF PHILADELPHIA, PENNSYLVANIA.

SYSTEM OF RAILROADING.

SPECIFICATION forming part of Letters Patent No. 760,249, dated May 17, 1904.

Application filed January 18, 1904. Serial No. 189,404. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH T. RICHARDS, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Systems of Railroading, of which the following is a specification.

My invention consists of a system of railroading whereby a motor of any kind may be quickly detached from a train and another substituted. It is adapted either to changing engines at the end of a run or to transferring from steam to electric or other motor at a terminal or elsewhere without crossing main running-track at grade.

Figure 1 represents in perspective a railroad equipped with the necessary device for employing my system. Fig. 2 represents a portion of a modified form of such device. Fig. 3 represents a diagrammatic view showing a part of the interchange system. Fig. 4 represents a diagrammatic view of a more extended system, showing a somewhat different arrangement.

Similar numerals of reference indicate corresponding parts in the figures.

Referring first to Figs. 1, 2, and 3 of the drawings, I will describe my art or system in connection with the device required for its operation. 1 and 2 designate main-line tracks laid at grade. 3 is a track leading from a motor-storage yard or house, (not shown,) which track passes under the main line through a tunnel 4 or over the main line on a bridge 12 and switches into track 1 at 5. 6 designates a track switching from track 1 at 7 and passing through a second tunnel 8 to a round-house or storage-yard. (Not shown.) When a train 9 is due, a motor 10 runs over track 3, is switched onto main track 1, is stopped at a convenient point, and stands ready to take the coming train beyond switch 7. The train may be stopped on main track 1 at any convenient point before switch 7 is reached, and the locomotive 11 may uncouple and take this switch, going down side track 6 and through tunnel 8 to the engine or motor house or elsewhere for further use. In this case the motor 10 will then back and couple onto the train 9 and con-

tinue, taking the place of the detached locomotive, or, as railroad men will well understand, the locomotive 11 may make a flying switch at 7, letting the train 9 go on slowly under brakes or by gravity till caught by the motor 10, and so continue without an actual stop.

In Fig. 2 of the drawings I have shown that either side track, as 3, may be led over main line by a bridge 12 instead of under by a tunnel, as 4 or 8.

It will of course be understood that both side tracks, as 3 and 6, may lead to the same building or tracks and that, as above stated, my system is as advantageous in minimizing switches, grade crossings, or delay when shifting or exchanging engines on through or express trains as when changing from steam-traction to trolley, third rail, or compressed air or, broadly, from any sort of motor to another.

By the term "train" as herein used I obviously include one or more cars or coaches not self-propelling or cutting out parts of a train of self-propelling.

In Fig. 3 I have shown my system in a very simple form applied to a four-track road. This is intended to show that the operation of my system is not limited by the number of main-line tracks.

Fig. 4 shows my device as applied to a more extensive road with the system more elaborated, so as to minimize to the last degree the time required in shifting motors. Considering the head of the diagram as north, 1 and 2 represent, as before, respectively, main-line east and west bound tracks. At the east end of the portion of the system shown it is branched off into relatively north-bound tracks 13 and 14 and south or southeast bound tracks 15 and 16. We will assume that the west end of the main line is to be run by electric motors, in which case 17 represents a motor-storage house or yard. To the north and east the trains are to be hauled by locomotives, 18 representing a locomotive-storage house or yard.

The tracks on which the trains are hauled and the switches are clearly shown in the diagram. It is of course understood that the

crossings of the yard or switch tracks 3 and 6 with main line are effected by means of tunnels or bridges, as shown in Figs. 1 and 2.

It will be evident that various changes may be made by those skilled in the art which may come within the scope of my invention, and I do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A method or system of shifting or exchanging train-motors which comprises; running a motor into position on the main line, by a side track, uncoupling a second motor from a train adjacent the position taken by said first-named motor, running said second

motor off main line onto a side track and coupling said first-named motor to said train, at least one of said side tracks crossing said main line above or below grade.

2. A method or system of rapidly shifting motors which comprises; running a motor onto main line by a side track which crosses the main line above or below grade, uncoupling a second motor from a train adjacent the position taken by said first-named motor, running said second motor off the main line onto a side track which also crosses main line above or below grade and coupling said first-named motor to said train.

JOSEPH T. RICHARDS.

Witnesses:

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