

No. 786,517.

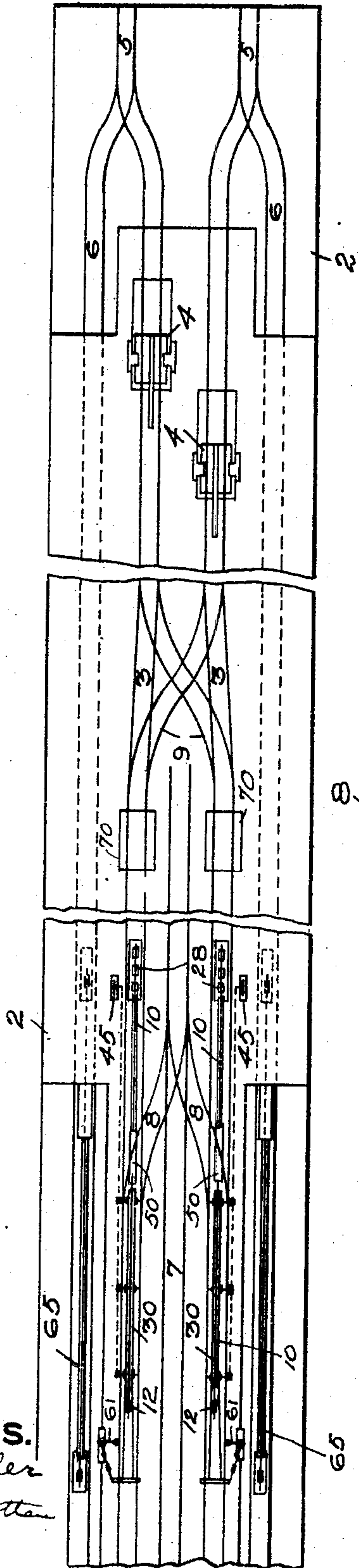
PATENTED APR. 4, 1905.

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CAR HAUL.

APPLICATION FILED JULY 23, 1904.

3 SHEETS—SHEET 1.

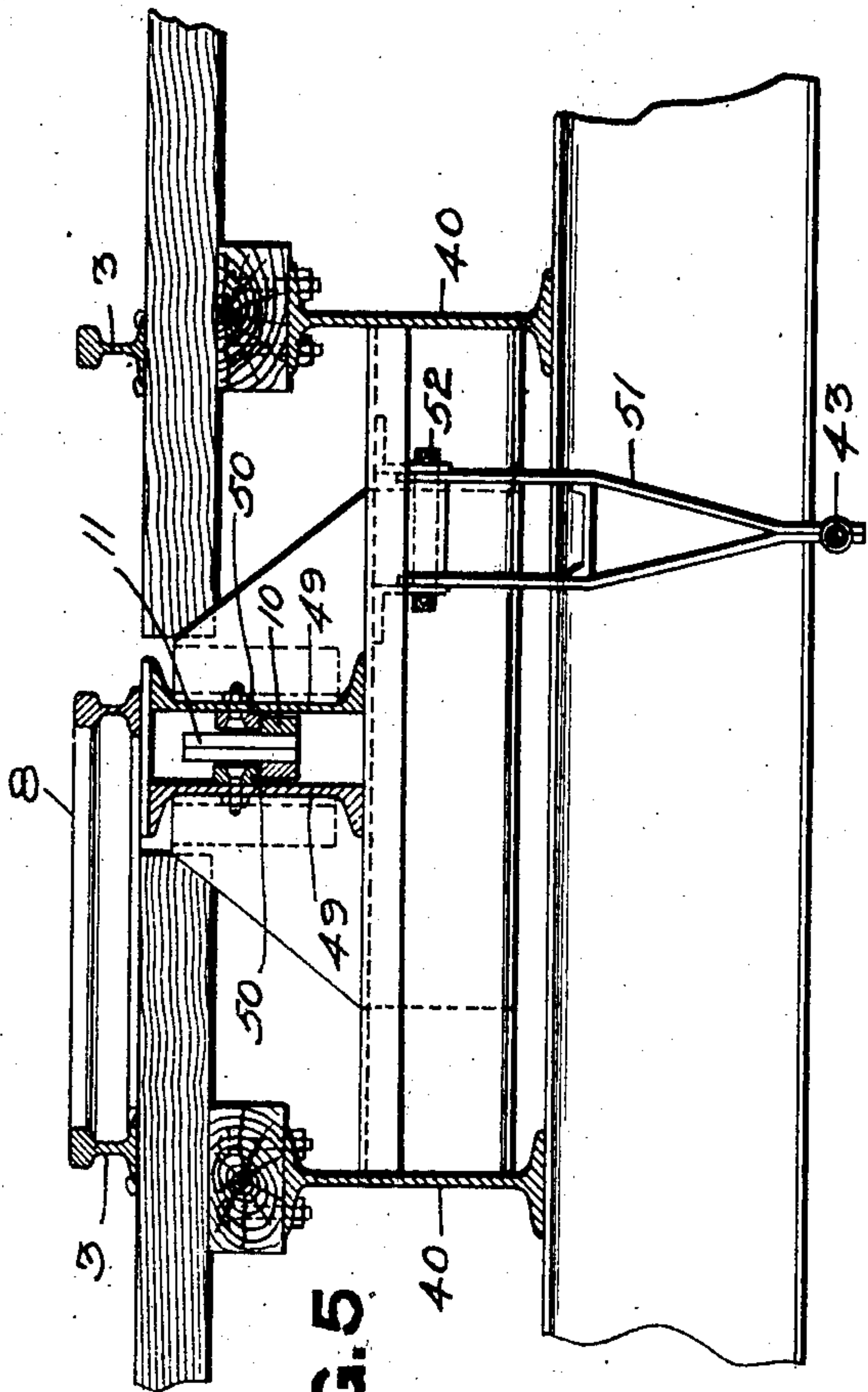
FIG. 1



WITNESSES.

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FIG. 5



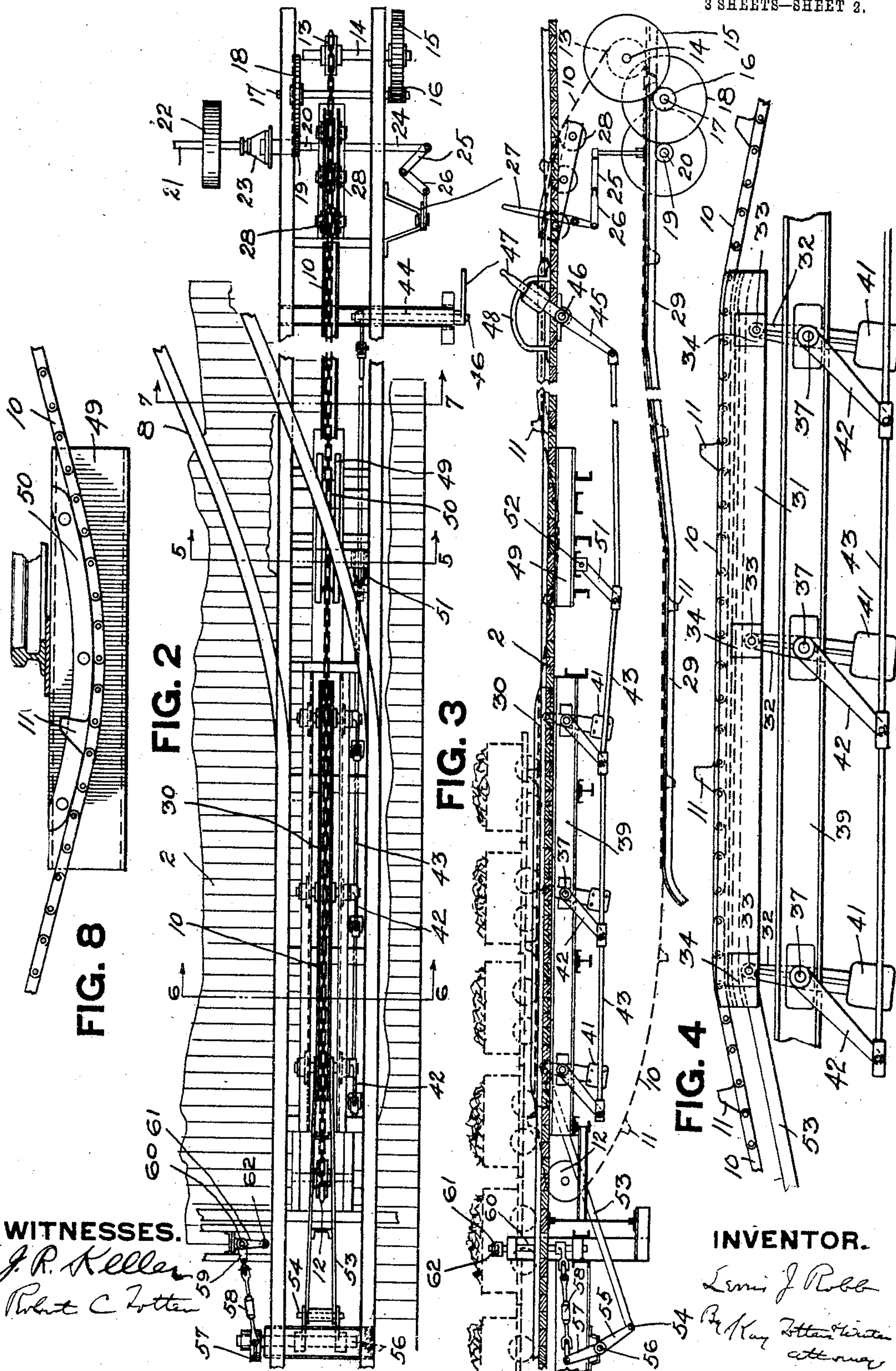
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

FIG. 6

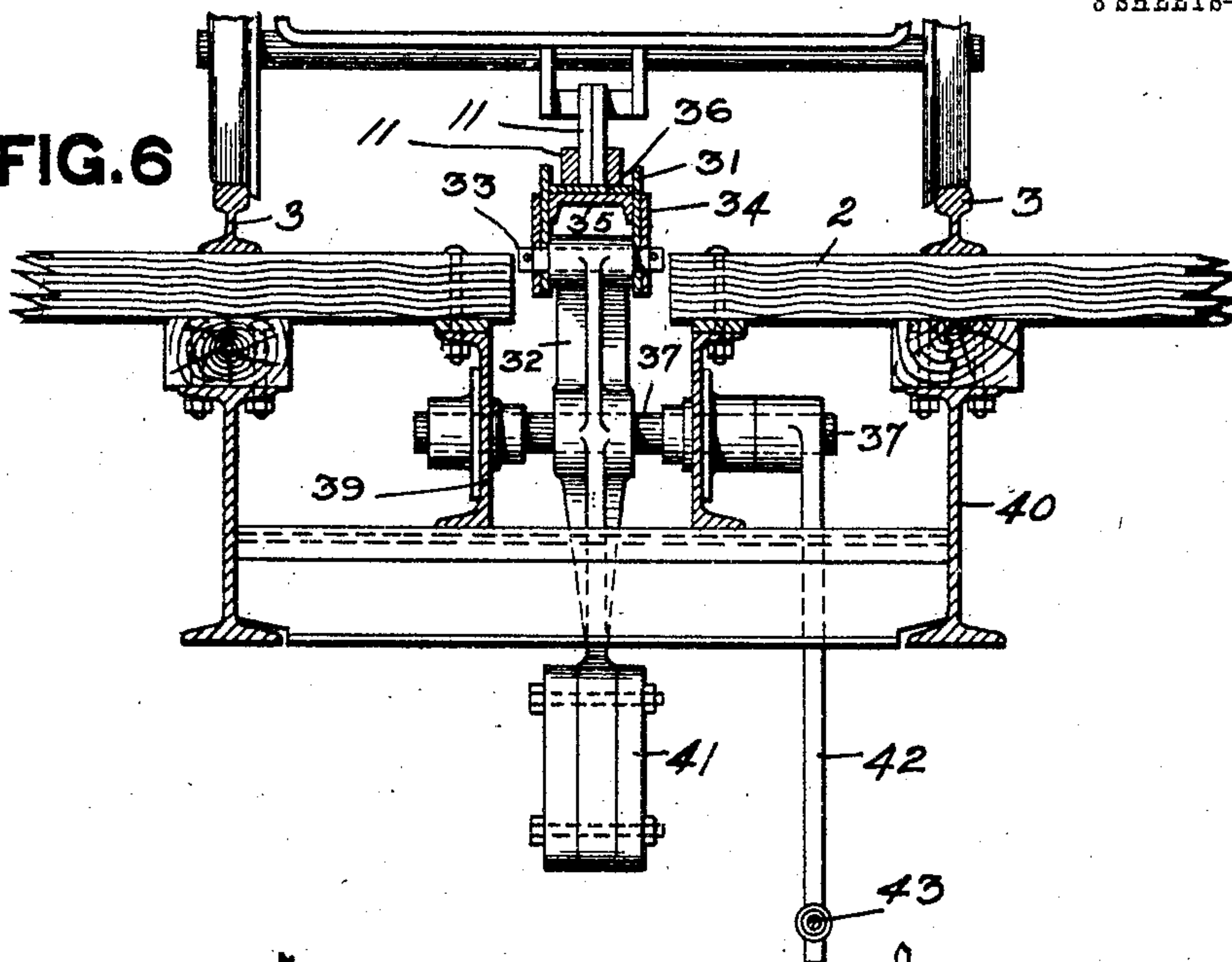
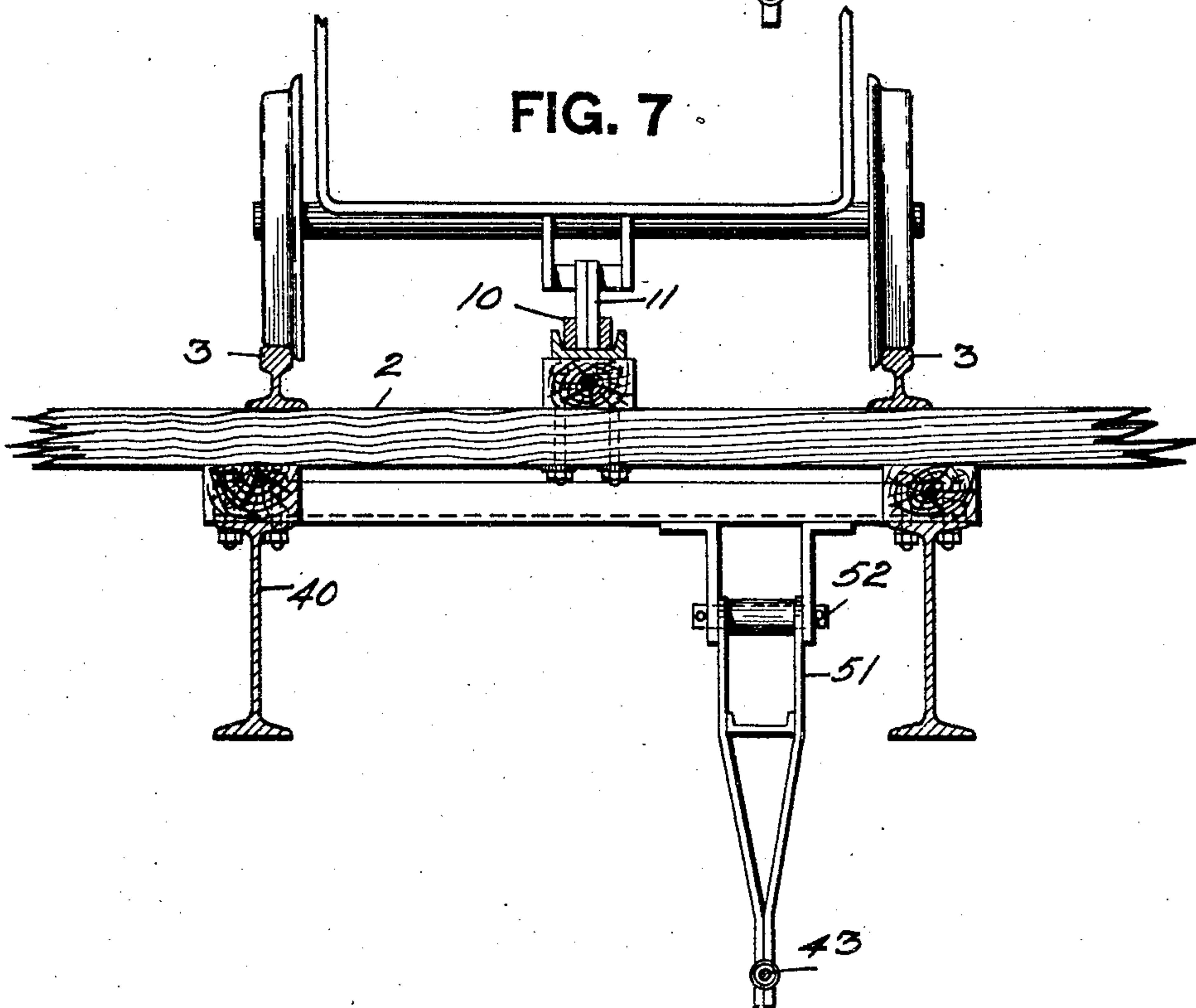


FIG. 7



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UNITED STATES PATENT OFFICE.

LEWIS J. ROBB, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO HEYL & PATTERSON, OF PITTSBURG, PENNSYLVANIA, INCORPORATED UNDER THE LAWS OF PENNSYLVANIA.

CAR-HAUL.

SPECIFICATION forming part of Letters Patent No. 786,517, dated April 4, 1905.

Application filed July 23, 1904. Serial No. 217,849.

To all whom it may concern:

Be it known that I, LEWIS J. ROBB, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Car-Hauls; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to car-hauls to be used in connection with coal and like tipples, its object being to provide for the switching off onto a side track of the locomotive or other engine employed for propelling the cars before the tipple is reached, so that the cars when uncoupled therefrom may be carried directly to said tipple by gravity or by the use of other independent propelling means, while the engine is free to return for another train of cars.

To these ends my invention comprises, generally stated, in conjunction with a main track leading to the tipple, a branch track adapted to shift the engine over to a suitable siding and independent means for propelling the cars along said main track to the tipple after the engine has been uncoupled therefrom.

My invention further comprises certain other novel features, all as fully hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a plan view, largely diagrammatic, illustrating my invention in duplicate. Fig. 2 is an enlarged plan view of a portion of a tipple-platform in connection with which my invention is illustrated. Fig. 3 is a side elevation in section, partly broken away, of my improved car-haul. Fig. 4 is an enlarged detail of a portion of the car-haul and chain elevating mechanism. Fig. 5 is a cross-section on the line 5 5, Fig. 2, looking in the direction of the arrows. Fig. 6 is a section on the line 6 6, Fig. 2, looking in the direction of the arrows. Fig. 7 is a cross-section on the line 7 7, Fig. 2, looking in the direction of the arrows; and Fig. 8 is a detail view of the chain-guide at point where track crosses chain.

Like numerals indicate like parts in each view.

In the drawings the numeral 2 designates a suitable platform having the main tracks 3, leading to suitable tipples 4, the said tracks 3 running beyond the tipple and connecting with a kick-back 5, which connects with the return-track 6 at a lower level than the main tracks 3. Parallel with the tracks 3 and intermediate thereof is the track 7, which is connected with the main tracks by means of the branch track 8. Branching off from the main tracks 3 are the tracks 9, by means of which the cars may be carried to either one of the tipples 4, as may be desired.

A car-haul chain 10, of any suitable construction, having the projections 11 at suitable intervals thereon, engages at one end of the tipple-platform the sprocket-wheel 12 and at the other end passes around the sprocket-wheel 13. These sprocket-wheels are supported in the framework of the tipple-platform, and the sprocket-wheel 13 is mounted on the shaft 14, having at one end thereof the gear-wheel 15, which meshes with the pinion 16 on the shaft 17. This shaft 17 has the gear-wheel 18 mounted thereon, which meshes with the pinion 19 on the shaft 20. A shaft 21 has a pulley 22 mounted thereon, which is connected up to any suitable engine or motor. On the shaft 21 is a suitable clutch 23, which is adapted to be thrown into engagement with a clutch member on the shaft 20. The clutch 23 is connected to the rod 24, said rod being connected by the links 25 and 26 with the operating-lever 27, so that by operating said lever the clutch 23 is thrown into and out of engagement with the clutch member on the shaft 20 for the purpose of starting or stopping the chain haul. At the discharge end of the chain haul are the guide-sprockets 28, over which the chain 10 passes. A suitable support 29 below the platform supports the chain 10 after it passes the sprocket-wheel 13.

Adjacent to the sprocket-wheel 12 is the movable chain-guide 30, which is adapted to be raised and lowered. This chain-guide 30

is made up of the side pieces 31, which are secured to the upper ends of the arms 32 by means of pins 33 passing through said plates 31, bearing-plates 34, and the upper ends of said arms 32, as clearly shown in Fig. 6. Secured between the plates 31 is the inverted channel-beam 35, upon which is secured the wearing-plate 36, upon which the chain 10 travels. The arms 32 are mounted on the shafts 37, which are journaled in the channel-beams 39, carried by the underframe 40. Secured to the lower ends of the arms 32 are the weights 41. Arms 42 are connected to one of the ends of the shafts 37, said arms being connected to the actuating-rod 43. This rod 43 is connected to the horizontal arm 44 of the lever 45, which is fulcrumed at 46. The handle 47 of the lever 45 engages a ratchet-face on the bracket 48, so that said lever is secured in the position in which it is thrown.

The movable chain-guide 30 extends, preferably, to a point where the track 8 runs off to the siding 7. Just beyond the movable chain-guide 30 the chain is carried down underneath the track 8 in order to permit the engine to run over said track onto the siding 7 without interfering with the operation of said chain. For this purpose channel-bars 49 are supported by the underframe 40, said channel-bars having the guide-strips 50 secured therein, slightly curved in form. The links of the chain 10 engage the lower faces of said guide-strips 50, while the tongues or projections 11 of the chain pass up between said guide-strips, all as clearly shown in Figs. 5 and 8. By this construction the engine is switched off onto the track 8, while the chain at that point passes down underneath the track, so as not to be interfered with.

An arm 51 is mounted to swing upon the frame 40, being secured by the pin 52, the lower end of said arm being connected to the rod 43 and being adapted to assist in supporting said rod.

In case for any reason the operator should neglect to operate the lever 45 so as to lower the chain-guide 30 when the locomotive is passing over that portion of the track I provide the following apparatus as a safety device: Connected to the upper end of one of the arms 32 are the rods 53, which are secured to the pin 54, said pin having secured thereto the arms 55. The other ends of the arms 55 are secured to the shaft 56. Mounted at one end of the shaft 56 is the lever 57, which is connected by the turnbuckle 58 with the arm 59 on the vertical shaft 60. At the upper end of the vertical shaft 60 is the arm 61, with the idle roller 62 mounted therein. This arm 61 is in position with reference to the track to be engaged by the engine, so that said arm is moved, and through the connections described the rods 53 are operated to move the arms 32 in such position to lower

the movable chain-guide 30 so that the engine will not interfere in any way with the operation of the chain on said guide.

When my improved car-haul is in operation, the engine propelling a train of loaded cars comes along the track 3, and when said engine reaches the arm 61 said arm is operated so that through the connections described the chain-guide 30 is lowered. It is, however, customary for the operator by throwing the lever 47 to lower the chain-guide. When the engine has passed a point where the chain when raised will be in position to engage the first car of the train, the engine is uncoupled and continues along said track and is switched off over the track onto the siding 7. The operator then throws the lever 47 so as to elevate the movable chain-guide 30, whereupon the said chain is raised in the position indicated in Fig. 4, with the tongues or projections 11 on said chain in position to engage the cars of the train. The cars having been uncoupled from the engine are accordingly advanced by the chain after the elevation of the chain, and said cars are carried along the track 3, the switch-off onto the track 9 having been closed. The cars are accordingly carried over the track 3, and where the chain passes down underneath the track the tongues 11 of course are disengaged from the cars; but the engagement of the chain with the rear cars acts to carry them over the short gap until the chain again comes up in position to make a second engagement with the cars and carry the same in front of scales where used. The cars are uncoupled at this point and weighed, when they are advanced singly by gravity or hand-power to the tippie 4, where the dumping of the car takes place. After the car has been dumped it passes on and over the kick-back 5, whence the empty car returns along the track 6 and is conveyed back to the mines for refilling. This return-track may be provided with a suitable car-haul for carrying the car up the grade to bring it back to the mine, since the return-track 6 is below the level of the track 3. The chain will continue to engage the cars of the train and carry them forward in succession to be dumped in the manner described until the entire train has been dumped, when the engine may then return with another train of loaded cars, whereupon the chain-guide 30 is lowered and the engine having been uncoupled is run off onto the siding, as before.

By my improved car-haul provision is made for running the engine off onto a siding, which obviates the necessity of running the engine to the end of the tippie-platform and then shifting it off onto a track to be returned. By the use of a movable chain-guide and the depressed section of chain the operation of the chain haul is not interfered with, while at

the same time the engine is shifted off onto a siding before the tippie is reached, and a shorter section of track for the return of the engine is required, while at the same time the operation is greatly simplified.

What I claim is—

1. In a car-haul, the combination of a main track, a branch track leading therefrom adapted to shift the engine before the tippie is reached, and independent hauling mechanism beginning at the point where said branch track begins for positively propelling the cars along said main track toward the tippie.

2. In a car-haul, the combination of a main track, a branch track leading therefrom adapted to shift the engine before the tippie is reached, and a chain haul in said main track adapted to engage the cars and advance the same toward the tippie.

3. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in said main track adapted to engage the cars, and means for raising and lowering said chain haul.

4. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in said main track adapted to engage the cars, and means for raising and lowering a portion of said chain haul.

5. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in said main track adapted to engage the cars, and means for raising and lowering a portion of said chain haul approaching said branch track.

6. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in said main track adapted to engage the cars, a movable chain-guide, and means for raising and lowering said chain-guide.

7. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in said main track adapted to engage the cars, a movable chain-guide extending to or adjacent to said branch track, and means for raising and lowering said chain-guide.

8. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in said main track adapted to engage the cars, and mechanism for raising and lowering said car-haul operated by the movement of a locomotive or other engine moving along said main track.

9. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in said main track adapted to engage the cars, a movable chain-guide, an operating-lever, and connections between

said lever and chain-guide for raising and lowering same.

10. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in the main track, a movable chain-guide, swinging arms connected to said chain-guide, and connections between said arms and an operating-lever to raise and lower said arms.

11. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in the main track, a movable chain-guide, weighted swinging arms connected to said chain-guide, and connections between said arms and an operating-lever to raise and lower said arms.

12. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in the main track, a movable chain-guide, swinging arms mounted in the framework and connected to said chain-guide, arms connected to said swinging arms, and connections between said last-named arms and an operating-lever.

13. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in the main track, a movable chain-guide, swinging arms mounted in the framework and connected to said chain-guide, arms connected to said swinging arms, a rod connecting said last-named arms, and means for moving said rod to and fro.

14. In a car-haul, the combination of a main track, a chain haul in said track, a movable chain-guide, a contact-arm in the path of an object moving on said track, and connections between said contact-arm and said chain-guide for raising and lowering same.

15. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in said main track adapted to engage the cars, and means for carrying said chain-haul beneath said branch track.

16. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in said main track adapted to engage the cars, a chain-guide beneath said branch track engaged by said chain haul.

17. In a car-haul, the combination of a main track, a branch track leading therefrom, a chain haul in said main track, a curved guide below said branch track engaged by said chain haul.

In testimony whereof I, the said LEWIS J. ROBB, have hereunto set my hand.

LEWIS J. ROBB.

Witnesses:

ROBERT C. TOTTEN,
JOHN R. KELLER.