

G. APGAR & J. E. DAVIS.

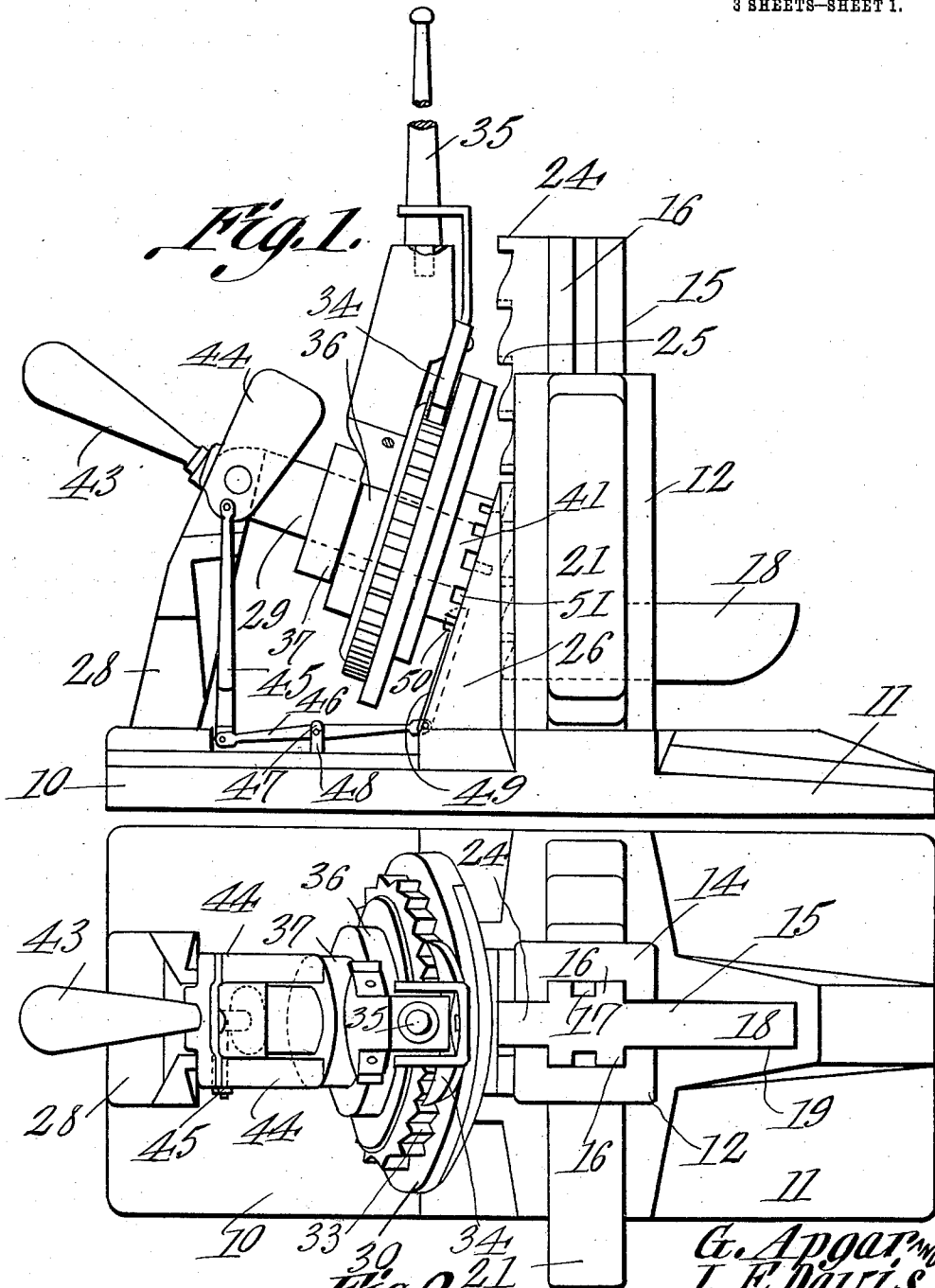
TRACK JACK.

APPLICATION FILED JUNE 20, 1912.

1,065,765.

Patented June 24, 1913.

3 SHEETS—SHEET 1.



Witnesses

J. P. G. Meier
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Fig. 2.

by

C. A. Snow & Co.
Attorneys

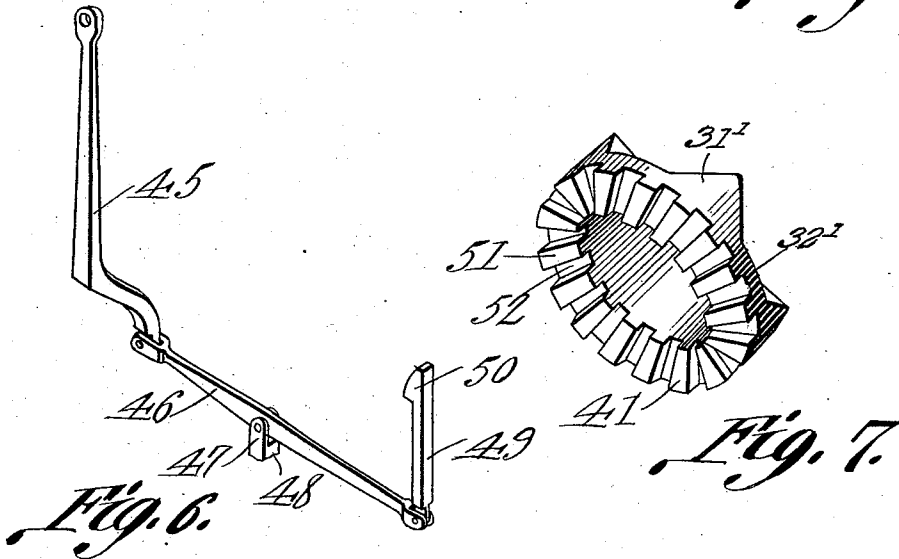
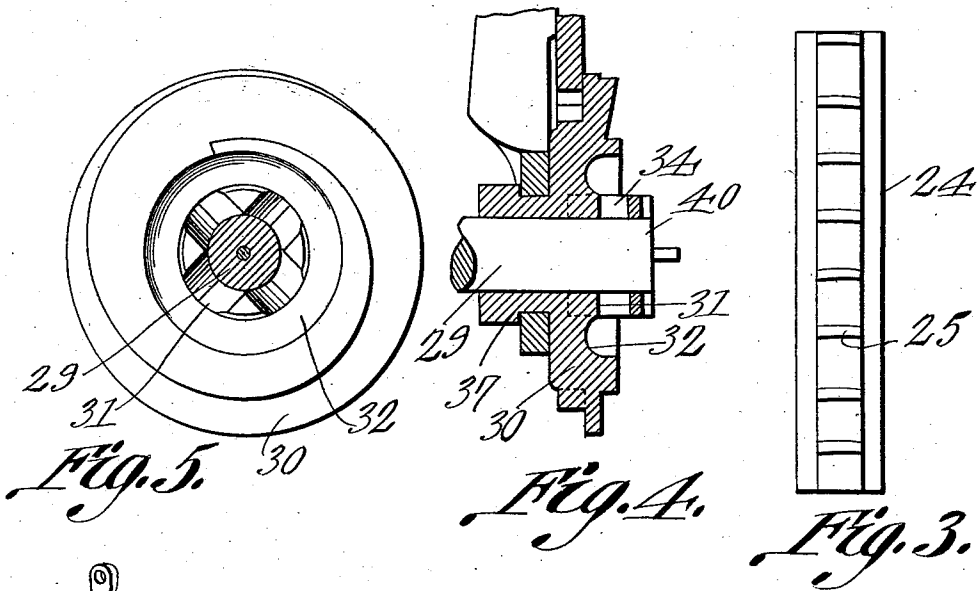
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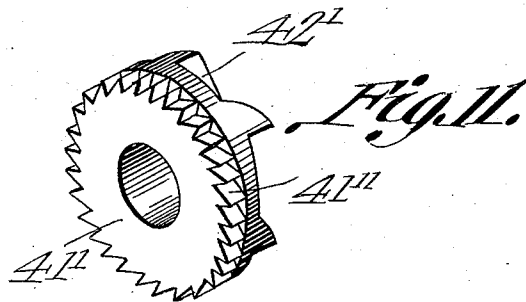
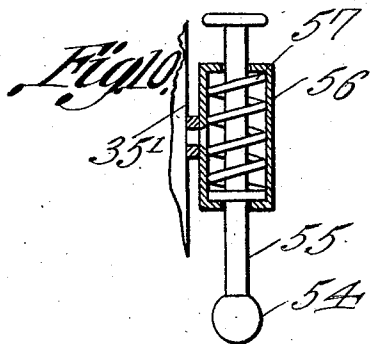
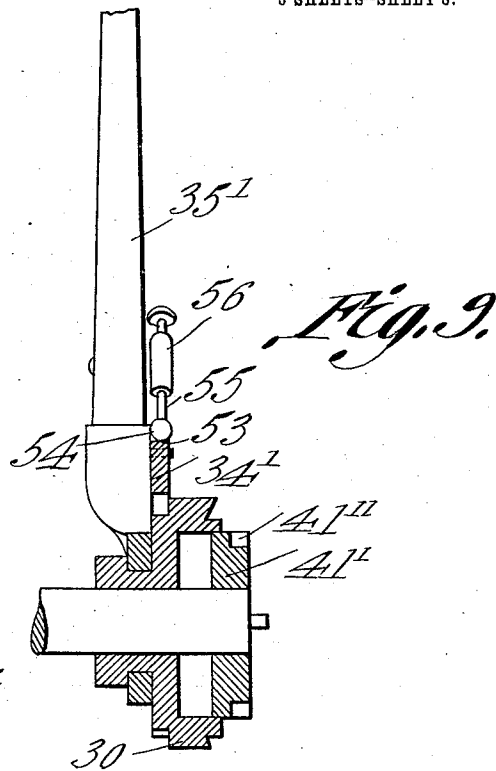
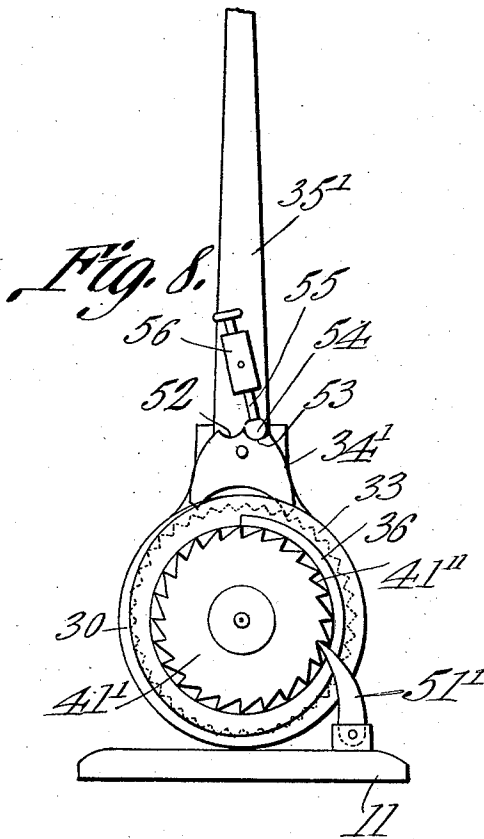
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3 SHEETS-SHEET 3.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE APGAR AND JOHN E. DAVIS, OF WHITE HOUSE, NEW JERSEY.

TRACK-JACK.

1,065,765.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed June 20, 1912. Serial No. 704,799.

To all whom it may concern:

Be it known that we, GEORGE APGAR and JOHN E. DAVIS, citizens of the United States, residing at White House, in the county of Hunterdon, State of New Jersey, have invented a new and useful Track-Jack, of which the following is a specification.

This invention relates to track raising jacks.

The primary object of the present invention is to provide a device of this character which may be readily inserted beneath the rail, with means for exerting a positive and gradual upward pressure on the rail supporting member.

A further object of the present invention is to provide a structure which will permit the rail support to be lowered without actuating the feed which raises the same.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a side elevation. Fig. 2 is a top plan. Fig. 3 is a front elevation of the rack with which the worm hinges. Fig. 4 is a section taken through said worm and the clutch mechanism. Fig. 5 is a front elevation of the worm which imparts upward movement to the jack. Fig. 6 is a perspective view of the clutch actuating mechanism, and Fig. 7 is a perspective view of the rack which spaces the worm from the rack when it is desired to lower the rail supporting member. Fig. 8 is a view showing a slightly modified form of clutch actuating mechanism. Fig. 9 is a sectional view of the form shown in Fig. 8. Fig. 10 is a detail view of the spring latch member, shown in the modified form. Fig. 11 is a detail view of the clutch member shown in Figs. 8 and 9.

In the drawings, 10 designates the base plate, the portion 11 of which is inserted beneath the rail and between the ties. This base plate is provided with vertically extending guides 12 and 14 which are substantially U-shaped in cross section and which support the vertically movable jack 15 which

is formed with ribs or extensions 16 on either side of its faces which embrace the ribs 17 formed integrally with and disposed interiorly of the guide members 12 and 14.

The jack 15 is provided at its base with the rail supporting extensions 18, the lower portion of the jack and the rail supporting extension 18 being seated within a slot 19 mounted in the base plate 10. This slot 19 extends entirely through the base plate, a transversely disposed member 20 being arranged to limit the downward movement of the jack. The guide 12 is provided with the handle member 21, by means of which the device may be manipulated in spacing the same in rail engaging position. The space 24 of the vertically extending portion of the jack is provided with concaved teeth 25 which are engaged by a mechanism to be hereinafter described, to raise the jack. A wedge shaped block 26 is secured to the base of the guides 12 and 14, remote from the longitudinal extension 18 of the jack.

A bracket 28 is supported by the base plate 10 adjacent its edge remote from the rail supporting member 18, said bracket being disposed obliquely with respect to said plate. A shaft 29 is rotatably supported by said bracket, this shaft supporting the worm wheel 30, which engages the rack 25 to raise the same. Located centrally of the worm wheel are the beveled faces 31 having recesses 32 located therebetween, this construction being similar and identical with that of 31' and 32' illustrated in Fig. 7. The worm disk 30 is loosely mounted on said shaft 29. The disk 30 is formed with a rack 33 which is engaged by the pawl 34 operated through the medium of the lever 35, the said lever 35 being supported by the collar 36 which is loosely mounted on the shaft 29. It will be noted that as the lever 35 is actuated, the worm disk will engage the concaved teeth of the rack 25, feeding the same upward to lift the rail which is positioned on the longitudinally disposed extension 18 of the rack bar, the collar on which the bracket 36 is mounted being disposed on the bushing 37 of the worm disk. The shaft 29 is provided with an extension 40 on which the clutch member 41 is mounted. This member is provided with a clutch face 31' and 32' which engages the clutch face 31 of the disk, the extension 40 extending within an opening formed in the tapered block 26. The clutch member as illustrated in Fig. 7 with

its beveled faces 31' and 32' are normally in contact and revolve with the disk portions 31 and 32 of the worm members. When the rack bar has been raised to a sufficient height and it is desired to lower the same, this clutch member 41 is brought out of contact with the clutch face 31 of the worm disk in a manner which will be hereinafter described. It will be noted that as this clutch member is forced out of contact with the clutch face 31, that the worm face of the disk will be brought out of contact with the concaved teeth of the rack bar and thus allow said bar to descend. The clutch member is actuated by means of the pivoted lever 43, said lever being connected to a plurality of arms 44 in contact with the collar 37 arranged on the said shaft 29, the said lever 43 being brought forward when it is desired to raise the rack bar, and bring the worm face of the disk in contact with the concaved teeth of the rack bar. When it is desired to allow the rack bar to descend, the pivoted lever 43 is moved to the position as shown in Fig. 1, it being noted that in this position the worm face of the disk does not contact with the rack bar. One of the arms 44 being connected by means of a link 45 is connected to a second lever 46 which is pivoted centrally between the bifurcations 47 of the bracket 48. The clutch engaging member 49 is pivotally supported by the terminal of said lever 46 remote from the lever 45, said clutch engaging member being formed with the enlarged bevel extension 50 which engages within the notches 51 of the base 52 of the clutch member 41. It will be noted that as the lever 43 is brought to the position shown in Fig. 1, that the clutch engaging member 49 will be raised, the enlarged bevel extension 50 of said member entering one of the notches 51 of the clutch member and holding the same against rotation. It will be noted that when the clutch member is held against rotation, that the beveled face 31' of said member will ride out of contact with the beveled face 31 of the worm disk, the cam surfaces of the clutch members thus forcing the worm disk away from the rack bar. It will be noted that as soon as this disk is forced away from said rack bar, that the said rack bar will descend.

In the form shown in Fig. 8, the clutch member 41 is provided with ratchet teeth 41' and which are engaged by the dog 51 which is supported by the base 11, which is tripped by moving the lever to the left. In this form the disk 30 is actuated by the pawl 34', said pawl being provided with the sockets 52 and 53 which are engaged by the rounded terminal 54 of the plunger 55 which

is resiliently supported within the casing 56, the coil spring 57 maintaining the plunger in contact with the dog, the plunger being provided with the plate 57 which contacts with the bottom wall of the casing. The casing 56 is pivotally supported on the lever 35, it being noted that as said lever is actuated, the plunger 55 will cause the dog 34' to engage the rack 33, which is formed on the disk. It will be noted by this construction that the operator can stand in an upright position as the jack is raised and lowered, which would be impossible, in the rack actuating mechanism shown in the preferred form. It will be noted that the plunger may be withdrawn and thrown in the opposite gear or withdrawn from the socket 53, and placed in the socket 52, the jack thus being readily manipulated in either direction.

The many advantages of a construction of this character will be clearly apparent as it will be noted that the device is such that it may be readily positioned beneath the rail and that the rail may be raised in a simple and convenient manner, means being provided for releasing the rail supporting member and allowing the same to descend without utilizing the mechanism which feeds said member upward. It will also be noted that the entire structure is such that it may be easily and economically manufactured and that the various parts may be readily assembled.

What is claimed is:—

1. In a jack the combination of a rack, a worm gear adapted to raise said rack, a disengaging member provided with beveled faces normally rotating with said worm gear, and means for locking said member to thereby force the worm out of engagement with the said rack.

2. In a jack the combination of a rack, a worm gear for raising said rack, means for operating said worm gear, a disengaging member provided with beveled faces adapted to engage similarly beveled faces upon said worm gear, said members normally rotating with said worm gear, and a manually operated lever actuating a stop to prevent the rotation of said member, to thereby force said worm gear away from said member and therefore out of engagement with said rack.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

GEORGE APGAR.
JOHN E. DAVIS.

Witnesses:

IRVING J. REED,
JOHN STONE.