

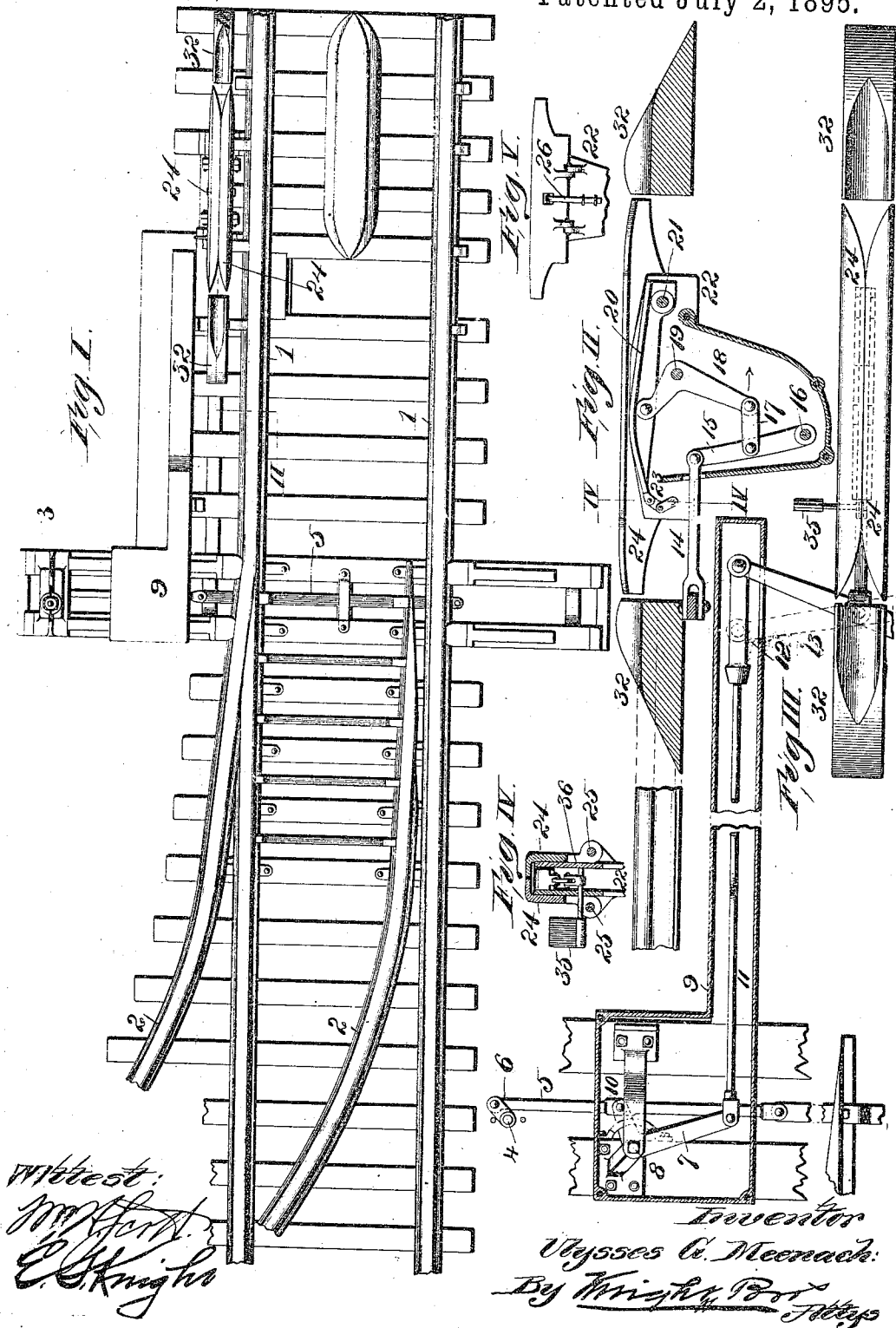
(No Model.)

2 Sheets—Sheet 1.

U. G. MEENACH.
RAILWAY SWITCH MECHANISM.

No. 542,167.

Patented July 2, 1895.



(No Model.)

2 Sheets—Sheet 2.

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Fig. VI.

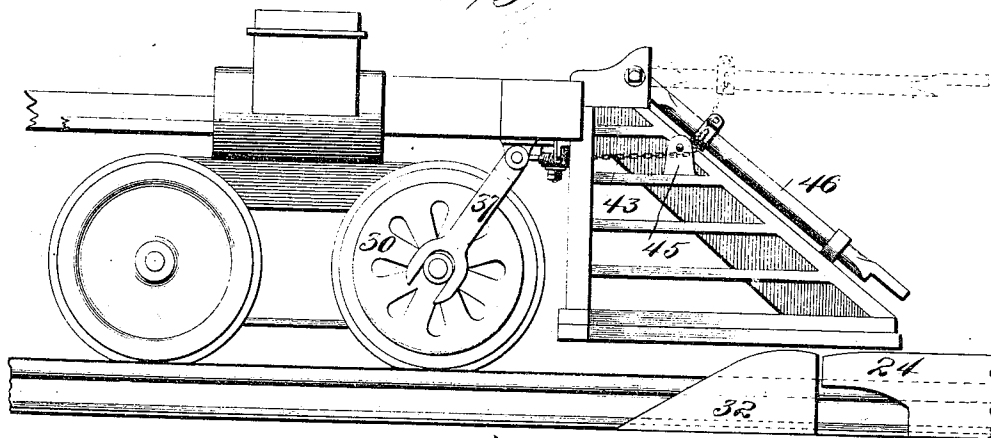
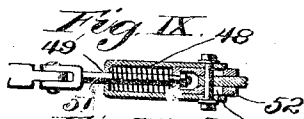
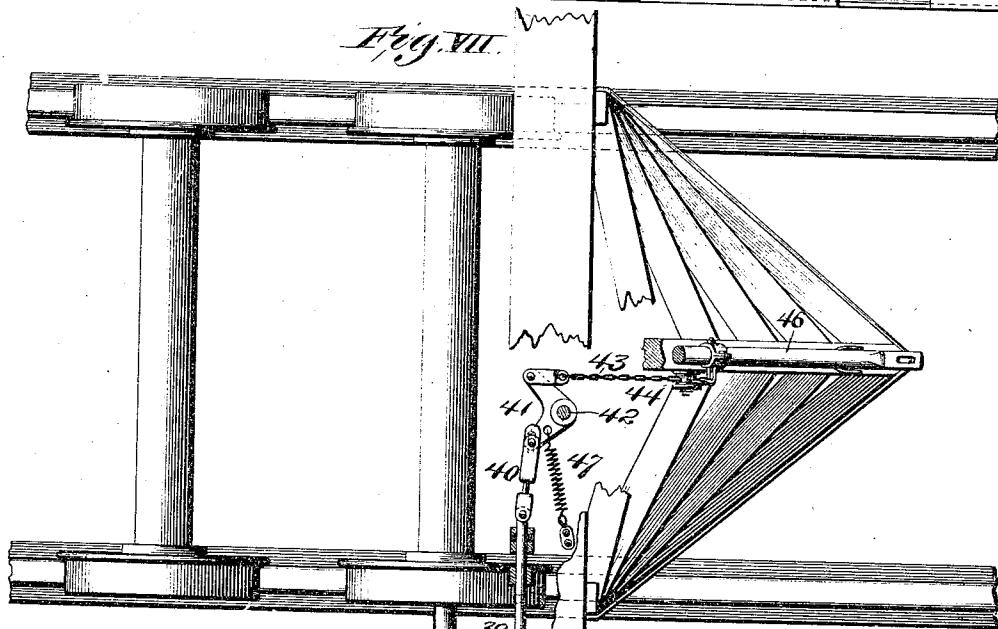
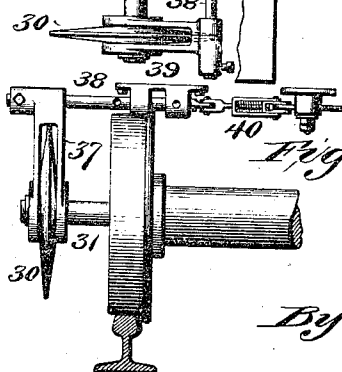


Fig. VII.



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UNITED STATES PATENT OFFICE.

ULYSSES G. MEENACH, OF ALTON, ILLINOIS.

RAILWAY-SWITCH MECHANISM.

SPECIFICATION forming part of Letters Patent No. 542,167, dated July 2, 1895.

Application filed December 15, 1894. Serial No. 531,878. (No model.)

To all whom it may concern:

Be it known that I, ULYSSES G. MEENACH, of the city of Alton, in the county of Madison, in the State of Illinois, have invented a certain new and useful Improvement in Railway-Switch Mechanisms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improved apparatus, whereby the switch is automatically closed to the main line by the moving train, the construction being such that if the switch is closed when the train approaches its position will not be shifted by the train, but it will remain closed.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view illustrative of my invention. Fig. II is an enlarged section taken on line II II, Fig. I. Fig. III is an enlarged top view, part in horizontal section. Fig. IV is a detail vertical section taken on line IV IV, Fig. II. Fig. V is a detail side view showing the manner of hinging the plate-inclosing wings. Fig. VI is a detail side elevation showing part of a locomotive with my improvement applied. Fig. VII is a top or plan view of same, part in section. Fig. VIII is a detail view in elevation, illustrative of the mechanism for moving the switch-throwing disk into inoperative position. Figs. IX and X are enlarged detail sectional views showing the manner of connecting the bell-crank lever to the disk-moving rod.

Referring to the drawings, 1 represents the rails of the main track, and 2 the rails of the switch.

3 represents the switch-stand, the shaft 4 of which is connected to the switch-bar 5, as usual, by means of a crank 6.

7 represents a bell-crank pivoted at 8 within a housing 9 and which is also pivoted at 10 to the switch-bar 5. To the long end of the bell-crank 7 is connected one end of a rod 11, the other end of which is connected at 12 to a lever 13. The lever 13 is pivoted at its far end from the rod 11, this pivot-point not being shown.

Connected to the lever 13, between its pivot end and the rod 11, is a link 14, the other end

of which is made fast to one end of an arm 15, pivoted at 16, and connected about midway of its length by means of a link 17 to one end 55 of a bell-crank lever 18, pivoted at 19, and the other end of which bears against the under side of a plate 20, that is pivoted at 21 to the sides of a box 22. The other end of the plate 20 is connected by pivoted links 23 to the 60 sides of the box, as shown in Fig. II.

24 represents wings hinged at 25 to the outside of the box, and which inclose the box, as shown in Fig. IV, the wings being held in their closed position by means of flat springs 65 26, secured to the box and bearing against the wings, as shown in Fig. V.

It will be seen that when the plate 20 is depressed the lower end of the lever 18 will be moved in the direction of the arrow, Fig. II, 70 and that this movement will be imparted to the switch-points through means of the described connection, so that if the switch is open to the main track it will be closed. In Fig. II, I have shown the parts in the position 75 they occupy before the plate 20 is depressed, while in Fig. III, I have shown the parts in the position they occupy when the plate has been depressed.

As a means of depressing the plate 20, I 80 have shown a wedge-shaped disk 30, secured to an extension 31 of one of the axles of the locomotive. As the train approaches the disk enters between the wings 24, the wings yielding to the pressure and allowing the disk to 85 come in contact with and depress the plate 20, thereby moving the switch, as explained. When the disk leaves the wings, they are automatically closed by the springs 26.

32 represents grooved guides for directing 90 the disk 30 between the wings 24.

35 represents a signal-plate secured to a shaft 36, that forms a journal of the lower link 23, so as to indicate the position of the switch, as this signal-plate will be moved from its 95 horizontal to its vertical position by the movement of the plate 20. To prevent the switch being thus automatically operated when the engine is being used for switching purposes, I have arranged the disk 30 so that it can be 100 shifted laterally out of the path of the wings 24. This is done by loosely mounting the disk on the extension 31 of the axle, and providing a yoke 37, that embraces the disk, as shown in

Fig. VIII, and to which is connected a rod 38, supported in a bracket 39, secured to the frame of the engine. By pulling the rod 38 inwardly the disk 30 will be moved out of line with the wings 24, so that the switch will not be automatically operated by the engine as it passes. To thus move the rod 38, I connect it by means of a strap 40 to one end of a bell-crank lever 41, pivoted at 42, and to the other end of which is connected a chain 43, that passes beneath a grooved pulley or roller 44, made fast by a bracket 45 to the guard or cow-catcher of the engine. The outer end of the chain 43 is connected to the draw-bar 46 of the engine, and it will be seen that when the draw-bar is moved into using position that the disk 30 will be drawn inwardly, so as to be out of the path of the wings 24. When the draw-bar is lowered again, the disk will be drawn back to its outer position by means of a spring 47.

To prevent the disk being constantly moved slightly by the vibration of the draw-bar 46 when in its raised position, I locate the spring 48 in the strap 40. (See Figs. IX and X.) The outer end of the strap bears against this spring, as shown at 49, while the inner end of the strap is connected by a bolt 50 to the end of the bell-crank lever 41. The bolt 51, that connects the rod 38 to the strap 40, passes through the spring 48, and has a block 52 at its inner end, the block bearing against the inner end of the spring 48, and having a slot 53 that receives the bolt 50. It will thus be seen that the slight vibrations of the bar 46 will be taken up by the spring 48 and will not be imparted to the disk 30.

I claim as my invention—

1. In a railway switch mechanism, the combination of a lever 13 connected to the switch, an arm 15 connected to said lever, a lever 18 connected to said arm, a movable plate 20 bearing against the lever 18, the movable wings 24, and a wedge shaped disk 30 carried by the locomotive for engaging the plate 20, substantially as and for the purpose set forth.

2. In a railway switch mechanism, the combination of a movable plate 20, movable wings

24, and mechanism connected with the switch and operated by the movement of said plate, said plate being adapted to be moved by a disk carried by the locomotive, substantially as and for the purpose set forth.

3. In a railway switch mechanism, the combination of a movable plate 20, mechanism located between the plate and the switch whereby the latter is operated when the plate is moved, and spring pressed wings 24 inclosing the plate, said plate being adapted to be moved by a disk carried on the locomotive, substantially as set forth.

4. In a railway switch mechanism, the combination of a plate 20, a lever 18 pivoted beneath the plate, and mechanism connecting the lever to the switch, said plate being pivoted at one end and connected at the other end to a signal shaft by means of links 23, substantially as and for the purpose set forth.

5. In a railway switch mechanism, the combination of a movable plate, the movable wings, mechanism connected to the switch and adapted to be operated by the plate, and means for moving the plate consisting of a wedge-shaped disk 30 carried by the locomotive and movably mounted upon an arm 31, so that it may be shifted out of the path of said plate, substantially as set forth.

6. In a railway switch mechanism, the combination of a movable plate 20, movable wings 24, mechanism located between the plate and the switch, and means for moving the plate consisting of a wedge-shaped disk 30, loosely mounted upon an arm 31, and means for moving the disk out of the path of said plate, consisting of a yoke 37, a bell crank lever 41, a strap 40, a bolt 51, a spring 48, a block 52 having a slot 53, a bolt 50, and a connection between said bell crank lever and the draw bar 46 of the locomotive, substantially as set forth.

ULYSSES G. MEENACH.

In presence of—

E. B. JAESTING,
O. L. PREWITT.