

No. 787,326.

PATENTED APR. 11, 1905.

C. J. DIEBOLD.
COMPOUND HINGE FOR DEPRESSIBLE RAILS.
APPLICATION FILED FEB. 8, 1905.

Fig. 1.

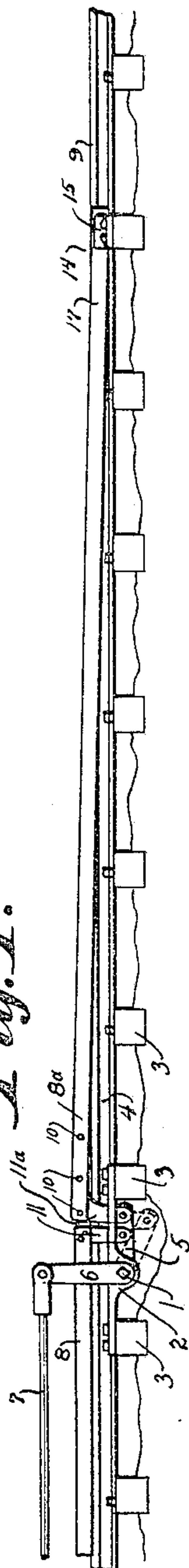


Fig. 4.

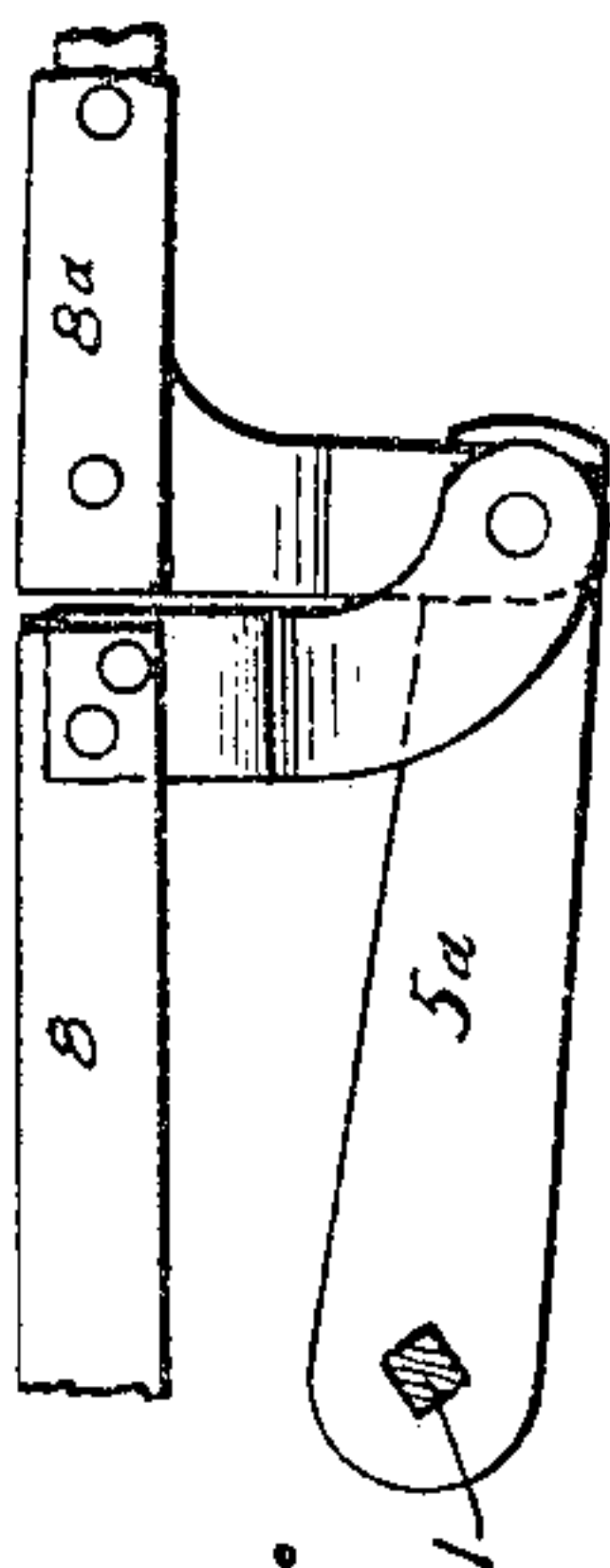


Fig. 2.

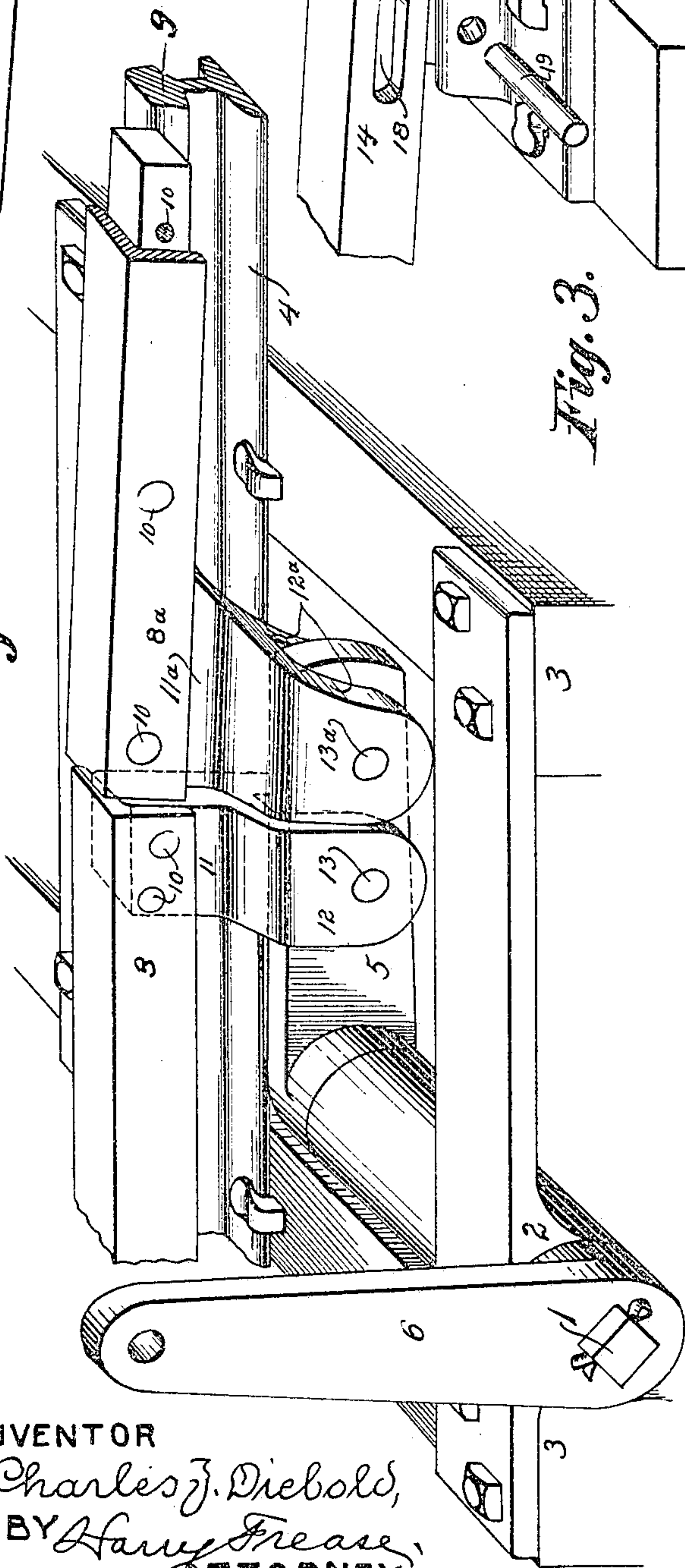
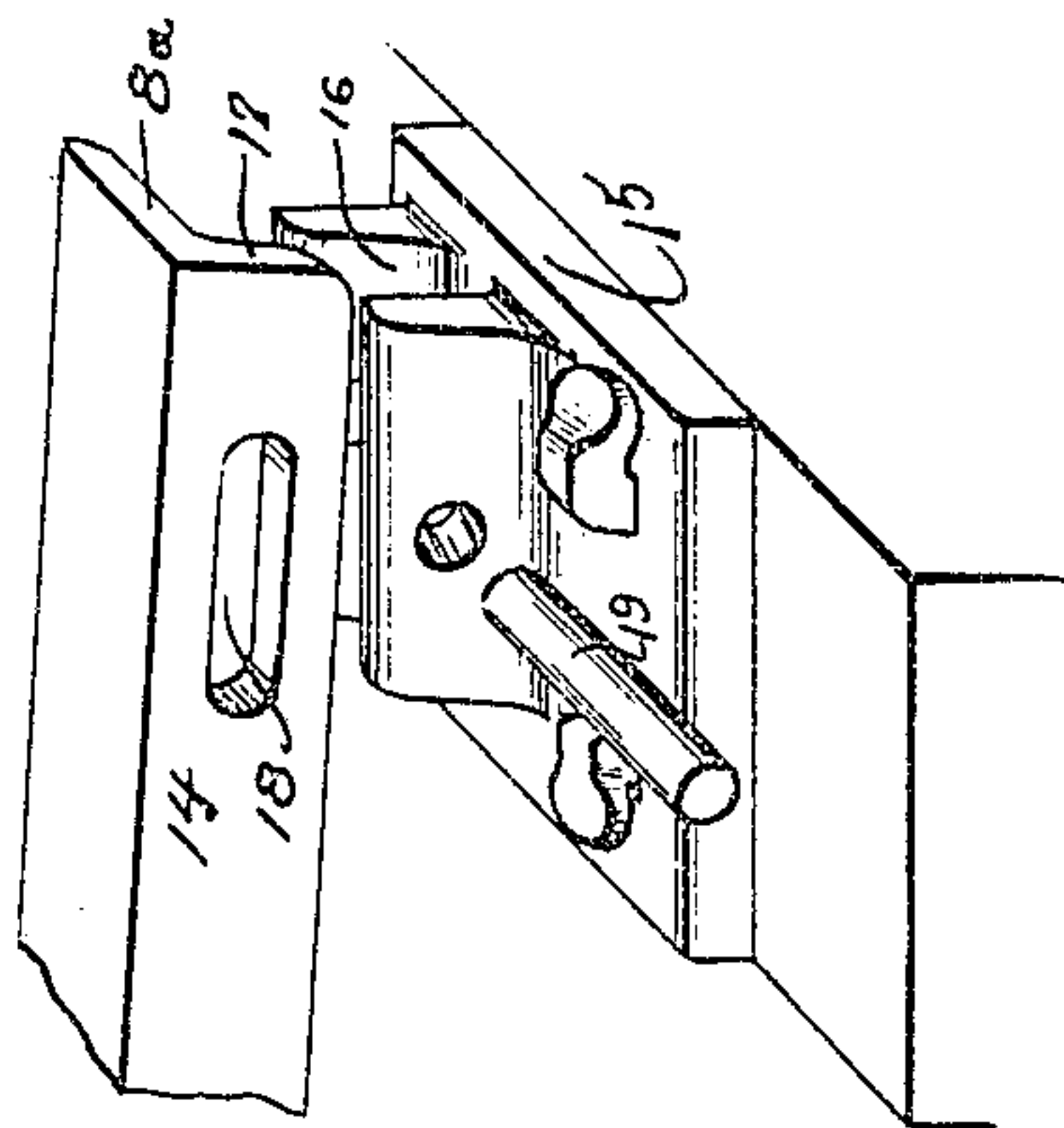


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES J. DIEBOLD, OF CLEVELAND, OHIO, ASSIGNOR TO THE DIEBOLD MINE SUPPLY COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

COMPOUND HINGE FOR DEPRESSIBLE RAILS.

SPECIFICATION forming part of Letters Patent No. 787,326, dated April 11, 1905.

Application filed February 8, 1905. Serial No. 244,715.

To all whom it may concern:

Be it known that I, CHARLES J. DIEBOLD, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Compound Hinge for Depressible Rails, of which the following is a specification.

The invention relates to a hinge or connection between the adjacent ends of the depressible rails ordinarily used to operate mine doors, curtains, and the like; and the object of the improvement is to make a connection which will withstand the ordinary shock or blow given by the tread of a rapidly-moving motor-car on the inclined end section of the rail.

With the advent of comparatively heavy and rapidly-moving motor-cars for handling mine-cars and for other tram-track service it has been found practically impossible within the contracted space available to construct a durable hinge for directly connecting the adjacent ends of the inclined end section of a depressible rail and the main or horizontal section thereof. This difficulty is overcome by pivoting each section of the rail directly to the crank by which motion is communicated to the door or curtain, as illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a tram-track, showing the depressible rails connected by the compound hinge; Fig. 2, an enlarged perspective view of the compound hinge and adjoining and adjacent parts; Fig. 3, a similar view of the free end of the inclined rail and its shoe, and Fig. 4 a fragmentary elevation showing an alternate arrangement of the parts.

Similar numerals refer to similar parts throughout the drawings.

The transverse axial shaft 1 is rotatably mounted in the bearings 2, preferably attached on the ordinary ties 3 of the track, and the shaft is preferably located to pass below one of the ordinary rails 4 of the track. The horizontal crank 5 is formed or attached on the shaft and normally extends substantially parallel with and adjacent to and along the outer under side of the track-rail. The shaft and the crank are both preferably located in the

space between two of the track-ties, so as to permit a free oscillation of the crank without cutting or notching the ties. The vertical crank 6 is also formed or attached on the shaft and is preferably located at an interval outside the track-rail, and on its upper free end is pivoted one end of the connecting-rod 7, to the other end of which rod is connected a mine door, curtain, or other mechanism (not shown) designed to be operated. The designations "horizontal" and "vertical" as applied to the cranks refer to their normal positions—as, for instance, when the mine-door is closed; but it will be understood that these described positions are only relative and can be varied, if desired.

The depressible rails 8 and 8^a are located to operate near and along the outer side of the ball 9 of the track-rail, so as to receive the tread of the car-wheels, (not shown,) as the same usually extend over and beyond the outer side of the track-rail. The depressible rails are ordinarily made of angle-bars, and on the adjacent ends are securely attached by the rivets 10 or otherwise the depending brackets 11 and 11^a. The lower ends of the brackets are preferably bifurcated, so as to have an ear 12 and 12^a on each side of the horizontal crank, to which crank the brackets are directly connected by the pivots 13 and 13^a.

In the form of the device illustrated the bracket of the horizontal section of the depressible rail is connected to the crank at a point between the axial shaft and the bracket of the inclined section of the rail; but it will be understood that this relative position of the parts can be reversed without affecting the nature of the mechanism. In either event the bracket which is pivoted to the crank at the greater distance from the shaft is made a little longer in its vertical dimension than the intervening bracket, so that the section of the depressible rail attached to it—the inclined section, as illustrated—is normally located slightly above the other section, as a result of which the adjacent ends of the rail-sections will come to the same level when they are depressed, because of the greater relative movement of the bracket which is more dis-

tant from the axial shaft. Furthermore, it will be understood that the two brackets may be arranged so as to be connected to the crank by the same pivot, as shown in Fig. 4, without affecting the general nature of the device, in which case the brackets are made of the same vertical length. The ends of the rail-sections are normally located slightly apart, so that when they are depressed they will be approximately closed together.

The free end 14 of the inclined rail-section rests in the shoe 15, which is preferably attached on a tie and which shoe has the longitudinal channel 16 therein to receive the depending flange 17 of the rail, and the elongated slot 18 is provided in this flange, through which the pin 19 is adapted to pass, by means of which connection the end of the rail is held against vertical movement, but is free to move endwise in its operation. When the wheels of a motor or other car travel onto the inclined section of the depressible rail, the same is forced downward, and its movement is communicated directly to the horizontal crank by means of the bracket 11^a, and the same movement is communicated to the adjacent section of the rail through the crank by means of the bracket 11. In other words, the sudden and forceful depression of the inclined rail is communicated directly to the door-operating mechanism instead of indirectly through the adjacent section of the rail by means of an ordinary hinged connection therewith, as has heretofore been the practice, with the result that the parts can be made

strong enough to withstand the strains imposed upon them.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A hinge connection for horizontal and inclined sections of a depressible rail comprising an axial shaft having a crank thereon, and brackets depending from the adjacent ends of the rail-sections and being pivoted to the crank at different distances from the shaft.

2. A hinge connection for separate sections of a depressible rail comprising an axial shaft having a crank thereon, and brackets depending from the adjacent ends of the rail-sections and being pivoted to the crank at different distances from the shaft.

3. A hinge connection for horizontal and inclined sections of a depressible rail comprising an axial shaft having a crank thereon, and brackets depending from the adjacent ends of the rail-sections and being pivoted to the crank.

4. A hinge connection for separate sections of a depressible rail comprising an axial shaft having a crank thereon, and brackets depending from the adjacent ends of the rail-sections and being pivoted to the crank.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES J. DIEBOLD.

Witnesses:

LULA H. DOTY,
LULU B. WAHL.