

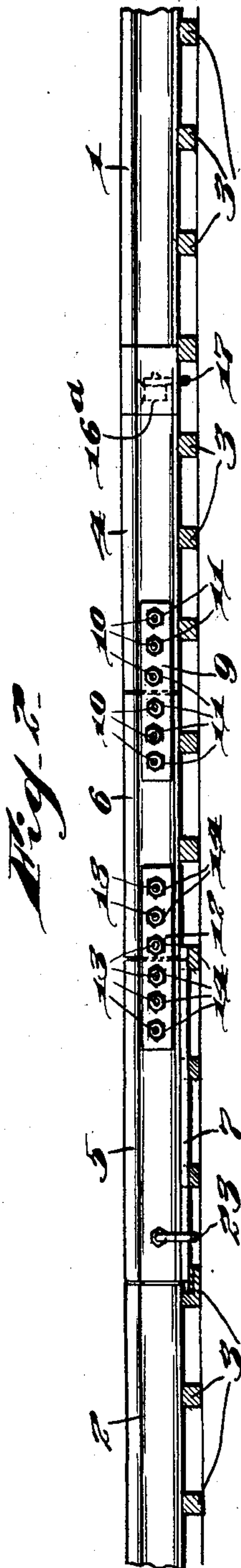
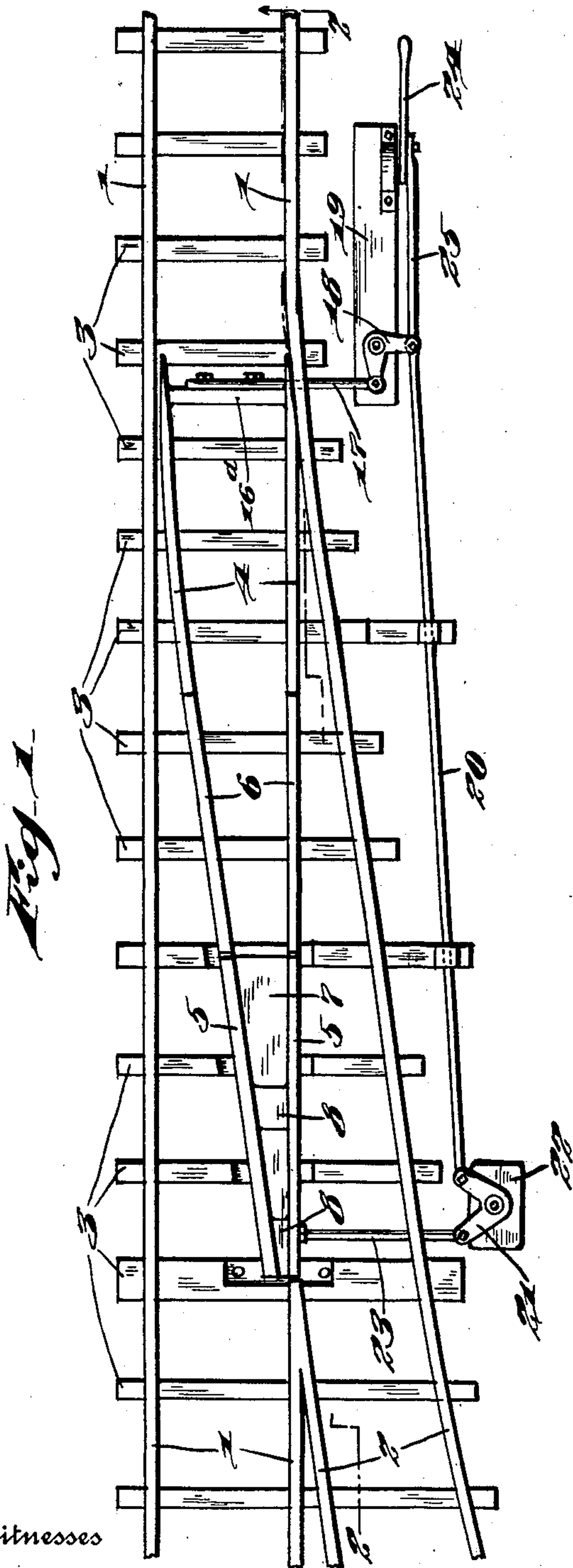
J. F. KEENAN.  
RAILROAD SWITCH.

APPLICATION FILED SEPT. 14, 1908.

998,098.

Patented July 18, 1911.

2 SHEETS-SHEET 1.



Witnesses

Thos. Brennan,  
R. H. Krenkel.

James F. Keenan,  
By Joshua R. Potts, Attorney

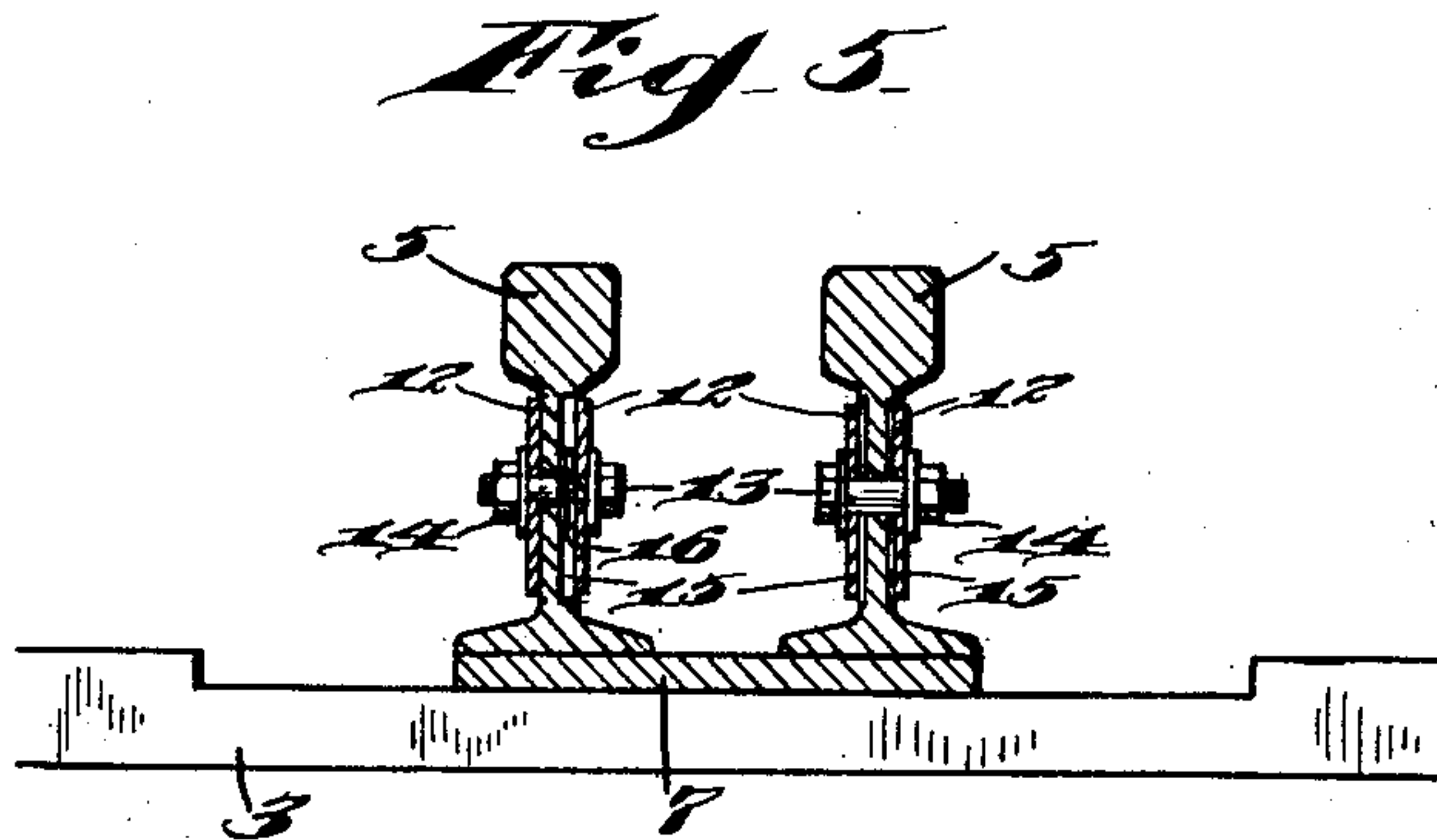
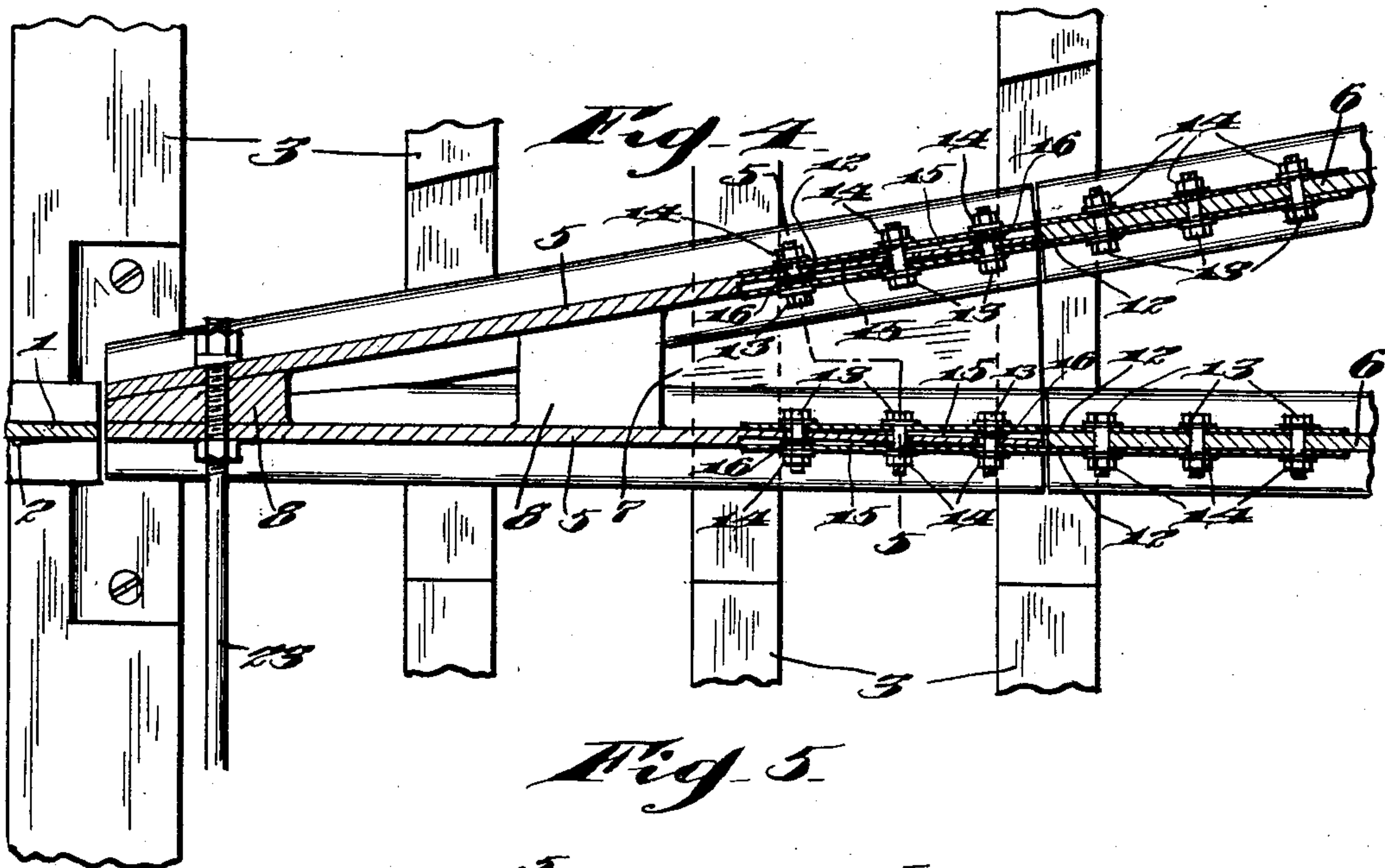
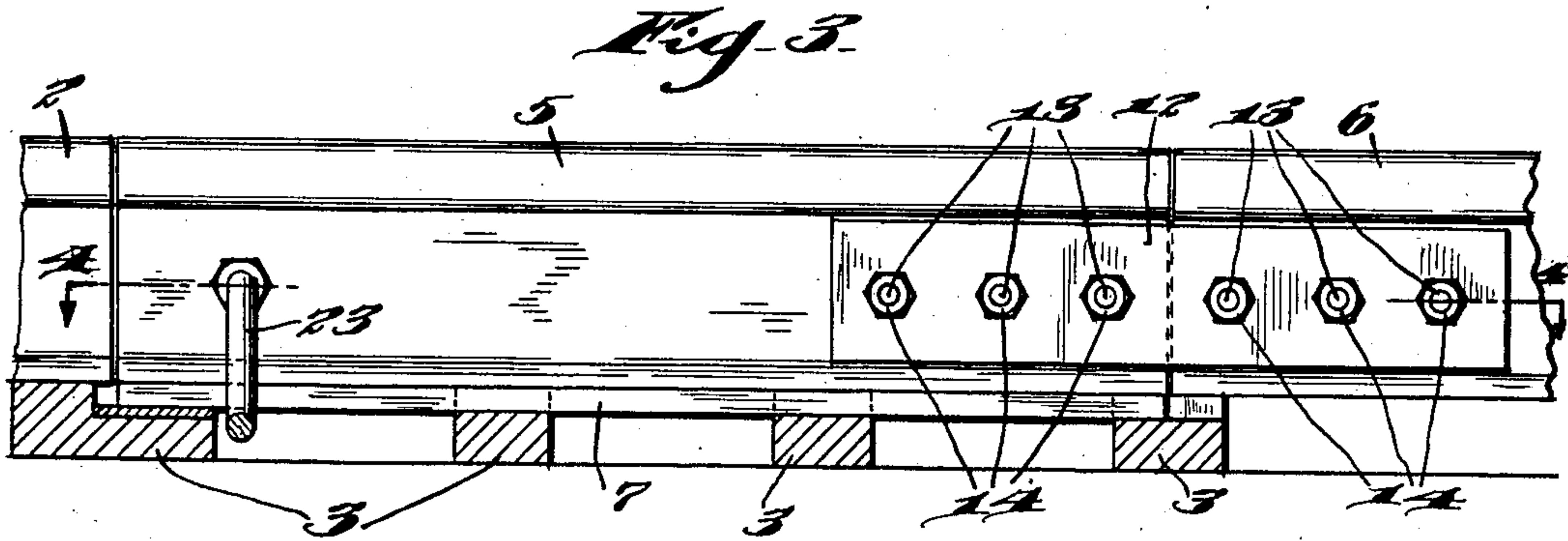
Inventor

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2 SHEETS-SHEET 2.



Inventor

Witnesses

Thos. Rosenbaum  
R. H. Krenkel.

James F. Keenan,  
By Joshua R. H. Potts.  
Attorney



# UNITED STATES PATENT OFFICE.

JAMES F. KEENAN, OF PHILADELPHIA, PENNSYLVANIA.

## RAILROAD-SWITCH.

998,098.

Specification of Letters Patent.

Patented July 18, 1911.

Application filed September 14, 1910. Serial No. 582,008.

*To all whom it may concern:*

Be it known that I, JAMES F. KEENAN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Switches, of which the following is a specification.

My invention relates to improvements in railroad switches, the object of the invention being to provide an improved switch in which the frog and the switch points move in unison so as to aline the switch rails with either the rails of the main track or the turnout, and provide an improved construction of frog and mounting therefor which enable such a movement and provide improved operating mechanism for the switch points and the frog compelling them to operate in unison.

A further object is to provide a switch of this character in which rail sections registering with the switch points and the rails of the frog are rigidly secured to the ties and connected by fish plates with the switch points and the rails of the frog, the webs of the latter being grooved or recessed to allow the movement of the frog and coiled springs are located between said fish plates and the webs of the frog rails to prevent any lateral wobbling of the frog rails.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, is a plan view illustrating my improvements. Fig. 2, is a view in section on the line 2—2 of Fig. 1. Fig. 3, is an enlarged fragmentary view in section on the same line as Fig. 2. Fig. 4, is a sectional plan view enlarged of the frog. Fig. 5, is a view in section on the line 5—5 of Fig. 4.

1, 1, represent the rails of the main track, and 2, 2, the rails of the turnout, all of which are secured upon ties 3 in any approved manner.

4, 4, represent switch points, 5, 5, the rails of my improved movable fork, and 6, 6, rail-sections which are fixed to the ties and held stationary, and located between the switch points 4 and the rails 5 of the frog.

The rails 5, 5, of the frog are secured upon a triangular plate 7, and are also secured to

blocks 8 between the rails holding them rigidly together.

The stationary rail sections 6 are connected at one end to the switch points 4, and at opposite sides by fish plates 9, which are secured to the webs of the rails 6, and the webs of the switch points 4 by means of bolts 10 and nuts 11, said switch points having sufficient elasticity to compensate for the movement of their pointed or beveled ends in throwing the switch. The stationary rails 6 are also connected with the rails 5 of the frog by fish plates 12 which are secured to the webs of rails 6, and 5, by bolts 13, and nuts 14. To permit the frog to pivot or move between the fish plates 12 so as to register the rails 5 with the rails 1, and 2 at the center of the track in accordance with the position of the switch points in opening or closing the main track, the webs of the rails 5 are grooved or recessed as shown at 15, and to prevent any wobbling movement of the rails or of the frog, small coiled springs 16 are located between the fish plates 12 and the webs of rails 5 within the grooved or recessed portion of the rails.

The switch points 4 are connected by a cross bar 16<sup>a</sup> which compels them to move together, and this bar 16<sup>a</sup> is connected by a rod 17 with one end of a bell-crank-lever 18, the latter fulcrumed on a platform 19 beside the main track. The other member of bell-crank-lever 18 is connected by a rod 20, with a bell-crank-lever 21 supported on a block 22 adjacent the frog, and the other member of this bell-crank-lever 21 is connected by a rod 23 with the frog. These bell-crank-levers 18, and 21, are so located that the switch points and the frog are moved simultaneously in opposite directions, so that when the switch points are moved to open the main track, the frog is moved to register the proper rail 5 with the rail of the main track, and when the switch points are thrown to open the turnout, the frog is moved to register the proper rail with the rail of the turnout, so that in either event the rolling stock has a continuous track over which to travel.

Various means may of course be employed to throw the switch and the frog. I have shown one means for this purpose comprising a lever 24 pivotally supported on platform 19 and connected by a rod 25 with bell-crank-lever 18.

Various slight changes might be made in



the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself  
 5 at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

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

1. In a railway switch, the combination with rails constituting a main track and a turnout, of switch points, a frog, stationary rail sections located between the switch  
 15 points and the frog and in alinement therewith, fish plates connecting said stationary rail sections with the switch points and the frog, the rails of the frog having grooved or recessed webs to receive the fish plates,  
 20 springs between said fish plates and webs of the frog rails, and means for moving said frog and switch points in unison, substantially as described.

2. In a railway switch, the combination with rails forming a main track and a turnout, of switch points, a frog comprising a base plate, rails secured on said base plate, and blocks between said rails, stationary rail  
 25 sections located between the switch points and the rails of the frog and in alinement with both, bolts and nuts securing said fish plates in position, the webs of the rails on the frog grooved or recessed whereby

the frog may be moved relatively to the fish plates, springs on certain of the bolts  
 35 between the fish plates and the rails of the frog, and means for moving said switch points and the frog in unison, substantially as described.

3. In a railway switch, the combination with rails forming a main track and a turnout, of switch points, a frog comprising a base plate, rails secured on said base plate, and blocks between said rails, stationary rail  
 40 sections located between the switch points and the rails of the frog and in alinement with both, bolts and nuts securing said fish plates in position, the webs of the rails on the frog grooved or recessed whereby the  
 45 frog may be moved relatively to the fish plates, springs on certain of the bolts between the fish plates and the rails of the frog, bell-crank-levers located outside of the track, a rod connecting said levers, other  
 50 rods connecting the bell-crank-levers with the switch points and the frog respectively, a hand lever, and a rod connecting said hand lever with one of said bell-crank-levers, substantially as described.

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

JAMES F. KEENAN.

Witnesses:

C. R. ZIEGLER,  
 C. E. POTTS.