

(No Model.)
W. M. ECCLES & J. C. O'MELVENY.

RAILROAD FROG.

Patented May 30, 1882.

Technical drawing of a mechanical assembly, likely a valve or piston mechanism. The drawing shows a central vertical shaft with a piston-like component in the middle. The piston has a central rod and a flange. The housing has a central opening. The drawing is a cross-section view.

Labels in the drawing include:

- A**: Points to the upper part of the central shaft.
- B**: Points to the lower part of the central shaft.
- C**: Points to the central rod of the piston.
- D**: Points to the upper part of the piston flange.
- E**: Points to the lower part of the piston flange.
- F**: Points to the central opening of the housing.
- G**: Points to the upper part of the housing.
- H**: Points to the lower part of the housing.
- I**: Points to the central rod of the piston.
- J**: Points to the upper part of the piston flange.
- K**: Points to the lower part of the piston flange.
- L**: Points to the central opening of the housing.
- M**: Points to the upper part of the housing.
- N**: Points to the lower part of the housing.
- O**: Points to the central rod of the piston.
- P**: Points to the upper part of the piston flange.
- Q**: Points to the lower part of the piston flange.
- R**: Points to the central opening of the housing.
- S**: Points to the upper part of the housing.
- T**: Points to the lower part of the housing.
- U**: Points to the central rod of the piston.
- V**: Points to the upper part of the piston flange.
- W**: Points to the lower part of the piston flange.
- X**: Points to the central opening of the housing.
- Y**: Points to the upper part of the housing.
- Z**: Points to the lower part of the housing.

C. M. Whitney
R. D. Stillwell

A perspective view of a long, narrow, tapered mechanical component, likely a propeller or blade. The component is shown in a side profile, revealing its internal structure. It features a central shaft or hub with several longitudinal slots or channels. The outer edges are slightly curved, and the overall shape tapers from left to right. Various parts are labeled with letters: 'A' points to the upper outer edge, 'B' points to the lower outer edge, 'C' points to the central shaft, 'D' points to a small rectangular feature near the right end, 'E' points to a small rectangular feature near the left end, 'F' points to a small rectangular feature near the right end, and 'G' points to a small rectangular feature near the left end.

William M. Eccles.
Jno. C. Omlveny

UNITED STATES PATENT OFFICE.

WILLIAM M. ECCLES, OF ST. LOUIS, MISSOURI, AND JOHN C. O'MELVENY,
OF EAST ST. LOUIS, ILLINOIS.

RAILROAD-FROG.

SPECIFICATION forming part of Letters Patent No. 258,729, dated May 30, 1882.

Application filed March 3, 1882. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM M. ECCLES and JOHN CHARLES O'MELVENY, citizens of the United States, and residing respectively at St. Louis, in the State of Missouri, and East St. Louis, State of Illinois, have invented a new and useful Improvement in Railroad-Frogs, of which the following is a true, full, and accurate description, reference being had to the annexed drawings and letters of reference marked thereon, which form a part of this specification.

Our invention relates to that class of railroad-frogs which are opened and closed automatically by the action of the flanges of wheels of the passing train.

It consists in placing side by side two sections of rails permanently attached together and inclosing a frog-point, and moving with each other from side to side on a pivotal point near one end, said sections of rails flaring out from the frog-point at the other ends, so as to engage the flanges of the passing wheels and be opened and closed by them when passing in one direction, and also provided at the other ends with a loose joint to engage the end of a lever working on a pivotal point, to which are attached two curved flange-wings, by means of which the two sections of rails are operated by the wheel-flanges when the train is coming from the other direction, all operating so as to maintain a continuous rail on the track along which the train is passing at the time, and also to maintain a free passage for the flanges of the wheels.

Figure 1 shows a top view of our invention. Fig. 2 shows an elevation side view of the same.

A A in Fig. 1 are two sections of rails permanently attached together or manufactured in one piece. They are provided with a hole near one end, permitting movement on a pivotal standard in the base-plate F, and at the other end they flare out sufficiently far to engage the flanges of the wheels of the train. One of these wings alternately lies up against the frog-point D on one side, while the other wing is removed from the frog-point, so as to make a continuous rail for the tread of the car-wheel and an opening for the flanges between

the frog-point and wing or flaring portion of the rails A A. These flaring portions of the rails are cut down from the point at which they commence to recede from the frog-point to the end of the wings or flaring portions, so as not to engage the tread of the wheel, but not so low as to fail to engage the flanges. The object of this is to allow the free movement into place of the sections of rails A A by the flanges of the wheels before the tread of the wheel engages the tops of the same, otherwise the tread of the wheel would bind the section-rails A A and prevent them from being moved into position by the flanges. This point at which they are cut down is indicated by *a a*.

B B are two other flange-wings, which curve inward, and are situated between the two rails E E, and are permanently attached together at one end and to the lever *d* and open at the other. Toward their centers they are provided with an adjustable bolt, I, which passes through the wings, and is provided with adjustable nuts, by means of which the wings B B may be spread or contracted to suit the wear of the frog or the size of the same.

d is a lever working on a pivotal standard, *e*, situated in the base-plate F and engaging the section-rails A A at the joint *h*, so that the section-rails A A may be moved on their pivotal standard, as well by the action of the flanges of the wheels engaging the wings B B as by the action of the same on the flaring portions of A A.

F is a base-plate, to which is permanently attached the frog-point D, and upon which rest and move the parts A A and the wings B B, and is provided with two pivotal standards—one, *e*, upon which the lever *d* moves, and the other, N, upon which the sections of rails A A move.

Now, when the train is coming from one direction, the flanges of the wheels will engage the flaring portion of the rail A and throw the two sections of rails A A inward, so that the inside of the section-rails will impinge on the outside of the frog-point, and the other end of the section-rail A will come in line with its track, and thus make a continuous rail for the tread of the wheel, and at the same time leave an open space between the outside of the frog-

point and the other section-rail for the free passage of the flanges of the wheels. It is obvious when the train is coming from the other direction that the same result will be accomplished by the action of the flanges on the wings B B. When the frog is thus placed in position it will remain so until it is changed by a train on the other track, thus obviating the friction usually attending other frogs. We also dispense with all springs, thus dispensing with a very objectionable feature in other frogs.

We know that there have been other frogs constructed with a movable frog-point and with one movable frog-jaw. Therefore

What we claim as new, and for which we ask that Letters Patent of the United States be granted unto us jointly, is—

1. In a railroad-frog, the two sections of rails permanently attached together and moving with each other on a pivotal standard, N, being provided with the flaring wings H H at their ends, in combination with the lever *d*

and its flange-wings B B, by means of which they are operated automatically by the action of the flanges of the wheels of cars.

2. In a railroad-frog, the movable section-rails A A, with their flaring ends, in combination with the lever *d*, with its flange-wings B B, and the base-plate F, with its pivotal standards *e* and N, and its frog-point D, substantially as above described.

3. In a railroad-frog, the bolt I, with its adjustable nuts, in combination with the wings B B, as and for the purposes set forth.

4. In a railroad-frog, the flaring wings H H, with their treads cut away, so as not to interfere with tread of the wheel in the operation of the frog.

WM. M. ECCLES.
JNO. C. O'MELVENY.

Witnesses:

C. M. WHITNEY,
R. T. STILLWELL.