

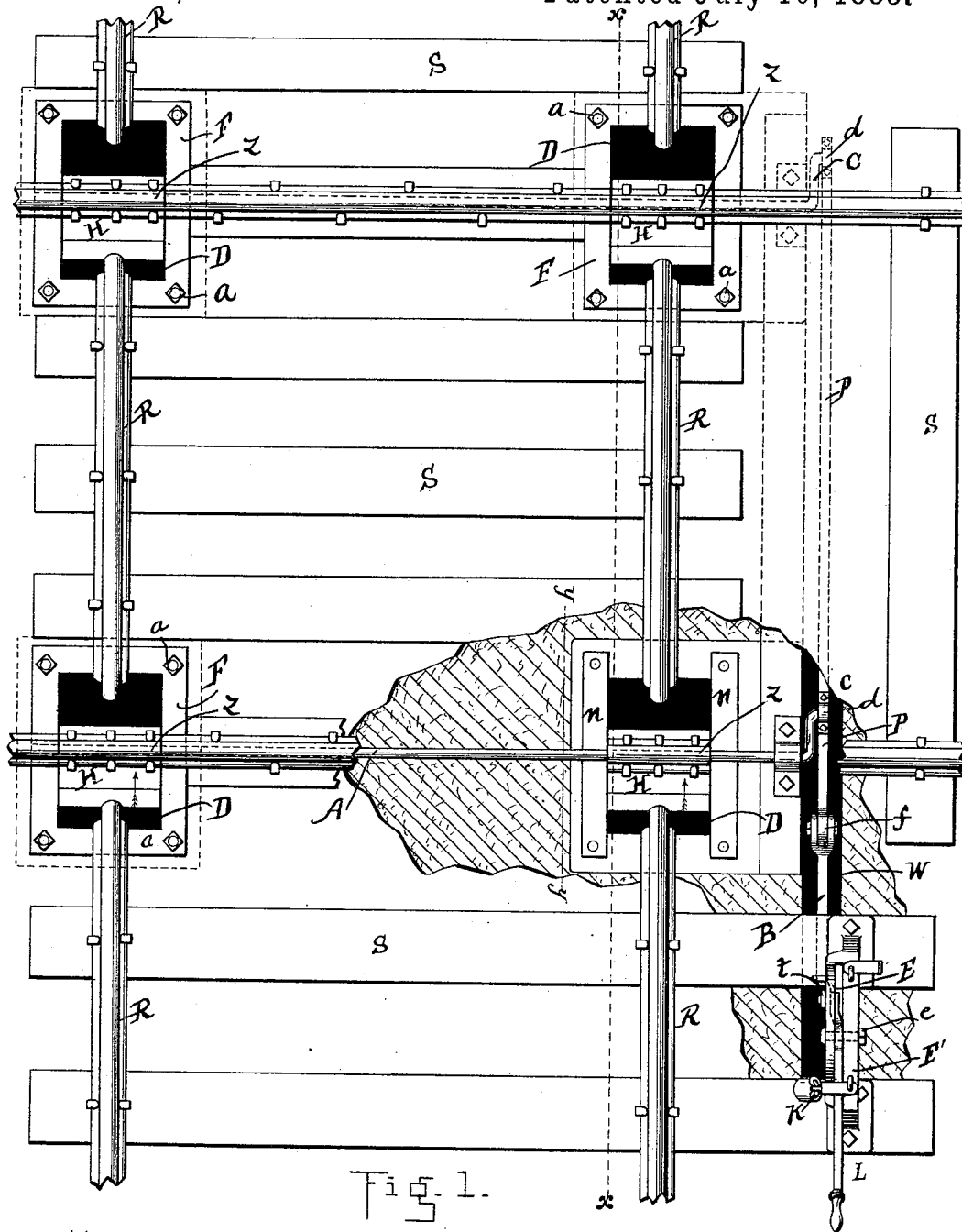
(No Model.)

2 Sheets—Sheet 1.

E. R. E. COWELL.
RAILWAY CROSSING.

No. 386,056.

Patented July 10, 1888.



Attest.
B. P. Wheeler,
N. B. Johnson,

Inventor.
Edward R. C. Cowell.
By
Ransom B. Wheeler.
att'y.

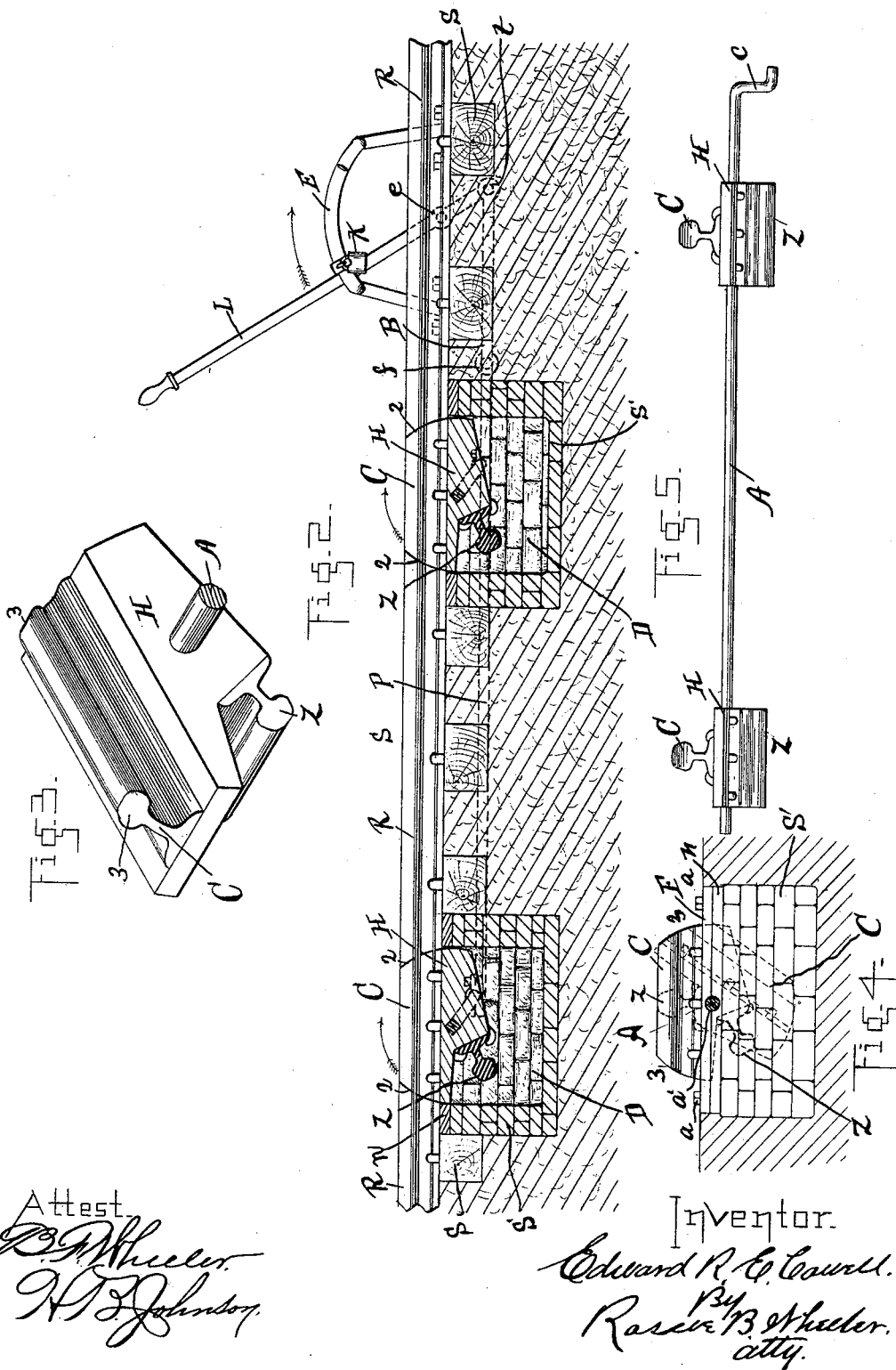
(No Model.)

2 Sheets—Sheet 2.

E. R. E. COWELL.
RAILWAY CROSSING.

No. 386,056.

Patented July 10, 1888.



Attest.
R. B. Wheeler
N. D. Johnson

Inventor.
Edward R. E. Cowell
Rose B. Wheeler
att'y.

UNITED STATES PATENT OFFICE.

EDWARD R. E. COWELL, OF YPSILANTI, MICHIGAN.

RAILWAY-CROSSING.

SPECIFICATION forming part of Letters Patent No. 386,056, dated July 10, 1888.

Application filed December 17, 1887. Serial No. 258,176. (No model.)

To all whom it may concern:

Be it known that I, EDWARD R. E. COWELL, a citizen of the United States, residing at Ypsilanti, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Railway-Crossings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in railway-crossings, having for its object mechanism whereby the crossing tracks will have no open joints at the four corners, but will be made endless when a locomotive or train is passing at such point on a desired track.

The device consists of oscillating heads located at the four points of the crossing, and which are provided on opposite sides and at different angles with sections of T-rails, which, when brought into position, register with the main rails, whereby the track at the crossing-point becomes endless or continuous, as will be more fully set forth.

The object of forming a continuous track at such points is to avoid the cutting away of the rails to form a passage for the flanges of the wheels, as such cut-out portions cause a pounding of the wheels, which is injurious to the rolling-stock, the crossings soon wear out and require frequent repairs, and for said reasons is found objectionable. The said objections are effectually overcome in my device, as the open joints are avoided and a uniform track provided, as will be hereinafter fully set forth, and pointed out particularly in the claims.

In the accompanying drawings, forming a part of the specification, Figure 1 is a top plan of a railway-crossing containing my improved device, the parts being broken away at one corner to show underground construction. Fig. 2 is a section taken on the dotted line *xx* of Fig. 1, the operating-lever and oscillating head being in a changed position. Fig. 3 is an enlarged perspective of one of the oscillating heads, showing the rail-sections mounted

thereon. Fig. 4 is a side elevation, taken on dotted line *yy* of Fig. 1, the oscillating heads being in the position of Fig. 2. Fig. 5 is an isometrical elevation, showing one of the operating-shafts with the oscillating heads mounted thereon, showing also the crank at end of shaft.

The letters of reference in the accompanying drawings indicate the following elements—viz:

S, the ties of the roadway; R, the main rails or track, the ends of which terminate some distance from each other at their intersecting points. Below said points, or the four corners of the railway-crossing, I provide a pit, D, which is to be bricked or stoned up, as shown at S', (see Figs. 2 and 4,) the top of the walls terminating at a point below the upper face of the ties S. On said walls are located timbers or plates *n*, which form journal-bearings for the shafts A, which shafts are located below the crossing rails of one of the tracks, as shown in Fig. 1.

The oscillating heads H are made fast to said shafts and are located in the upper face of the pits D and move in said pits as the shafts A are rotated by means of the lever L, which lever is pivoted on the bolt *e* of the upright frame E, the base E' of which is attached to the ties of the roadway. (See Figs. 1 and 2.) The lower end of the lever is pivoted at *t* to one end of the coupling bar B, the forked end of which is pivoted to the pitman P. Working in the chamber W, below the roadway, the pitman is pivoted at *d d* to the cranks *cc* of the shafts A. (See Figs. 1 and 2, being partly shown by dotted lines.)

The lever L is provided with a lock, K, whereby the parts when shifted may be securely held in position and prevented from being operated, excepting by those having a switch-key.

F represents a metal frame, which is firmly secured to the plates *n* by means of bolts *a*. Said plates *a'* fit over the shafts A, forming bearings, as shown in Fig. 4. As shown in Fig. 1, the tracks cross at right angles. For such a crossing I attach firmly to each of the oscillating heads H short sections of rails C and Z, which are mounted on opposite faces of said oscillating heads at right angles, as clearly shown in Figs. 3 and 5. The length of

the rails C and Z is such that when brought into position to register or communicate with the main rails they will completely fill the gap or opening, thereby forming a continuous track, as shown in the two positions. (See Figs. 1 and 2.) The parts being in the position of Fig. 2, by moving the lever L in the direction of the arrow the rail section C will rock down into the pits D and the section Z will rise side-wise into position, so as to couple with the main rails R, thus forming a continuous track at right angles to the former position, as shown in Fig. 1. Then by throwing the lever L from the position of Fig. 1 to the position of Fig. 2 the rail-section Z will drop with a side motion into the pits D and the rail-sections C will simultaneously by an end motion join the rails of the other track at right angles to the rails joined by the sections Z, as shown in Fig. 2. As the rail-sections C have an endwise movement as the heads H are oscillated, the facing ends of the main rail R, meeting the rail-sections C, are concaved and the ends of the rail-sections are convexed, so as to allow the said parts, when joined, to form a close joint, as shown in Fig. 2, thus making continuous rails.

It will be observed on looking at Fig. 3 that the rail-sections C Z are located on the head H at right angles and nearly on the right-angle faces of the oscillating head. By this arrangement the rail-sections C Z are brought into position by a quarter-rotation of the head. When the tracks do not cross at right angles, the rail-sections C Z are to be located on the head in such position that when the head is oscillated the said rail-sections will be brought into position so as to register with and form continuous tracks with the main rails of the crossing.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the rails of a rail-

way-crossing, the oscillating heads, each head having rail-sections mounted on opposite planes thereof and at an angle to each other, said oscillating heads being located in the four corners of the crossing on rock-shafts, each shaft having a crank at one end, a coupling-bar attached to said crank, said coupling-bar being attached to a suitable lever, whereby said oscillating heads may be simultaneously rotated, as and for the purposes set forth.

2. In combination with the rails of a railway-crossing, the pits formed in the four corners of said crossing, the oscillating heads located in said pits on the rock-shafts, said oscillating heads having rail-sections located thereon at right angles to each other, said rock-shafts coupled together and having a lever for moving simultaneously said oscillating heads, whereby the rail-sections mounted thereon are brought into position so as to register with the main rails of the crossing, substantially as set forth.

3. In a railway-crossing, the combination of the main rails, the pits located in the four corners of the crossing below the separated ends of the main rails, the oscillating heads mounted on the shafts A, said shafts journaled in the top plates, F n, of said pits, the rail-sections C Z, mounted on said oscillating heads, the cranks c, formed on the ends of the shafts A, the pitman pivoted to said shaft, the bar B, pivoted to the pitman, the lever pivoted to said bar and to the upright frame E, and means for locking said lever to the upright frame, as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD R. E. COWELL.

Witnesses:

R. B. WHEELER,
B. F. WHEELER.