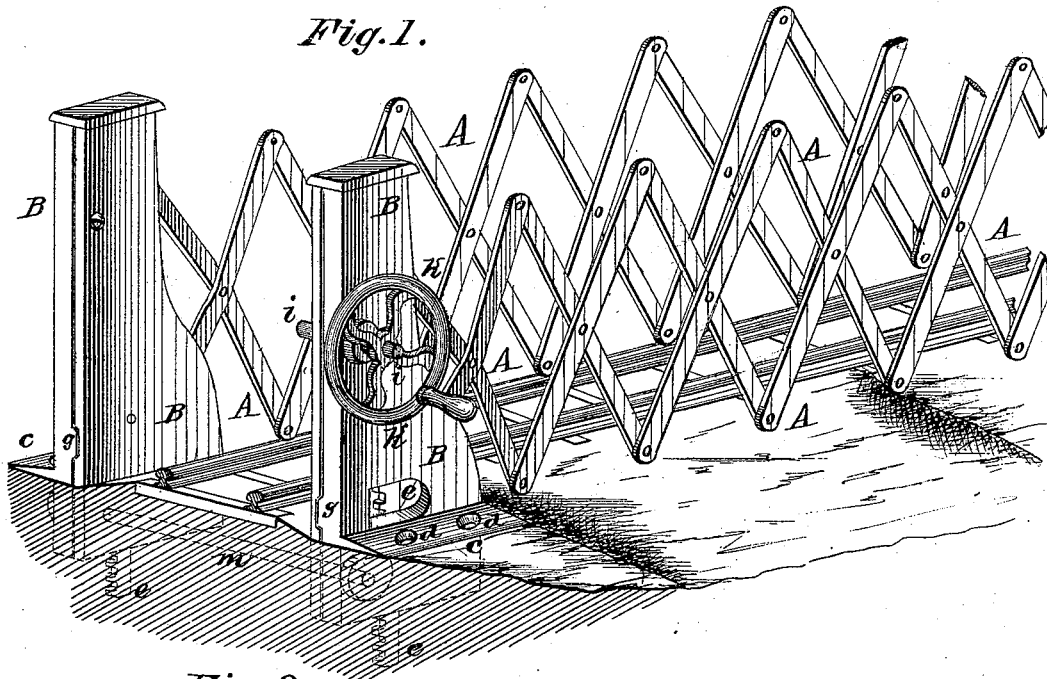


M. S. DRAKE.  
Gate for Railway-Crossings.

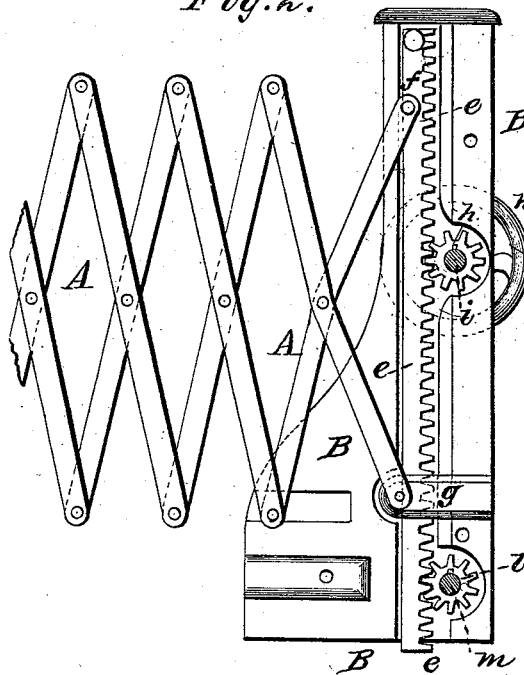
No. 217,592.

Patented July 15, 1879.

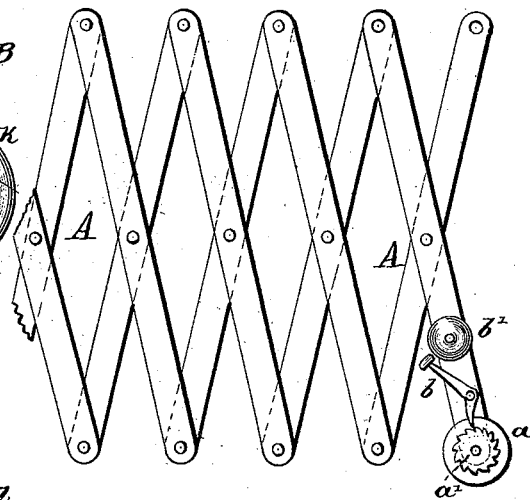
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:

*J. C. Durrieck*  
*J. H. Stockman*

Inventor

*Mahlon S. Drake*  
Per *C. H. Watson & Co* Attorneys.

# UNITED STATES PATENT OFFICE.

MAHLON S. DRAKE, OF NEWARK, NEW JERSEY.

## IMPROVEMENT IN GATES FOR RAILWAY-CROSSINGS.

Specification forming part of Letters Patent No. **217,592**, dated July 15, 1879; application filed June 5, 1879.

*To all whom it may concern:*

Be it known that I, MAHLON S. DRAKE, of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Gates for Railway-Crossings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 of reference marked thereon, which form a part of this specification.

This invention relates to gates for railway-crossings and mechanism for operating the same.

The improvement consists in constructing the gates, which are to be located at each side of the track, of what are known as "lazy-tongs," and in arranging a mechanism for simultaneously opening or closing both gates, all as hereinafter more fully described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the gates thrown forward or extended across the cross-road. Fig. 2 is a side elevation of the operative mechanism. Fig. 3 is a modification.

Let A represent the gates, composed each of a set of lazy-tongs, and B B the upright casings in which their operative mechanisms are adjusted.

Each casing B is firmly set into the ground, and, in order the more effectively to guard against their sagging, I form a broad flange or ledge, *c*, upon one side of each casing, so that when set in position said flange will rest upon the ground. I also form these flanges with suitable holes *d*, through which bolts or pins may be inserted and driven either into the ground or into a suitable bed set on a level with the ground-line. Within suitable ways formed in the casings are the vertically-sliding rack-bars *e*, one bar being arranged in each casing.

The ends of one of the two rearwardly-projecting arms of each set of lazy-tongs are pivoted to these rack-bars, as at *f*, the remaining arm of each set being pivoted to a lug or plate, *g*, formed with or secured within each casing, so that reverse movements of the rack-bar will cause the respective expansion and contraction of the said lazy-tongs.

The rack-bar which operates one set of tongs is actuated by a gear-wheel, *h*, and this

gear-wheel is mounted upon the shaft *i* of a crank-wheel, *k*, whereby motion may be readily imparted to the same by the person whose duty it is to look after the opening and the closing of the gates.

In order to operate both gates simultaneously and by one person, I propose to arrange within each casing, and at a point below the ground-line, a gear-wheel, *l*, and mount the same so that they will intermesh with the vertically-sliding rack-bars. A shaft, *m*, extends from one casing to the other, and also passes both through the casings and through the gear-wheels *l*, thereby constituting a common axis for both. Each one of these gear-wheels is preferably formed with a groove, and the shaft with feathers adapted to pass into same, whereby the gear-wheels and shaft are keyed and rotation of the wheels insured.

The crank-wheel being turned, both gates or sets of lazy-tongs will be expanded or contracted, as the case may be, the mechanism of the gate opposite to the one having the crank-wheel being simultaneously operated by reason of the gear-wheels *l* and connecting-shaft *m*.

The shaft *m* may be inclosed in a suitable trough or box extending under the track. At the end of the lazy-tongs, as shown in Fig. 3, I attach a wheel, *a*, to travel on the ground, so as to relieve any sag there may be to a long gate. I also attach to said wheel a ratchet, *a'*, so that when it rotates it will actuate a bell-hammer, *b*, and strike the bell or gong *b'*, thus giving an alarm and warning the passers-by.

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

1. Two gates for railway-crossings, each composed of a set of lazy-tongs, rack-bars, and gear-wheels for operating the same, in combination with a mechanism, substantially as specified, for causing a simultaneous operation of both gates, as specified.

2. In combination with the herein-described gates A, rack-bar *e*, gear-wheels *h*, crank-wheel *k*, gear-wheels *l*, and shaft *m*, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

MAHLON S. DRAKE.

Witnesses:

JAMES L. TOBIN,  
EDWD. CHASE.