(No Model.) 2 Sheets—Sheet 1.

A. J. McDONALD & R. B. BRENT.

RAILWAY GATE.

No. 406,938. Patented July 16, 1889.

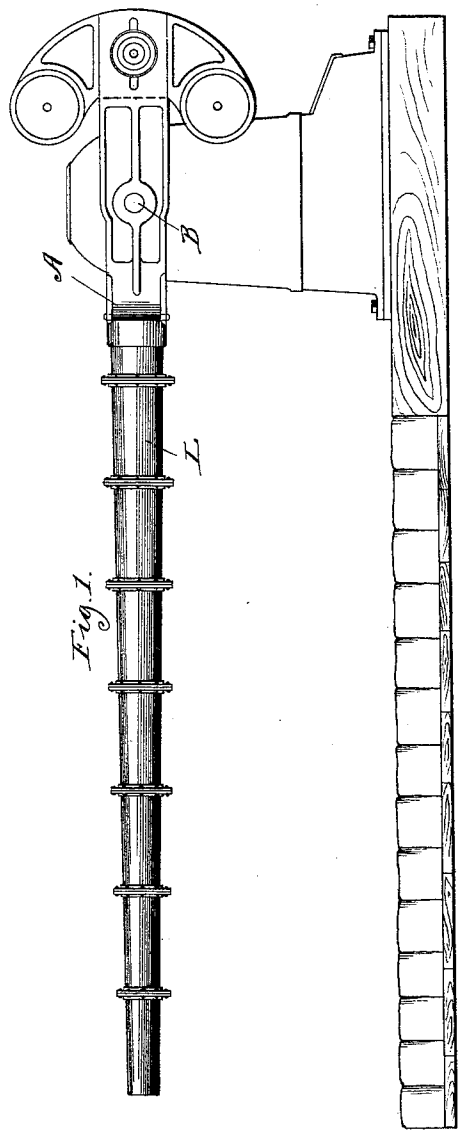


Fig. 1.

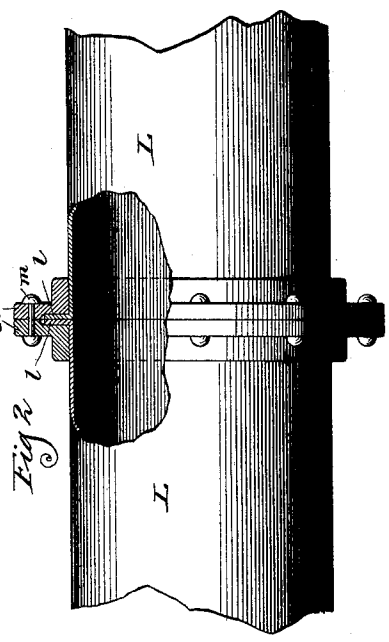


Fig. 2.

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T. O. Butler

Inventors,
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

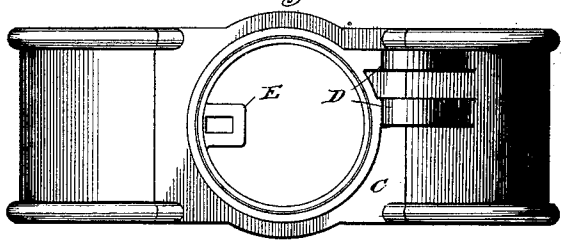


Fig. 3.

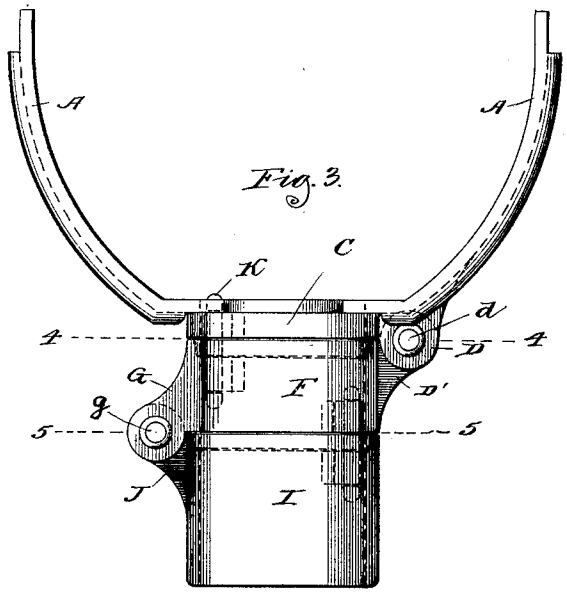


Fig 5

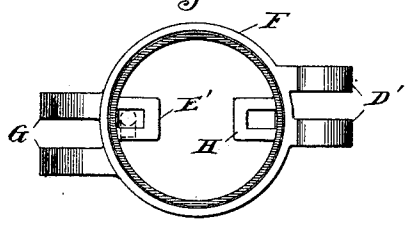
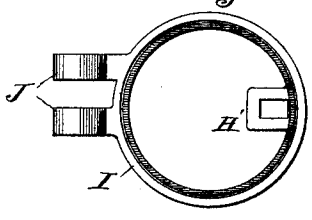


Fig 6



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UNITED STATES PATENT OFFICE.

ALEXANDER J. McDONALD AND ROBERT B. BRENT, OF CHICAGO, ILLINOIS, ASSIGNORS TO THE PNEUMATIC POWER AND RAILROAD GATE COMPANY, OF SAME PLACE.

RAILWAY-GATE.

SPECIFICATION forming part of Letters Patent No. 406,938, dated July 16, 1889.

Application filed November 3, 1888. Serial No. 289,925. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER J. McDONALD and ROBERT B. BRENT, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Gates, of which the following is a specification.

Our invention relates particularly to certain improvements in the swinging arms of railway-gates, and has for its object the provision of railway-gate arms with hinged sections having breakable fastenings, which, when the gate-arm is subjected to an unusual or violent shock—as, for example, the collision of a team or vehicle therewith—will break and the gate-arm will swing on its hinge-connections without breaking the arm itself.

The swinging arms of railway-gates are frequently broken by the dashing of teams against them, and considerable loss in repairs is sustained thereby, and, besides this, the crossing is left without adequate protection while the repairs are being made. To construct a gate-arm so heavy that it will withstand such shocks would be impracticable, because such an arm would be unwieldy and would require too much power to operate it.

In constructing the gate-arm we provide it with a section which is hinged upon one side to the base and on the other to the body of the arm, and secure said hinged section normally in place by breakable fastenings on each side opposite the pivotal connections, respectively, whereby when undue strain is exerted laterally upon the arm from either side the fastening on that side will break and the arm will swing on the opposite pivotal connection. The arm can be put in condition for use again readily by swinging it back to place and inserting a new fastening.

Another feature of our construction enables us to make a sectional gate-arm, and thereby we accomplish a great saving in cost of manufacture and of shipment. Heretofore gate-arms have been constructed and shipped to the place where they are to be set up all in one piece. As they are sometimes thirty to forty feet long, their handling is difficult. We make a sectional gate-arm which is light, yet strong, and which can be shipped in sections and the parts readily assembled by unskilled labor. A further advantage of such construction is that the gate-arm may be lengthened or shortened whenever desired by adding or removing sections.

In the drawings, Figure 1 is a side elevation of a gate-post and one of our improved arms applied thereto. Fig. 2 is an enlarged detail in broken section at the joint between two of the sections. Fig. 3 is a plan view of the base of the arm, showing the pivotal connections and breakable fastening. Fig. 4 is an end view above the dotted line 4 4, Fig. 3. Fig. 5 is an end view of the section between the dotted lines 4 4 and 5 5, and Fig. 6 is an end view of the lower section of the device shown in Fig. 3.

In the drawings, A A represent the bifurcated base portion of the arm, which affords means for pivotally supporting the gate-arm on the rock-shaft B. These arms A A unite in front of the post in a ring-like casting C, which is provided with hinge-knuckles D, and also with a keeper E, on its interior. In front of said casting C is an annular section F. (Shown in plan in Fig. 3 and in end view in Fig. 5.) This section F has knuckles D′, adapted to form with the knuckles D and a suitable hinge-pin *d* a hinged connection between the part F and the part E. On the opposite side of casting F from the knuckles D′ are knuckles G, and the member F has a keeper E′, corresponding in position with the keeper E, and a second keeper H on the interior of said section opposite the keeper E.

I is a second annular section having knuckles J, corresponding in position and adapted to the knuckles G of section F, and forming therewith, when the parts are joined by means of the hinge-pin *g*, a hinged connection between the sections I and F. Pins K, which are adapted to be thrust through the keepers E E′ and H H′, respectively, form a breakable fastening at the points in the gate-arm opposite the hinged connections thereof. In case of an unusual shock to the gate-arm from either side said pins K will break and permit the gate to swing on its pivotal connection, and thereby avoid the breaking of

the arm itself. These pins will be of such strength as to withstand ordinary strain. They may be simple wooden or metal pins or keys, and a supply of them being kept at hand the gate-arm may be secured after being disturbed by simply thrusting the pins into the keepers through the upper end of the section C.

The body of the gate-arm is composed of tubular sections L, preferably of galvanized iron. Those sections are united by means of the flanges *l* at their ends, which are turned up, so as to abut against each other, and then secured by the clamping-flanges M and bolts *m*. The two members of the clamping-flange M will be slipped upon their respective sections L and then the flanges *l* will be turned up and the sections securely clamped together by inserting the bolts *m*. This enables the arm to be put together readily and to be extended or shortened, as desired. Before shipment the clamping-flanges M will be put in place and the flanges *l* will be turned up, and then to unite the sections to form the arm it is only necessary to bring the sections together and secure them by means of the bolts *m*.

We claim—

1. A railway-gate arm having a section hinged or pivoted to the base and body of the arm, respectively, and breakable fastenings for said hinged section, substantially as described.

2. A railway-gate arm constructed of tubular sections, one of said sections being connected to the base and to an adjoining section by hinge-joints and break-pins to secure the swinging section normally in line with the base, substantially as described.

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