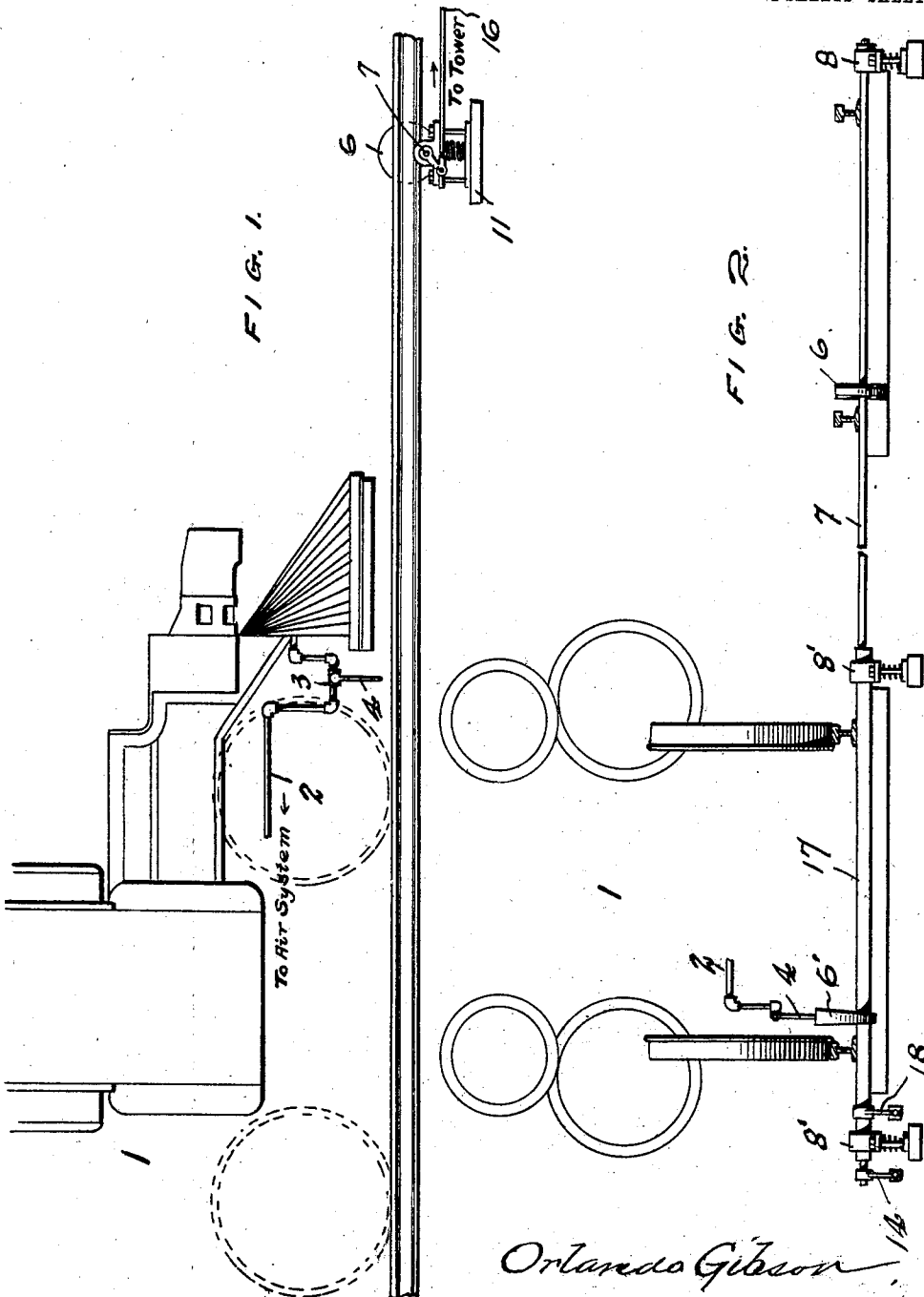


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 TRAIN CONTROLLING MECHANISM.
 APPLICATION FILED APR. 5, 1909.

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Patented Oct. 12, 1909.

2 SHEETS—SHEET 1.



WITNESSES

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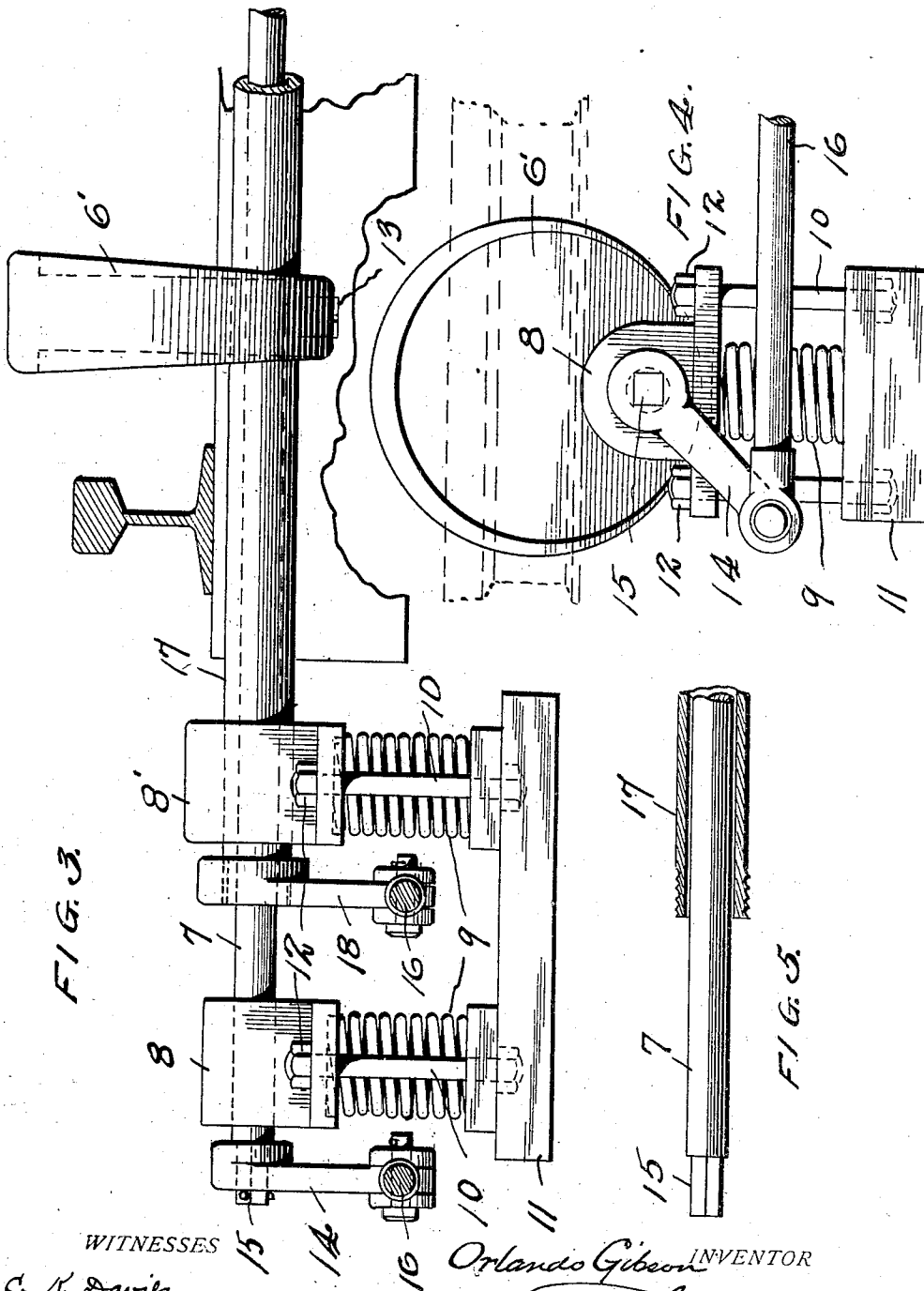
INVENTOR

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UNITED STATES PATENT OFFICE.

ORLANDO GIBSON, OF HOLLIDAYSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH TO C. H. GLAZIER, OF HUNTINGDON, PENNSYLVANIA, FIFTY-FIVE ONE-HUNDREDTHS TO C. E. FOSTER, OF PITTSBURG, PENNSYLVANIA, AND TWENTY ONE-HUNDREDTHS TO WILLIAM S. TAYLOR, OF HUNTINGDON, PENNSYLVANIA.

TRAIN-CONTROLLING MECHANISM.

936,443.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed April 5, 1909. Serial No. 487,885.

To all whom it may concern:

Be it known that I, ORLANDO GIBSON, a citizen of the United States, residing at Hollidaysburg, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Train-Controlling Mechanisms, of which the following is a specification.

My invention relates to improvements in automatic train-controlling devices for railways, for minimizing the danger of accidents, due to trains running past set danger signals at signal towers or stations.

Many accidents are caused by the failure of an engineer on a moving train to observe and heed the set danger signals, at a tower or station, due sometimes to foggy weather, the presence of smoke, or the inability of the engineer to act and be governed by the set signal.

The object of my invention is to provide means, operated from the signal tower by the towerman, and in conjunction with block systems, for automatically stopping a train which has passed the signal set for it, by actuating a valve in the air brake system to relieve pressure therein and apply the brakes of the moving train. The mechanism may be used as an auxiliary with the block system, or may be used in conjunction with and operated by switch-throwing mechanism to warn the engineer of a passing train of an open switch.

The invention consists essentially of an abutment located at a desirable point, and movable from a convenient location, into the path of movement of a lever on the engine, which lever actuates a valve in the air brake system, to either apply the brakes, or operate a signal on the engine. When not in use the abutment is turned down so that passing trains may clear it. When in operative position, if the obstruction is struck by an undesired element, or the obstruction is ridden down by a train passing in the opposite direction, as on a single track road, a spring cushion is provided to take the force of the blow and return the obstruction to operative position.

In the accompanying drawings I have illustrated one example of the physical embodiment of my invention constructed ac-

cording to the best mode I have so far devised for the practical application of the principles.

Figure 1 is a fragmentary view, showing a lever connected to the air brake system of a train of cars and carried by the locomotive, and an obstruction placed in the path of movement of said lever, to act thereon. Fig. 2 is a view taken transversely of two railroad tracks, illustrating the device applied to a four track road, an inner and an outer track being illustrated, over which trains pass in the same direction. Fig. 3 is an enlarged view of a portion of the device. Fig. 4 is an end view of Fig. 3, and Fig. 5 is a view showing some parts in detail, not fully illustrated in other views.

The invention may be applied to a single track, double track, or four track road, changes in location of some parts being necessary, or perhaps duplicating of parts may be found convenient in some instances. The construction illustrated in Fig. 2 shows two tracks of a four-track road equipped with the device. Fig. 1 may illustrate any one of the above enumerated roads.

Referring to Fig. 1 a portion of a locomotive is designated by the numeral 1. This locomotive is provided with an air pipe 2 which is an extension from the air brake train pipe and a valve 3, normally closed, is interposed in the extension. This valve 3 is provided with a lever 4 and the lever may be moved to open the valve to reduce pressure in the train pipe and apply the brakes, or the opening of the valve may operate a signal in the cab of the locomotive, as will be understood. The valve and lever are so situated under the engine as to be out of the way of obstructions, and the valve is operated only by contact with my specially placed obstruction, which in the drawings is illustrated as a disk 6 which is adapted to rotate eccentrically with relation to its supporting shaft 7.

The shaft 7 is supported in bearing blocks 8 which blocks are held in suspension by means of springs 9, the bolts 10 which connect the bearing blocks with base pieces 11 serving as guides for the bearing pieces. The bolts are passed through perforations in flanges of the bearing blocks and the

bolt heads or nuts 12 hold the blocks down upon the springs 9. The shaft 7 is thus supported in bearings which are cushioned to receive the force of a shock imparted thereto by an undesired impact.

The disk 6 is secured to the shaft 7 by means of a set screw 13, and the shaft may be rotated to move the disk into or out of operative position by means of lever arm 14 which is secured on the squared end 15 of the shaft. The arm 14 is connected to a link 16 which may be a wire or pipe as usual, leading to the signal tower and movable therefrom, and by this means the disk may be moved into or out of the path of movement of the lever 4 on the locomotive.

In Fig. 2 a disk is shown raised into position to be struck by the passing lever 4, at the left, and at the right the disk is turned down out of the path of movement of the lever 4. To provide for the equipment of two tracks of a four-track road, or each track of a double track road, I employ a second rotatable member, which may conveniently be a length of pipe as 17, through which the shaft 7 is passed, and these two elements are rotatable independent of each other.

The sleeve or pipe 17 is provided with a disk 6', identical with the bearings 8, except that the journal opening is larger to accommodate the sleeve 17. Levers 18, similar to levers 14, are connected to the sleeve 17, preferably by screw threads, as shown, and the levers 18 may be moved to rotate the sleeve 17 from the tower as described.

The cam disks and their rotatable shafts may be placed a suitable distance from the signal tower, and the shafts preferably are passed under the rails of the tracks, as illustrated. As seen at the right in Fig. 2, the disk 6 is turned down, so that all passing trains may clear it. If the disk at the left in said figure should accidentally be struck by a heavy, or unmovable, passing portion of the train, the disk would be "ridden down" carrying with it the shafts and their bearings, and the springs would act as cushions, to receive the impact of the blow, and return the disk to operative position. When the disk is struck by the comparatively light lever 4, said lever is turned, thus closing its valve, applying the brakes, or actuating a signal as the case may be.

Having thus fully described my invention,

what I claim as new and desire to secure by Letters Patent is:—

1. In combination with a train, a trip controlled lever, means operated thereby for applying the air brakes of the train, a shaft having spring buffers rotatably secured below the track, a wheel eccentrically mounted on the shaft, and means for rotating the shaft to move said cam wheel into position to contact with the lever and to move it out of said contacting position.

2. The combination in an appliance as described of a hollow shaft suitably supported, a contact piece thereon and means for rotating said shaft, with a second shaft extended through said hollow shaft carrying a second contact piece, and means for rotating said second shaft.

3. The combination in an appliance as described of a hollow shaft carrying a contact piece, a second shaft extending through the first and carrying a contact piece, means for independently rotating said shafts, and separate flexible bearings for said shafts.

4. The combination in an appliance as described of a hollow shaft carrying an eccentric disk, a second shaft extending through said first shaft and carrying a second eccentric disk, bearing blocks for said shafts, means for rotating the shafts to move the disks independently of each other, and means for receiving the impact on said disks from an undesired obstruction.

5. The combination in an appliance as described of a hollow shaft carrying an eccentric disk, a second shaft extending through the first shaft and carrying a second eccentric disk, bearings for said shafts, springs under said bearings, and means for rotating the shafts.

6. The combination in an appliance as described, of a hollow shaft carrying an eccentric disk, a second shaft extending through the first shaft and carrying a second eccentric disk, bearing blocks for said shafts, springs under said blocks, bolts forming guide posts for said bearings, and means for rotating the shafts independently of each other.

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

ORLANDO GIBSON.

Witnesses:

ORLANDO BRENNER,
HOWARD POPE.