

No. 765,604.

PATENTED JULY 19, 1904.

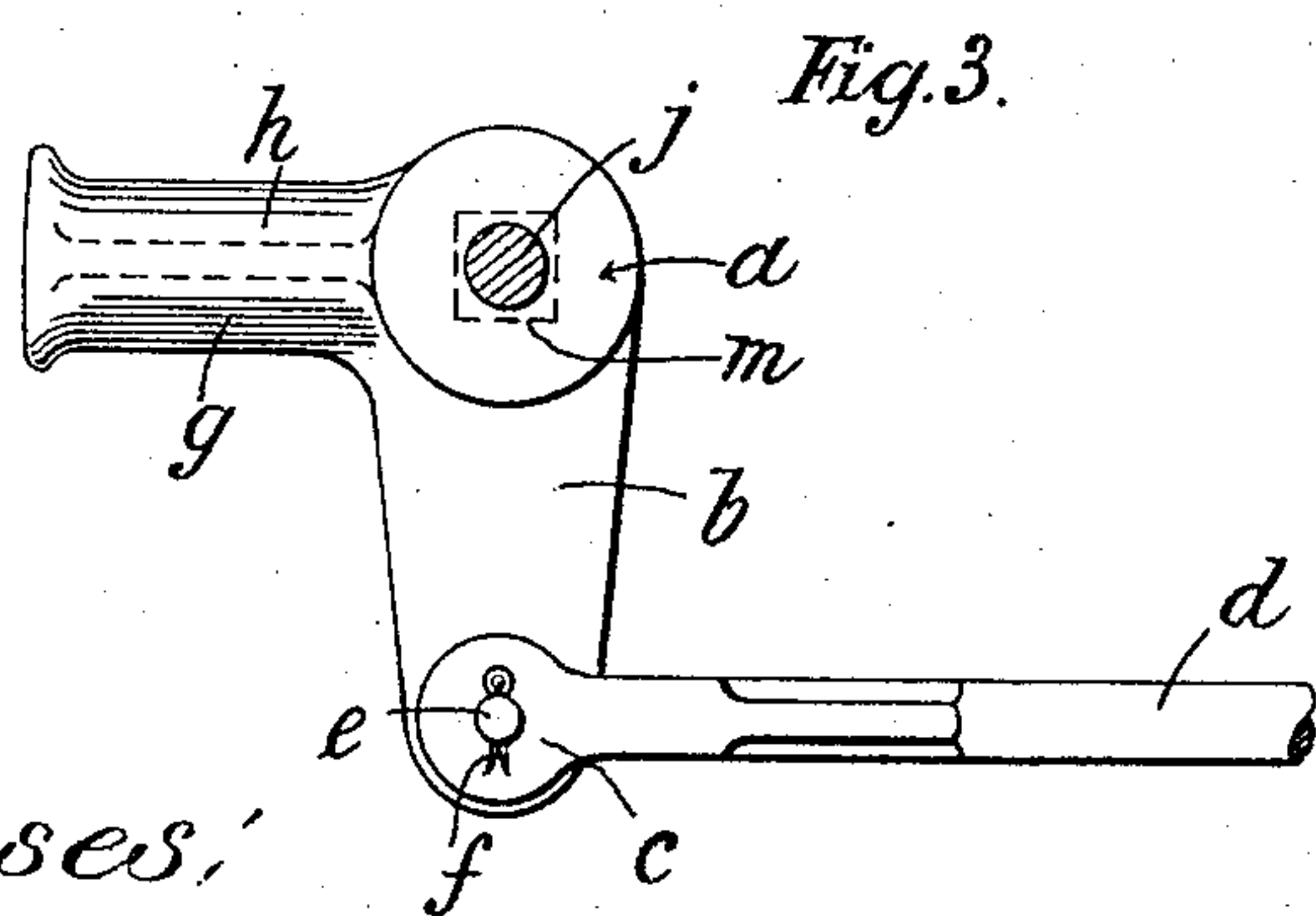
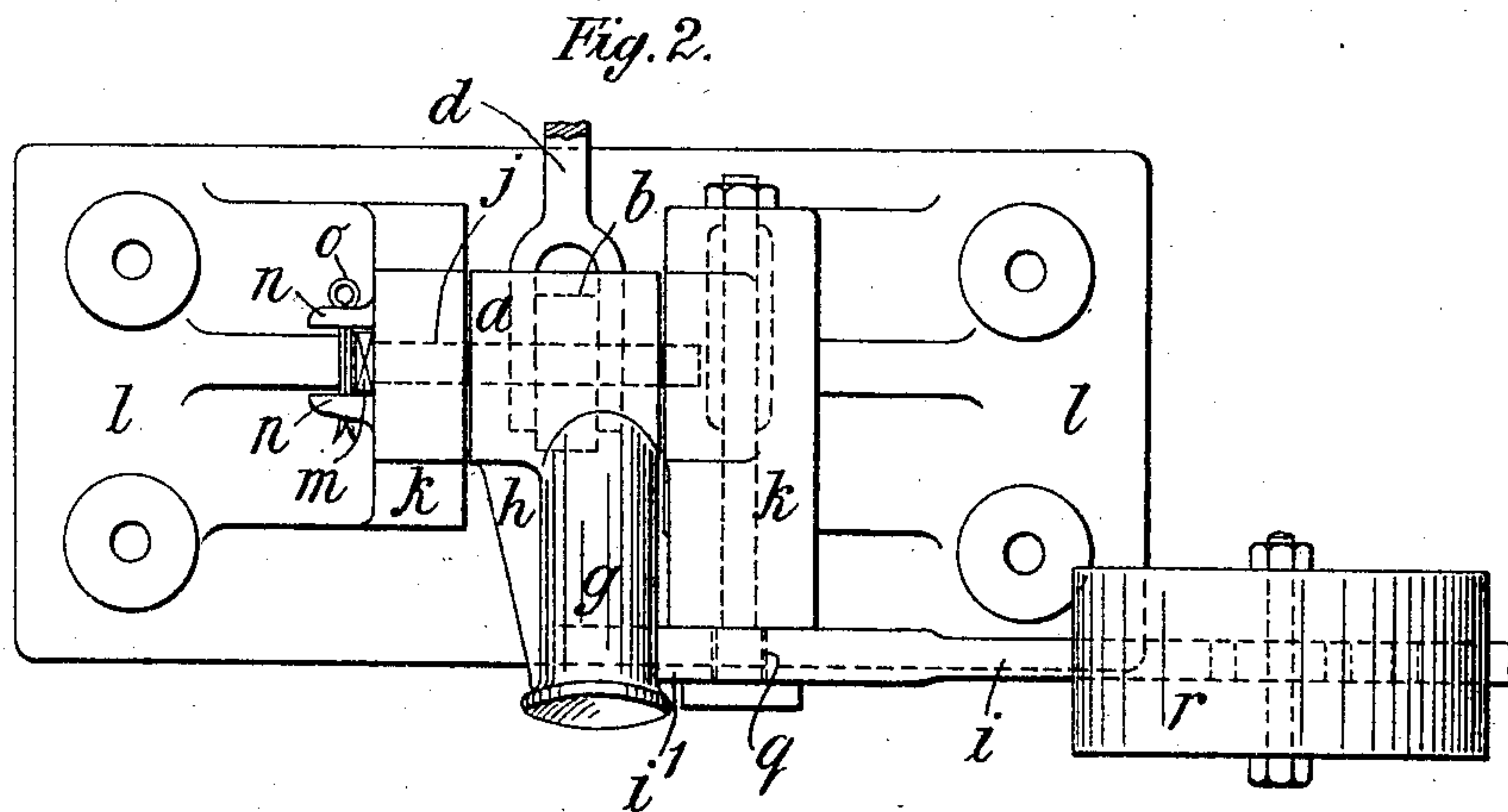
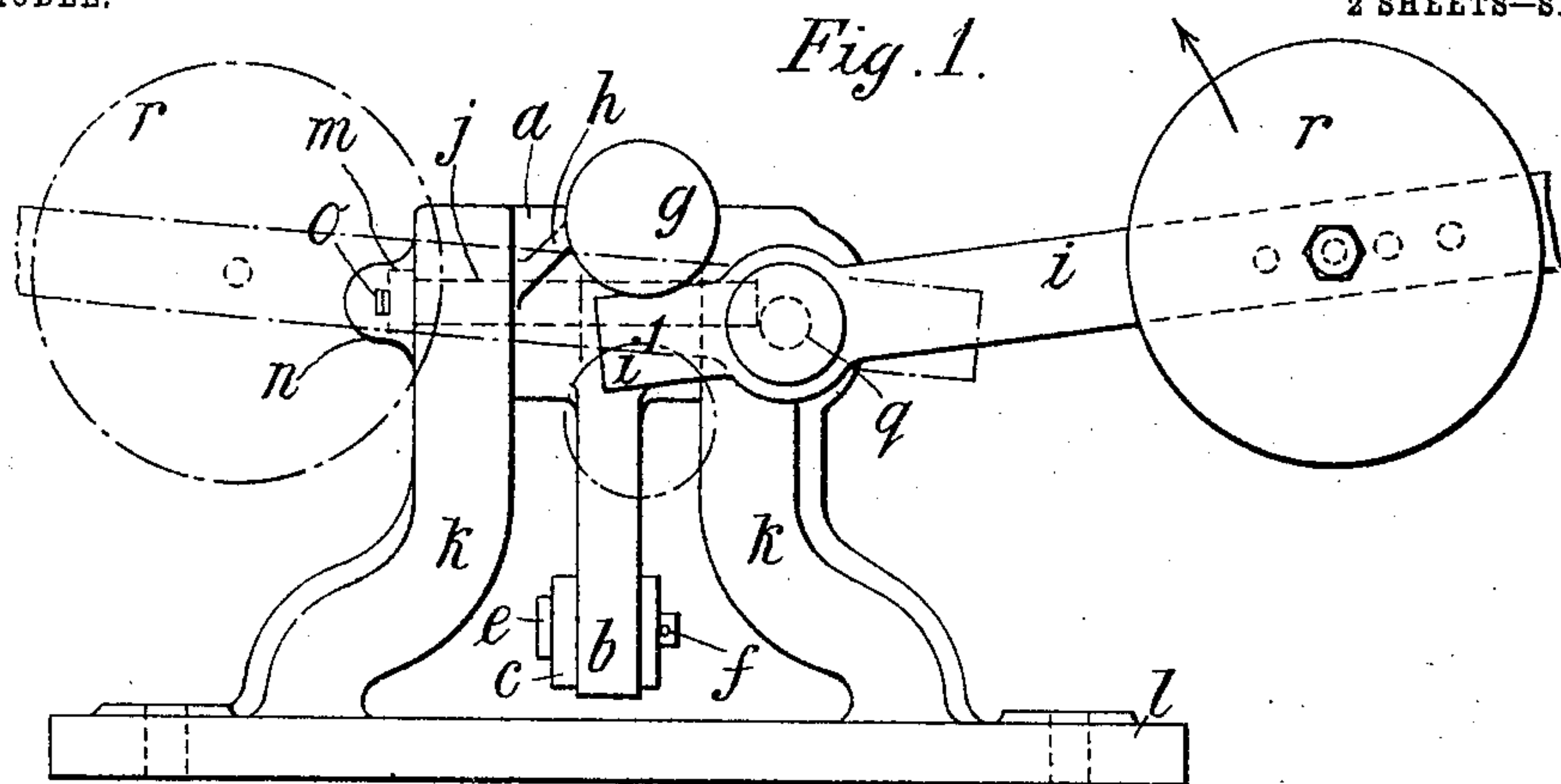
W. TAYLOR.

SHUNTING LEVER OR DEVICE FOR OPERATING RAILWAY OR TRAMWAY  
POINTS OR THE LIKE.

NO MODEL.

APPLICATION FILED MAR. 21, 1904.

2 SHEETS—SHEET 1.



Witnesses:  
James L. Norris, Jr.  
C. D. Kesler

Inventor  
William Taylor  
By James L. Norris  
Att'y

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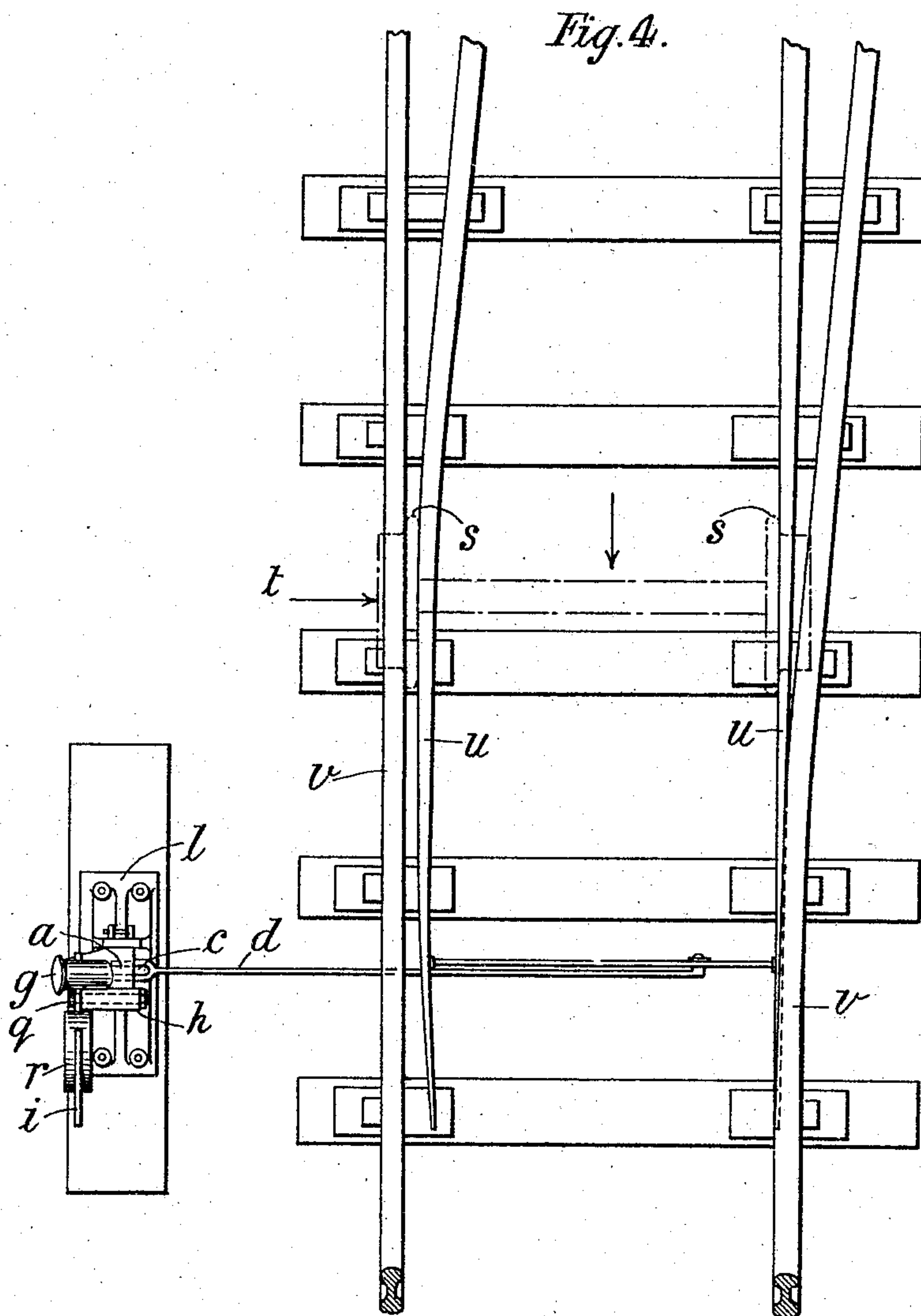
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## UNITED STATES PATENT OFFICE.

WILLIAM TAYLOR, OF SANDIACRE, ENGLAND.

SHUNTING LEVER OR DEVICE FOR OPERATING RAILWAY OR TRAMWAY POINTS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 765,604, dated July 19, 1904.

Application filed March 21, 1904. Serial No. 199,254. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM TAYLOR, a subject of the King of Great Britain and Ireland; residing at Sandiacre, in the county of Derby, England, have invented new and useful Improvements in Shunting Levers or Devices for Operating Railway or Tramway Points or the Like, of which the following is a specification.

This invention relates to an improved construction of shunting lever or device for operating railway and tramway points or switches and the like and whereby also the "points" or switches can readjust themselves automatically in the event of an engine or train being run backward through the points, the characteristic feature of the invention residing in the employment of an elbow or like lever pivoted in a bearing and having one of its arms flat and connected to the point-rod and its other arm free and of cylindrical shape and adapted to be operated by a weighted hand-lever (independently pivoted to the same bearing) consisting of a long arm, which carries the weight, and of a short arm in alinement therewith.

In order that the invention may be readily understood, I will describe it fully with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of the improved shunting-lever as applied to a line of railway, and Fig. 2 a plan thereof. Fig. 3 is a detached view in elevation of the elbow-lever. Fig. 4 is a plan showing the application of the said shunting-lever to the points of a line of railway.

$a$  is the elbow-lever, which has its arm  $b$  connected to the forked end  $c$  of the point-rod  $d$  by a pin  $e$  and split pin  $f$  in the usual manner, while its other arm,  $g$ , (formed with a strengthening-web  $h$ ) is adapted to be acted upon by a hand-lever  $i$ , hereinafter more fully explained. The said elbow-lever, which is adapted to move in a plane parallel with the point-rod, is advantageously mounted loosely on a pin  $j$  in a bearing  $k$ , fixed to a base-plate  $l$ , which may be secured to a sleeper or otherwise. The pin  $j$  has a square head  $m$  engaged between two lugs  $n$  to prevent it turn-

ing.  $o$  is a split pin passing through the lugs to keep said pin in place.

The arm  $g$  of the elbow-lever  $a$  is formed as a cylindrical stud or "bollard-shaped" arm, with a slightly-rounded head, and projects at a right angle from the arm  $b$ , the aforementioned web  $h$  serving to strengthen the said arm  $g$ , so that it will be able to withstand the sudden blows from the hand-lever  $i$ . This hand-lever is pivoted on an axle  $q$  to one of the cheeks of the bearing  $k$  in such a manner as to be able to be swung over in a plane at right angles to the movement of the elbow-lever  $a$ . Said hand-lever has a short arm  $i'$  in alinement with the long arm  $i$ , and this latter carries an adjustable weight  $r$ , the purpose of which is to keep such lever normally in one of its two extreme positions, as represented in Fig. 1 by full lines and dotted lines, respectively. In one of these positions—say that in which the point-rails are "closed"—the short arm  $i'$  of the hand-lever is under the cylindrical arm  $g$  of the elbow-lever  $a$  and acts as a lever of the first order, as shown in full lines, Fig. 1. On throwing over the hand-lever into the position shown by dotted lines in the same figure the short arm  $i'$  will be moved away from under the arm  $g$  and the long arm will be caused to bear upon the upper side of the said arm  $g$ , so forcing it downward, and thereby opening the points, the hand-lever then acting as a lever of the second order. If an engine be run backward through closed points, as shown by the arrow in Fig. 4, and the wheels  $s$  of the engine reach the point  $t$ , they will force the point-rails  $u$  away from the main rails  $v$ , thus pulling the point-rod  $d$ , connected to the point-rails, inward, which will cause the cylindrical arm  $g$  of the elbow-lever  $a$  to dip and force the short arm  $i'$  of the hand-lever  $i$  down against the action of its weight  $r$ . Owing to the peculiar combination of the elbow-lever  $a$  and hand-lever  $i$ , the extent of movement of the latter is comparatively slight, and the hand-lever will never reach the vertical position. Consequently as soon as the engine has passed through the points the weight  $r$  will automatically restore them to the closed position by falling back.



Obviously the wear of the cylindrical or bollard-shaped arm *g* will not interfere with the perfect working of the device, as any wear will merely cause a slight alteration in the angular position of the hand-lever *i*. Furthermore, the lever or device may at any time be locked by any convenient means, such as a chain and padlock, in order to prevent the backward passage of an engine or train through the points.

The above-described shunting-lever is also applicable to operating tramway-points, and for this purpose it would be inclosed in a box at the side of the rails. It is of course obvious from the preceding description that it likewise would automatically readjust itself after the passage of a car.

Having now described my invention, what I claim is—

1. A shunting-lever for operating railway and tramway "points," comprising, an elbow-lever having one arm connected to the point-rod and the other free and cylindrically shaped, and a hand-lever consisting of a long arm and a short arm in alinement with each other, and both adapted to act in turn upon the free cylindrical arm of the elbow-lever to operate the "points."

2. In a shunting-lever for operating railway and tramway "points," an elbow-lever moving in a vertical plane and having one arm flat and connected to the point-rod, and the other arm cylindrically shaped and formed with a head, and with a strengthening-web at its side, and a weighted hand-lever adapted to act upon said cylindrically-shaped arm.

3. In a shunting-lever for operating railway and tramway "points," an elbow-lever moving in a vertical plane and having one

arm connected to the point-rod, and the other arm free, a hand-lever consisting of a long arm and a short arm in alinement with each other, the short arm acting on the under side of the free arm of the elbow-lever to close the "points," and the long arm upon the upper side of said free arm to open the "points," an adjustable weight mounted upon the long arm of said hand-lever, and a bearing in which the hand-lever and the elbow-lever are both independently mounted.

4. In a shunting-lever for operating railway and tramway "points," an elbow-lever moving in a vertical plane and having one arm flat and connected to the point-rod, and the other one cylindrically shaped and free, a weighted hand-lever consisting of a long arm and a short arm in alinement, and both adapted to act in turn upon the free or cylindrical arm of the elbow-lever to operate the "points," a two-cheeked bearing in which both the hand-lever and the elbow-lever are independently mounted, a square-headed pin passing through both cheeks of the bearing and on which the elbow-lever is pivoted, lugs on one of the cheeks between which the head of said pin is confined, a pin passing through said lugs for keeping the pivot-pin of the elbow-lever in place, and a pin fixed transversely in the other cheek of the bearing on which the hand-lever is pivoted.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM TAYLOR.

Witnesses:

EDWARD D. HEARN, Junr.,  
THOS. H. COOK.