P. C. DAWSON.

Trumpet for Railway-Heads.

No. 221,159. Patented Nov. 4, 1879.

Fig. 2.

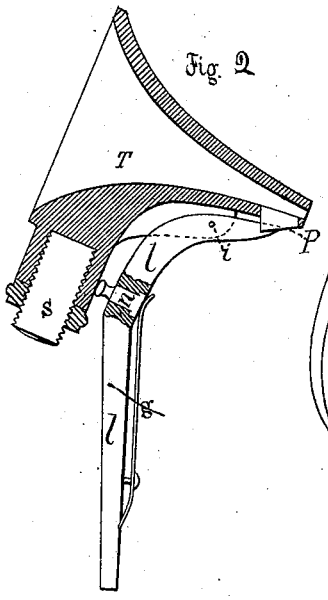


Fig. 1.

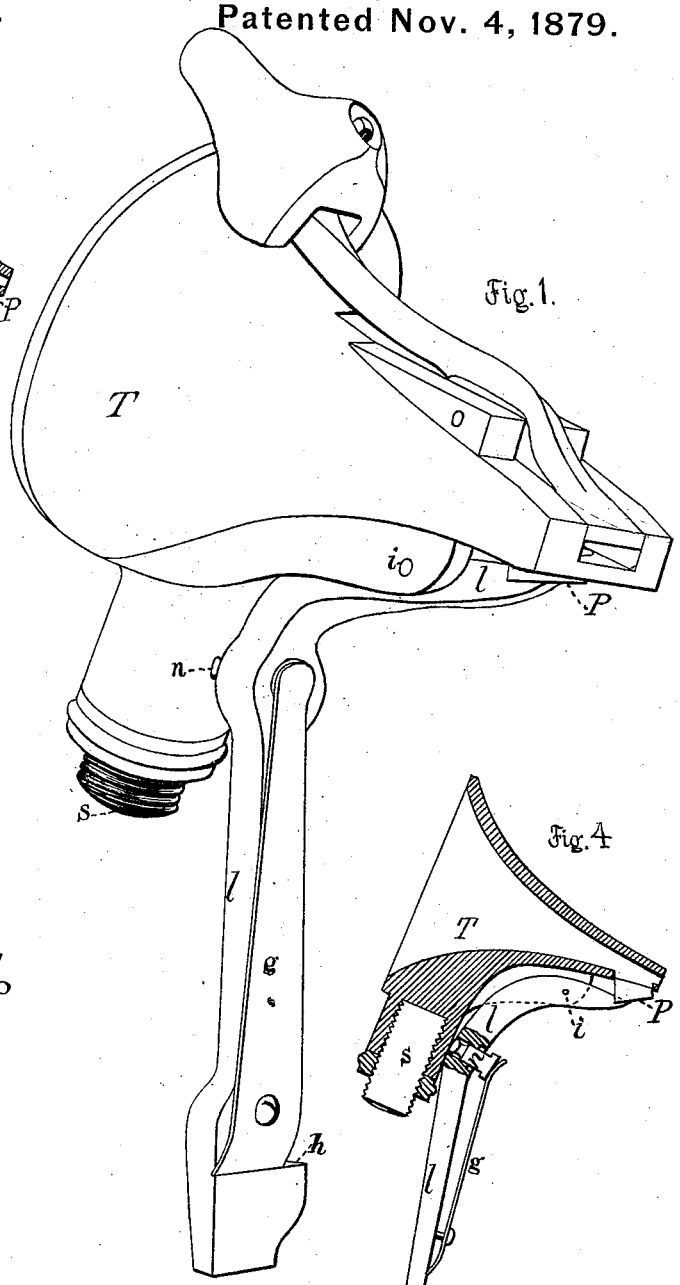


Fig. 3.

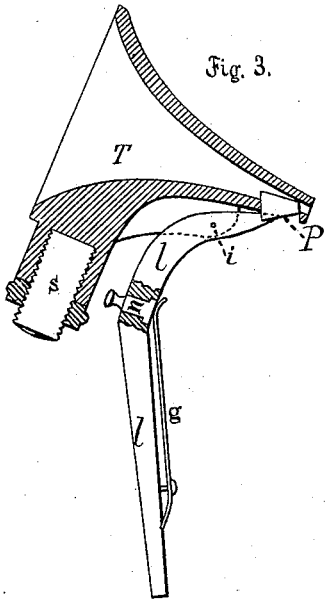
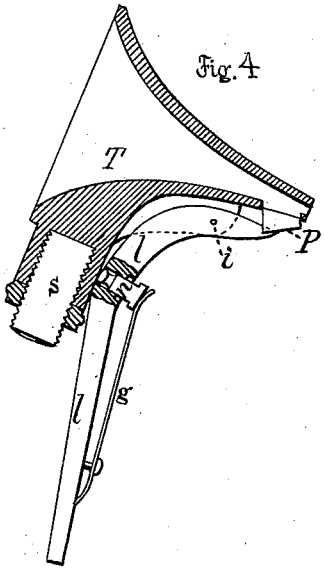


Fig. 4.



Witnesses.
O. Lapham
A. X. Lapham

Inventor.
Patrick C Dawson

2 Sheets—Sheet 2.

P. C. DAWSON.

Trumpet for Railway-Heads.

No. 221,159. **Patented Nov. 4, 1879.**

Fig. 5.

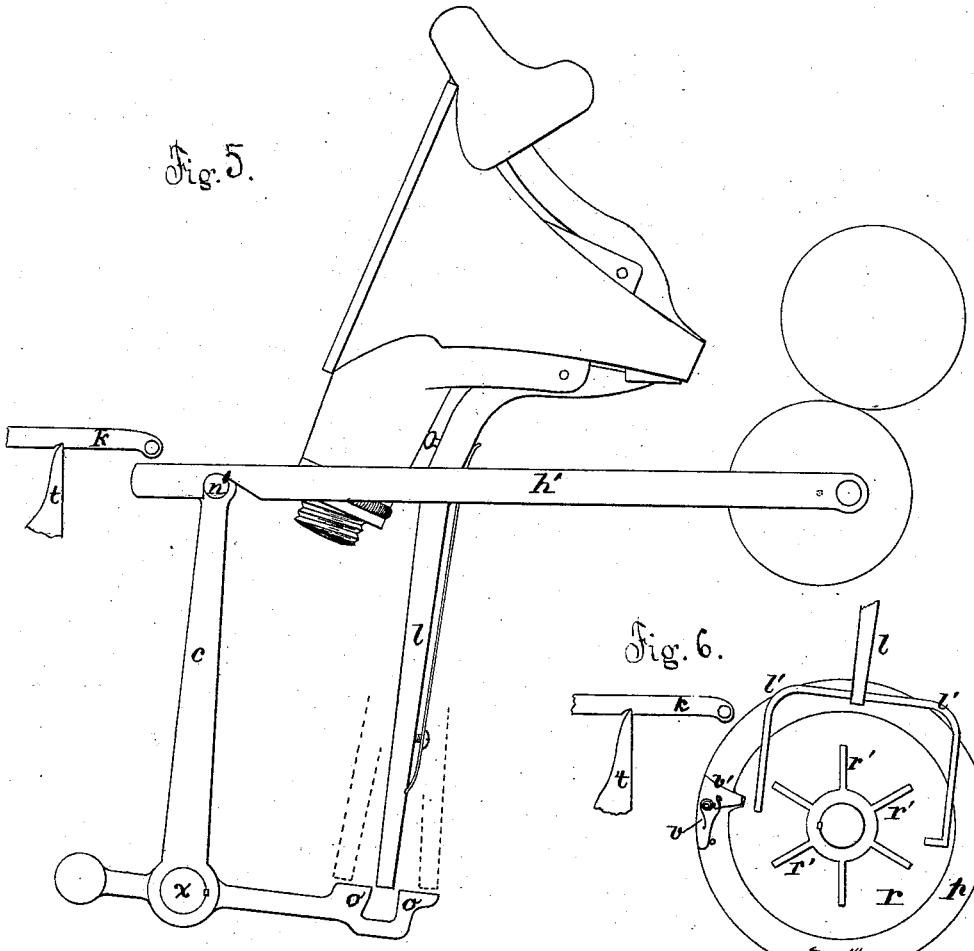
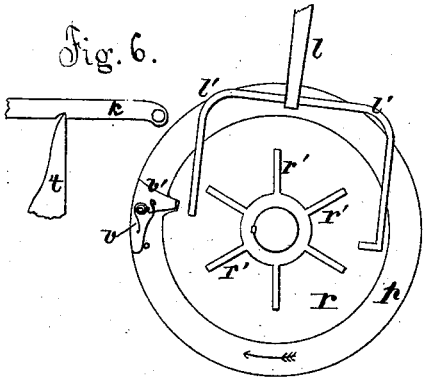


Fig. 6.



Witnesses.

John J. Arnold

Clarence A. Aldrich

Inventor.

Patrick C. Dawson

UNITED STATES PATENT OFFICE.

PATRICK C. DAWSON, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN TRUMPETS FOR RAILWAY-HEADS.

Specification forming part of Letters Patent No. **221,159**, dated November 4, 1879; application filed October 11, 1878.

To all whom it may concern:

Be it known that I, PATRICK C. DAWSON, of the city and county of Providence and State of Rhode Island, have invented certain Improvements in Trumpets for Railway-Heads, of which the following is a specification.

My invention relates to mechanism for stopping the railway-head; and it consists in constructing a portion of the trumpet, near its mouth, so as to yield on the one hand to an undue pressure of the cotton from within, and, conversely, to yield to a pressure in the contrary direction when the pressure of the cotton is unduly diminished or entirely wanting, thereby actuating appropriate stopping mechanism; and said invention consists, further, in combinations, hereinafter shown, of said yielding portion of the trumpet with mechanism for stopping the machine.

In the accompanying drawings, Figure 1 is a view of my invention, in perspective. Figs. 2, 3, and 4 are vertical central sections of a trumpet with my improvements attached, showing the movable parts in different positions.

T is the trumpet mounted on the stud S. P is a plug inserted in an orifice in the under side of the trumpet near its mouth. This plug is nicely fitted, but free to move up and down, and rests on the short arm of the lever *l*, which is pivoted on the under side of the trumpet at *i*. The lower end of the lever from the inclined position of the trumpet is inclined to fall forward, as in Fig. 3, when there is no cotton in the trumpet, or when the quantity is so small as to create but little pressure in the nozzle; but when a sliver of cotton of the requisite size is passing through, the plug P is pressed down flush with the interior surface of the bottom of the trumpet, and the long arm of the lever is swung back until the head of the pin *n* rests against the shank of the trumpet. The further movement of the lever in this direction is then arrested, and it occupies the position shown in Fig. 2, which may be termed its normal position. The capacity or caliber of the trumpet is then neither increased nor diminished by the plug.

When a choke occurs in the trumpet, causing a pressure on the plug sufficient to overcome the spring *g*, the long arm of the lever is pressed back until arrested by the shank of the trumpet, assuming the position shown in Fig. 4. If desired, the spring may be dispensed with.

These three positions of the long arm of the lever *l*, corresponding with the condition of the work in the trumpet, enable me, by the use of appropriate stopping mechanism, in connection with the lever *l*, to cause the machine to stop whenever the sliver varies materially from the standard or proper size.

The ordinary contrivances on drawing-frames employing an oscillating bar or a revolving shaft with wings or floats, in stopping the machine, are appropriate for that purpose in this case in connection with the lever *l*, which may be considered to form part of the stopping mechanism.

The arrangements just referred to are shown on Sheet 2 of the drawings.

Fig. 5 is an elevation of so much of the mechanism as is needed to illustrate my improvement as applied to the oscillating bar. In this figure, *h'* is the ordinary oscillating bar, obtaining its movement by an eccentric or crank connection with the lower roller, as shown. At the other end it rests by mere weight on the pin *n'*, which lies in a slot or notch in the bar, and is attached to the angle-lever *c*, pivoted at *x*, and having its lower end forked, as seen at *o*.

The lower end of lever *l* is in proximity to this end of the angle-lever, and normally hangs above and in a line passing between the prongs *o*. In this position it permits the rocking of the angle-lever consequent upon the oscillations of bar *h'*. When, however, lever *l* takes either one of the positions indicated by dotted lines, (and this it will do whenever the plug P rises above or falls below the inner surface of the trumpet,) then its lower end is brought over one or the other of the prongs *o*. The rocking of the angle-lever is thus checked, and the bar *h'*, by reason of the inclined face of the notch, rides up on the pin *n'*, lifts the part *k* from the detent *t*, and leaves *k* free to move to the left, impelled by a spring, weight, or otherwise, thereby disconnecting or shipping the belt.

The general organization here described is

old and well known, and requires no further explanation.

In Fig. 6 I have represented, in elevation, so much of the mechanism as is needed to explain the use of my improvements in connection with a stopping mechanism employing a revolving shaft with radial wings or floats. In this figure the outer wheel, *p*, is the driver. Loosely mounted on the same axis with it is the inner smaller wheel, *r*, connected with *p* by a tripper, *v*, of bell-crank form, pivoted at its elbow to the outer wheel, with one of its ends normally entering a notch in the periphery of *r*, as shown. The small spring *s* is sufficient to hold the tripper in its normal position. On the axis or hub of the wheel *r* are wings or floats *r'*.

The lower end of lever *l* is expanded into the usual fork *l'* with an inner hook on one prong. When the lever *l* moves to one side of its central position the floats on the inner wheel will be engaged by the fork, and the movement of the inner wheel consequently will be checked; but as the outer wheel continues in revolution the tripper *v* will be thrown out of engagement with the inner wheel, and its longer lower arm will be projected outwardly. In this position it will come in contact with the part *k*, and throw it off from its detent *t*. The tripper, when turned outwardly, moves far enough to bring its curved upper edge, *v'*, to a position where it will bear and rest on the periphery of the inner wheel, *r*.

As the upward blow on the end of the lever *l* has a tendency to lift the trumpet, a bar or rod may be fastened to the bed-plate and project over a shoulder, *h*, on the side of the lever *l* to counteract this action.

This improvement does not interfere with the operation of the evener, where that is employed, for in this case the spring *g* is made sufficiently strong to keep the stop-motion from acting, while the inequalities of the sliver are only such as the evener can remedy.

One important service performed by this invention is in the checking of waste and damage to the machine when the passage of the cotton through the trumpet is stopped, either by a choke in the trumpet or by the breaking of the sliver between the trumpet and the back rolls.

Although I have described my invention in its application to railway-heads, it is obvious that it may be employed in other connections.

What I claim is—

1. A trumpet for railway-heads and similar machines, provided with a movable plug or plate forming part of and normally flush with the inner surface of that part of the trumpet in which it is placed, and arranged to yield outwardly to excessive pressure of the cotton or sliver passing through the trumpet, in combination with stopping mechanism actuated by the movement of said plug or plate, substantially as and for the purposes set forth.

2. A trumpet provided with a movable plug or plate forming part of and normally flush with the inner surface of that part of the trumpet in which it is situated, and arranged to rise above said surface whenever the requisite counteracting pressure of cotton or sliver in the trumpet is wanting, in combination with stopping mechanism, whose movement to stop the machine is caused or induced by such movement of said plug or plate, substantially as set forth.

3. A trumpet for railway-heads and similar machines, provided with a movable plug or plate forming part of the inner surface of the trumpet, and normally flush with that surface, but arranged, substantially as shown and described, so that undue unevenness in the size of the sliver shall cause it to rise above or fall below said surface, as the case may be, as and for the purposes set forth.

4. The combination of the trumpet, the plug or plate P, and the lever *l*, arranged and operating substantially as and for the purposes set forth.

PATRICK C. DAWSON.

Witnesses:
O. LAPHAM,
A. LAPHAM.