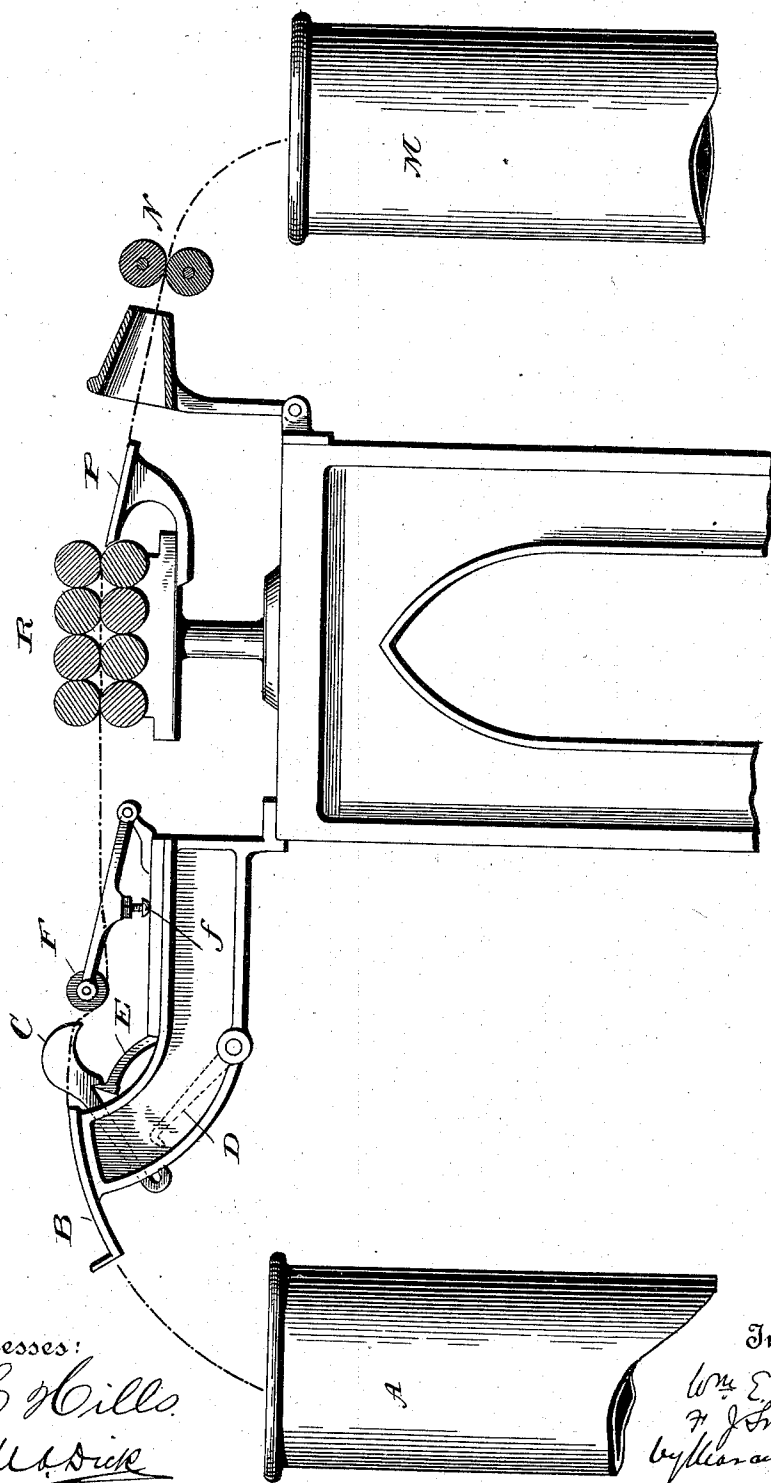


(No Model.)

W. E. SHARPLES & F. J. SNELL.
RAILWAY HEAD AND DRAWING FRAME.

No. 530,358.

Patented Dec. 4, 1894.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM E. SHARPLES AND FERNANDO J. SNELL, OF FALL RIVER, MASSACHUSETTS.

RAILWAY-HEAD AND DRAWING-FRAME.

SPECIFICATION forming part of Letters Patent No. 530,358, dated December 4, 1894.

Application filed June 6, 1894. Serial No. 513,691. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM E. SHARPLES and FERNANDO J. SNELL, of Fall River, in the county of Bristol and State of Massachusetts, have invented a certain new and useful Improvement in Railway-Heads and Drawing-Frames, of which the following is a specification.

In railway heads and drawing frames there is at the back a trumpet which guides the sliver of cotton from the can to the drawing rolls; and this trumpet is so constructed that it acts as part of the stop motion. The trumpet now in use requires to be very nicely balanced in order to do its work properly. By reason of this nice balancing, the trumpet when the sliver, as often happens, falls much below standard weight, is apt to tip in a direction to stop the machine. Variations in the weight of the sliver are taken care of and compensated for by the evening mechanism usually connected to the drawing rolls, so that the stoppage of the machine from this cause serves no useful purpose, and is productive of poor work and waste both of time and of material. On the other hand, owing to the nice balancing of the trumpet it is apt not to respond quickly enough when there is need for stoppage—as for example when the sliver breaks. The distance between the trumpet and the drawing rolls is but ten or twelve inches and the end of the sliver under these circumstances will often pass through and beyond the drawing rolls before the slow moving trumpet has acted to stop the machine. This of course results in imperfect work, since the end of a sliver if it has been passed through the drawing rolls, cannot well be again pieced.

The object of our invention is to cure these defects, or in other words, to prevent the trumpet from affecting the stop motion by reason of variations in the weight of the sliver which the drawing rolls will take care of and compensate for, and at the same time to render it quickly responsive to any break which necessitates instant stoppage of the machine.

To this end, we combine with the trumpet, and the drawing rolls, a pressure roll interposed between said parts, and just clearing

the trumpet, and arranged to bear down upon the sliver as it emerges from the trumpet. We are aware that a pressure or drag roll or bar has before been arranged back of the trumpet, the sliver passing under the bar before it reaches the trumpet. This bar however, in order to permit the upward tilting of the trumpet, must be separated from the entrance end of the latter by a considerable distance—a distance exceeding the average length of cotton fibers, and the slivers thus frequently break when subjected to pressure of the bar. Moreover the bar is located necessarily so nearly over the fulcrum of the trumpet, that it has little leverage and must exert undue pressure in order to have any material tilting action. These and other disadvantages are remedied by our arrangement. The downward pull of the pressure-roll is exerted on the extreme end of the nose of the trumpet thus securing the great-possible leverage; while the roll itself can be, and in practice is, set so close to the trumpet that the nose of the latter in tipping back will just clear it and in this way the distance between the roll and trumpet is made considerably less than the average length of the cotton fibers.

The roll in practice is mounted on a frame or carrier, hinged at its front end to the machine—the advantage of this arrangement being, that the carrier and its roll, can be turned back and caused to rest on the drawing head, and thus be entirely out of the way whenever a fresh end of sliver is to be inserted in the drawing rolls.

The roll is made adjustable so that it can bear more or less upon the sliver as desired. For this purpose we prefer to mount it in a pivoted support or carrier, which has a stop piece that rests upon the machine frame—the stop piece being adjustable to permit the carrier to move down more or less as required before it is stopped.

Our invention will readily be understood by reference to the accompanying drawing which is a longitudinal vertical sectional elevation of so much of a railway head or drawing frame as is needed to explain our improvement.

In the figure, A is the can from which the

sliver is taken. The sliver from this can passes over the table B to and through the trumpet C, thence through the drawing rolls R, thence over the table P, through trumpet T and rolls N into can M.

The trumpet C, which is part of the stop motion, is pivoted or hung so as to vibrate on the knife edge bar E. It is counter-weighted and has a hook end, which when the trumpet is tipped forward by the pressure of the sliver passing through it, is lifted out of engagement with the corresponding hook end of the pivoted blade D of the stop motion mechanism. In this position the stop motion is inactive. As soon however as the pressure of the sliver is relaxed by reason of breakage or any other cause, the trumpet will tilt back thus bringing its hook end into the path of the hook end of the blade D, and by the action of the latter under these conditions the stop motion mechanism will be operated to stop the machine.

We have not deemed it necessary to represent the stop motion mechanism other than the parts C and D, inasmuch as this mechanism is well known to those skilled in the art, and forms no part of our invention. Thus far there is nothing new in the machine.

The roll, in the arrangement and combination of which with the trumpet controlling the stop motion, our invention essentially is comprised, is shown at F. It is placed close to the nose of the trumpet and a little below the latter, so that the sliver which emerges from the nose of the trumpet will be caused to make a rather abrupt bend or deflection from the general path in which it travels. In this way it will necessarily exert considerable pressure upon the trumpet in the direction requisite to tilt the latter out of engagement with the stop motion. In this way variations in weight of the sliver may occur without reducing the pressure of the latter upon the trumpet below the point requisite to hold it tilted out of engagement with the stop motion.

The roll is mounted in a carrier frame pivoted at its front to the body of the machine, and having on its under side a stop screw by the adjustment of which the roll can be caused to press more or less as desired upon

the sliver before the stop brings up against the body of the machine. The increased pressure thus exerted upon the trumpet also enables us to give increased weight to the hook end of the trumpet, which consequently will respond more readily as above explained in event of any break in the sliver.

Having described our invention and the best way known to us of carrying the same into effect, what we claim, and desire to secure by Letters Patent, is as follows:

1. In a railway head or drawing frame, the combination with the drawing rolls and the stop motion controlling trumpet from which the sliver passes to said rolls, of a roller interposed between said trumpet and rolls and placed close to and a little below the nose of the trumpet, substantially as and for the purposes hereinbefore set forth.

2. In a railway head or drawing frame, the combination with the drawing roll and the stop-motion-controlling trumpet, from which the sliver passes to said rolls, of a pressure-roller interposed between said parts to bear upon the sliver as it issues from the trumpet, and a vibratory roller carrying frame, having its axis or hinge, at that end of it which is farthest from the trumpet, substantially as and for the purposes hereinbefore set forth.

3. In a railway head or drawing frame, the combination with the drawing rolls and the stop motion controlling trumpet, of a roller interposed between said parts, and means for determining the vertical adjustment of said roller so as to regulate its pressure upon the sliver which passes under it, substantially as set forth.

4. The combination with the drawing rolls and the stop-motion controlling trumpet, of the pressure roller F interposed between said parts, its vibratory supporting frame hinged at its front end to the machine, and the adjustable stop for said frame.

In testimony whereof we have hereunto set our hands, before two subscribing witnesses, this 5th day of May, 1894.

WILLIAM E. SHARPLES.
FERNANDO J. SNELL.

Witnesses:

ARBA N. LINCOLN,
CHARLES L. FOOTE.