

H. G. Williams. Spinning Drawing Frame.

N^o 1,389.
32,393.

Patented May 21, 1861.

Fig. 1.

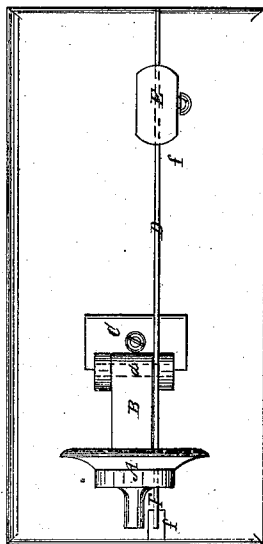


Fig. 3.

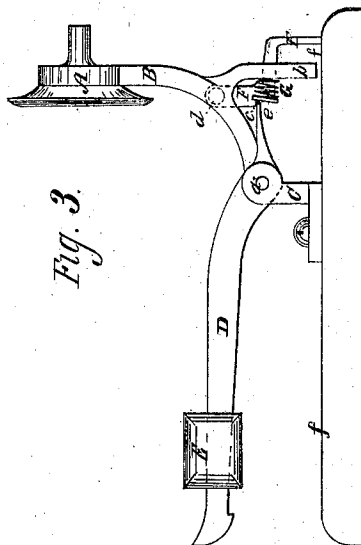
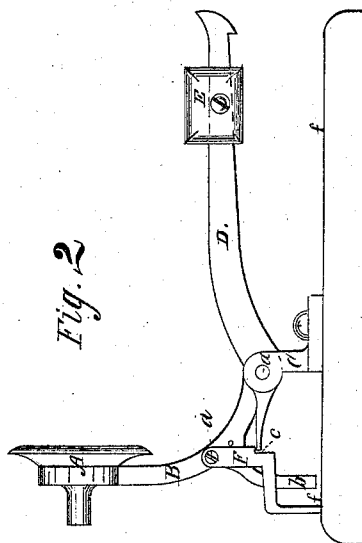


Fig. 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

HARRISON G. WILLIAMS, OF WARREN, RHODE ISLAND.

STOP-MOTION FOR DRAWING-FRAMES.

Specification of Letters Patent No. 32,393, dated May 21, 1861.

To all whom it may concern:

Be it known that I, HARRISON G. WILLIAMS, of Warren, in the county of Bristol and State of Rhode Island, have invented a new and useful Improvement in the Drawing-Frames Used in Drawing Down Slivers of Fibrous Material; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1, is a top view, and Figs. 2, and 3, side elevations of the said invention.

In drawing frames, it has been customary to use and combine with their draw rollers and back stop motion (applied to the sliver or slivers in rear of such rollers) another or auxiliary stop motion viz., a vibratory trumpet and a hooked lever or latch this latter stop motion being applied in front of the draw rollers, and to the drawn sliver or slivers proceeding from the said rollers. The said hooked lever or latch of such auxiliary stop motion is arranged so as to operate with the rotary stopper of the back stop motion, that is so as to catch and stop the rotation of such stopper, whenever either a breakage or a too great reduction of the sliver in front of the draw rollers might occur, in which case the draft of the sliver in the trumpet would either cease or so diminish as to permit the trumpet to fall back and thereby cause the longer or hooked arm of the lever to descend into the path of rotation of the stopper, and catch on the latter and arrest its motion the result being an immediate stoppage of the operations of the drawing frame. It will be unnecessary for me to describe the "back stop motion" as its structure and operation are well known.

My improvement has reference to the said auxiliary stop motion, and consists in such a construction of it as will not only enable it to arrest the operations of the drawing frame whenever the sliver or slivers that may be passing through the trumpet of the said stop motion may either break or be too small but also enable it to stop the drawing frame whenever the sliver or slivers entering or passing through the trumpet may be too large from any cause, as it is well known, that a sliver may not be sufficiently drawn down or it may break and kink up or knot together or upon one another, between the trumpet and the draw rollers, in either of which cases it will be desirable to

stop the action of the drawing frame for the purpose of enabling the difficulty to be remedied.

In carrying out my invention, the trumpet catch lever is separate from the trumpet carrier and there is combined with the two, a tripper catch and spring or the mechanical equivalent or equivalents, the whole being constructed and arranged substantially as hereinafter explained.

In the drawings, A denotes the vibratory trumpet as supported by an arm or carrier B, which turns on a joint pin *a*, extended through the upper part of a standard C, the said part B, being furnished with a leg or stop *b*, extended from it as shown in the figures.

D, is the catch lever which turns vertically on the pin *a*, as a fulcrum and is arranged aside of it and furnished with an adjustable weight E.

F, is the tripper catch, which is a lever bent in form as shown in Fig. 2, and arranged with respect to the carrier B, and the lever D, as exhibited in Figs. 1, and 2. This tripper catch not only has an angular notch *c*, for reception of the end of the shorter arm of the lever D, but turns freely on a fulcrum *d*, projecting from the side of the carrier B.

A spring G, projects from the inner side of the leg *b* and bears against a stud *e*, extending from the rear side of the tripper E.

The operation of the above described machine may be described, as follows: While the trumpet sliver may remain either unbroken or of the required size, its friction or draft in the trumpet will maintain the catch lever up and out of the path of the rotary stopper of the back stop motion. The tripper F, will also be in engagement with the lever D, and will rest or be borne lightly down upon the top surface *f*, of the platform of the drawing frame, the bottom of the leg *b*, being somewhat above the said surface *f*. But should the sliver of the trumpet become too large by reason of not being sufficiently drawn, or from any other cause, it will produce an increase of draft on the trumpet such as will cause such trumpet to be pulled forward in a manner to press the tripper F, harder upon the surface *f*, and so as to throw such tripper out of engagement with the lever D, in which case the longer arm of the lever will fall down

upon the rotary stopper of the back stop motion and effect the stoppage of the drawing frame.

While the lever D, is latched to the carrier
5 of the trumpet, either a breakage of the
sliver, or an improper diameter of its size,
such as will lessen the draft in the trumpet,
will enable the weight E to depress the
lever D, upon the rotary stopper, the trum-
10 pet being moved backward with and by the
lever. Thus, it will be seen, that my appa-
ratus not only performs the functions of the
ordinary auxiliary stop motion, but the ad-
ditional one of stopping the drawing frame

whenever the sliver or slivers of the trumpet 15
may be too large.

I therefore claim—

The combination of the separate trumpet
carrier B, and the tripping catch F, and its
spring G, or their equivalents with the trum- 20
pet A, and the catch lever D, or their equiv-
alents, the whole being arranged substan-
tially in manner and to operate as and for
the purpose hereinbefore described.

HARRISON G. WILLIAMS.

Witnesses:

F. A. BURGESS,
GEO. WHEATON.