

S. MOCK.

Automatic Clearer for Spinning-Mules.

No. 217,293.

Patented July 8, 1879.

FIG.1

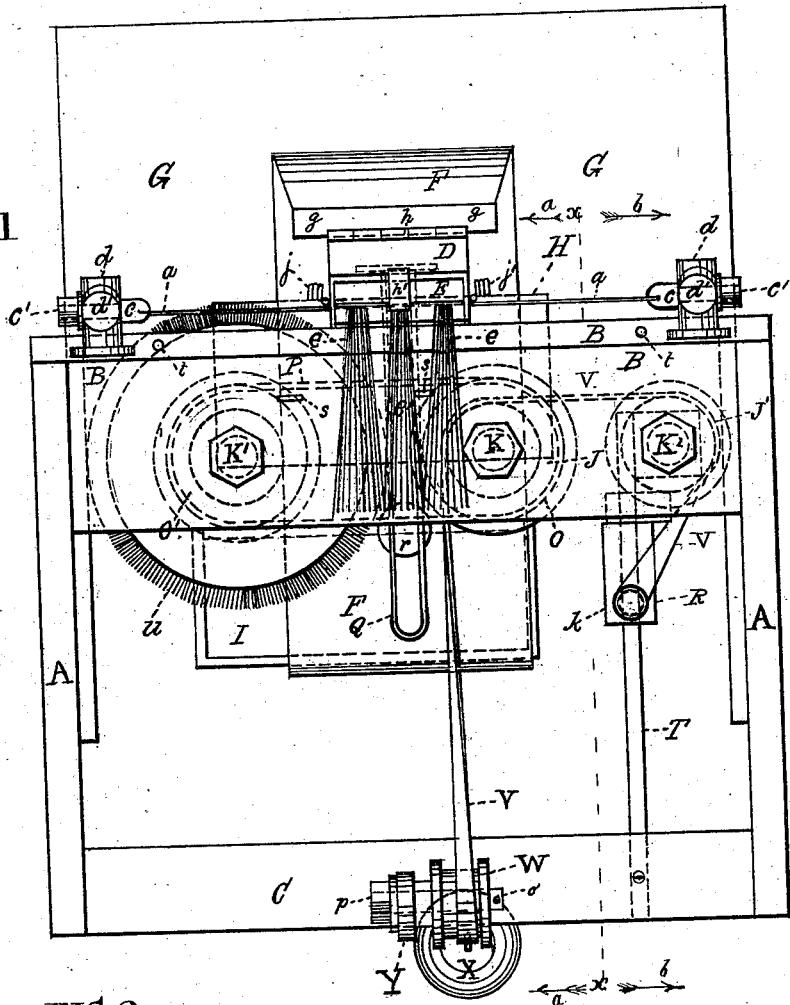


FIG.2

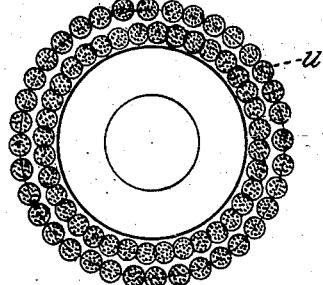
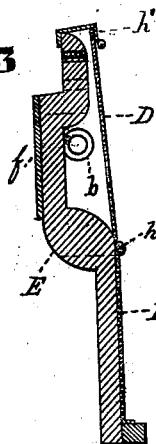


FIG.3



Inventor.

Severin Mock

per Stephan Utick att

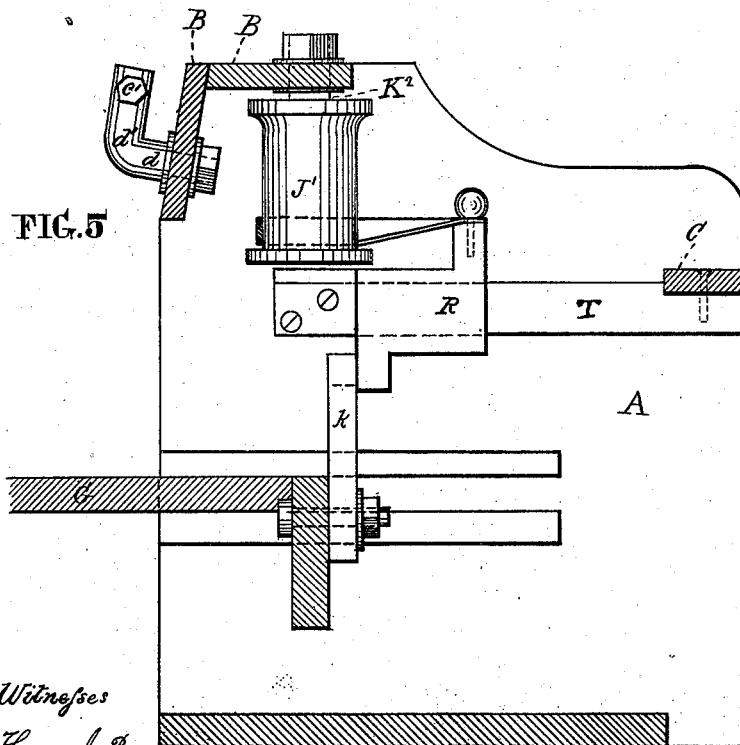
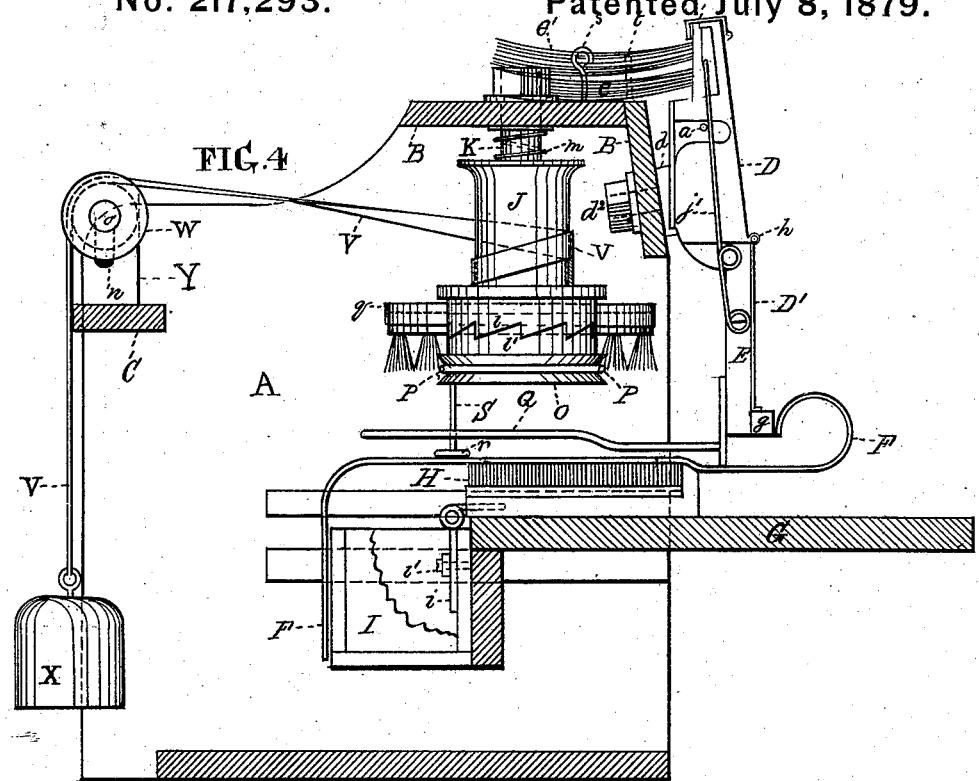
Witnesses

Thomas J. Bewley

Curtis G. Stedman

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Witnesses

Thomas J. Beatty  
Curtis & Stockwell

Inventor

Severin Mock  
by Stephen Ulrich, attorney

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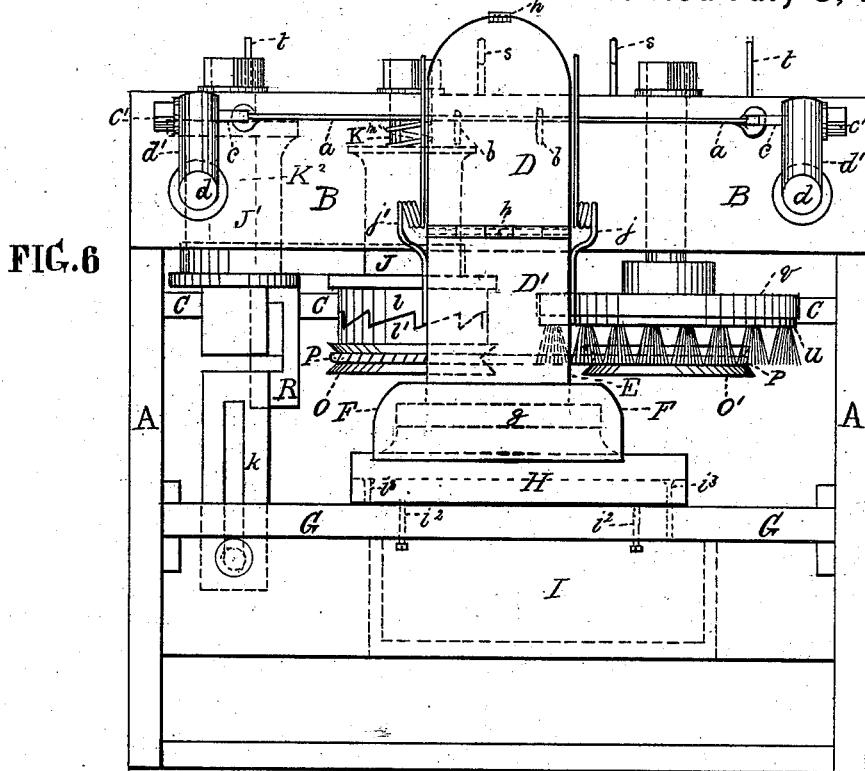
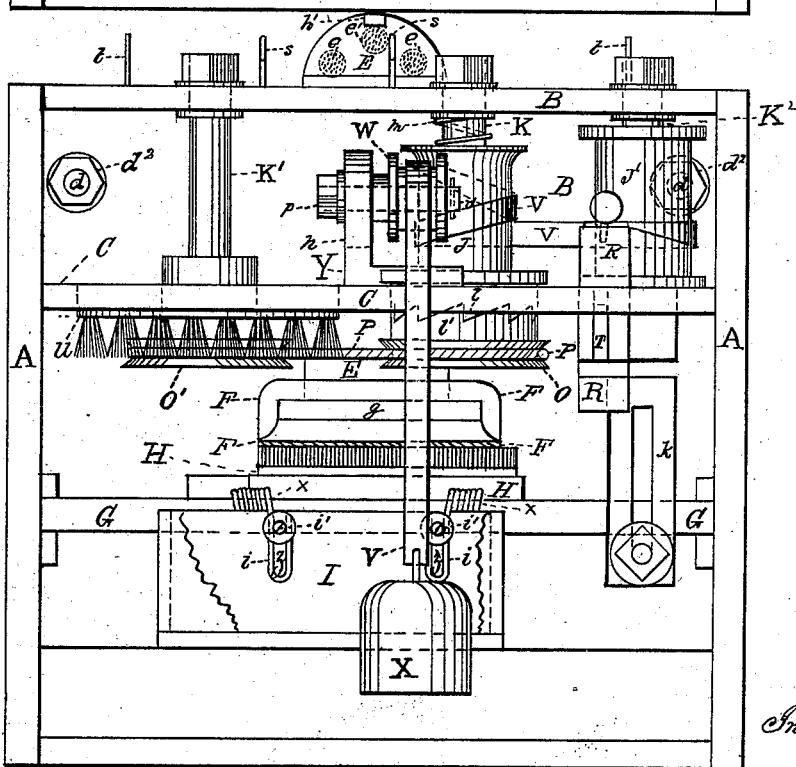


FIG. 7



*Witnesses.*

Thomas J. Bewley  
Curtis G. Stoeckart

### *Inventor*

Severino Mock  
per Stephen Ulrich attorney

# UNITED STATES PATENT OFFICE.

SEVERIN MOCK, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN AUTOMATIC CLEARERS FOR SPINNING-MULES.

Specification forming part of Letters Patent No. **217,293**, dated July 8, 1879; application filed December 30, 1878.

*To all whom it may concern:*

Be it known that I, SEVERIN MOCK, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Automatic Clearers for Spinning-Mules, of which the following is a specification.

This invention is an improvement on those for which Letters Patent were granted to me on the 29th day of December, 1874, and the 12th day of November, 1878, and numbered, respectively, 158,218 and 209,912; and the principal features of the invention are as follows:

For giving a reciprocating movement, from end to end of the mule, of the brush-slide for clearing the roller-beam, I combine with said slide and the carriage-board an intermediate slide and other intermediate mechanism, as hereinafter fully described; also, the devices for clearing the longitudinal wire which supports the brush-slide, consisting of the wire springs, which press slightly upon the longitudinal wire upon which the brush-slide has its reciprocating movements, and clear off the fly therefrom in the forward and backward movements of the slide.

In the accompanying drawings, Figure 1 is a plan view of the frame of a spinning-mule having my improvements. The width and height of the frame in the drawings are greatly enlarged in proportion to the length, in order to give a clear understanding of the construction and operation of the machine. Fig. 2 is a bottom view of the brush *u*. Fig. 3 is a vertical section of the brush-slide *E*. Fig. 4, Sheet No. 2, is a vertical section of the machine at the broken line *xx* of Fig. 1, looking in the direction of the arrows *a*. Fig. 5 is a like section, looking in the direction of the arrows *b*. Fig. 6 is a front elevation of the machine. Fig. 7 is a rear elevation of the same.

Like letters in all the figures indicate the same parts.

*A* represents the frame of a spinning-mule, having the ordinary roller-beam *B* and reel-board *C*. *E* is a reciprocating brush-slide, which connects with the longitudinal wire *a* by means of the eyebolts *b* *b*, which project from the front of said slide. The ends of the

wire are connected with the heads of the eyebolts *c* *c*, which are passed through the upward projections *d* *d* of the bolts *d* *d*, which are connected with the front board of the roller-beam and secured thereto by means of the nuts *d* *d* on the inside of said board. The wire *a* is drawn tight by means of the nuts *c* *c* of the eyebolts *c* *c*.

The upper end of the brush-slide *E* is provided with tufts of bristles *e* *e* for clearing the fly from the top of the roller-beam, and the tuft *e* for clearing it from the stirrups *s* and steel roller-stands as the slide is moved from end to end of the machine.

In consequence of the nuts *d* *d* of the bolts *d* *d* coming beneath the top board of the beam, in some mules the tufts *e* *e* would not be raised high enough to clear the top of the beam if the longitudinal wire *a* should be in line with the center of the bolts *d* *d*, with which said wire is connected. To avoid this difficulty these bolts have upward projections *d* *d* for connecting eyebolts *c* *c*, as above described.

The inner side of the brush-slide *E* is provided with a strip, *f*, of felt or other suitable material, for clearing the fly from the front of the roller-beam *B*. In practice I have discovered that a single strip operates better than two strips, as it is sufficient to clear the front of the beam, and the fly falls freely when brushed off by a single strip; but when two are used it is liable to be jammed between them.

There are wire springs *j* *j* connected with the vertical edges of the slide, which press gently upon the longitudinal wire *a* to clear the fly therefrom, the spring *j* clearing it when moving from left to right, and the spring *j* clearing it when moving from right to left.

To prevent the fly accumulation upon the front and edges of the brush-slide, the latter is provided with a sheet-metal cover, *D* and *D'*. The lower part, *D'*, is permanently connected with said slide; but, in order to uncover the upper part of said slide when it is necessary to get at its attachments, the upper part, *D*, is connected to it by means of the hinge *h* and the hinged clasp *h'*. I do not, however, confine myself to this mode, as other modes will answer the purpose.

The blanket-apron *F*, for clearing the fly from the carriage-board *G* as the latter passes un-

der it, is attached at one end to the strip *g* on the lower end of the brush-slide *E*.

*H* is a card attached to the carriage-board, for clearing the fly from the apron as the carriage comes in; and as the carriage goes out the fly is deposited in the box *I*.

The combination of the apron with the brush-slide and carriage is the same as shown in my Patent No. 209,912, and likewise the card *H*, with the difference that in the present case the card is adjustable in height by means of the holders *i* and set-screws *i' i'*. The holders have a slot, *z*, for their adjustment, through which a screw is passed into the front of the box *I*, as seen in Fig. 4. They are made of wire, as represented, and coiled at the point *x*, to give an easy spring to the card. The screws *i' i'* pass through the carriage-board, as seen in Fig. 6, to support the card at its front edge. Screws *i' i'* may pass through the card-board into the carriage-board, if found necessary, for holding the card at its front edge upon the screws *i' i'*.

The drum *J* on the shaft *K*, the pulley *O* on said shaft, and the pulley *O'* on the shaft *K'*, band *P*, which encircles said pulleys, and the link *S* are combined with the reciprocating brush-slide *E*, having an arm, *Q*, as in my Patent No. 209,912, above mentioned; but the motion given to the drum *J* is accomplished in another manner, as follows: *R* is a slide on the horizontal rod *T*, which is at one end of the machine. On this rod the slide has a reciprocating movement. *V* is a belt, which is wrapped around the drum *J*, and has one end passed over the drum *J'* on the stud-shaft *K'*, and connected with said slide, as seen in Figs. 1, 5, and 7. The other end of said belt is passed over the pulley *W*, and is provided with the weight *X*, whereby the belt is kept tight upon the drum *J*. As the carriage-board *G* comes to the front of the mule the upright *k*, attached to its front edge, bears against the above-mentioned slide *R* and moves it toward the rear of the mule, and the pulling of the belt *V* by the slide causes the drum *J* to revolve to give motion to the brush-slide *E* through the intermediate mechanism above described.

In the outward movement of the carriage, as the slide *R* is relieved of the pressure against it, it is drawn toward the front of the machine ready for the next operation by the ac-

tion of the weight *X* upon the belt *V*. In this movement the drum *J* is moved in the reverse direction, and the clutch-teeth *l* of its hub slide freely up the inclines of the similar teeth *l'* of the pulley *O*, the spring *m*, between the upper end of the drum and the top board of the roller-beam, yielding to the upward pressure of the drum.

I make the pulley *W* adjustable in height to suit the height of the belt *V* by means of the vertical slot *n* in the pedestal *Y*, through which the pin *o* of the pulley is passed and held firmly by means of the nut *p*.

To prevent the fly accumulating on the upper side of the brush *u*, on the shaft *K'*, I connect the cap *q* with the stock, as shown in Figs. 4 and 6, the smooth surface of the cap, which I make of sheet metal, or other suitable material, causing the fly to slide from the cap as the brush revolves.

Instead of making the brush of a single annular row of tufts of bristles to bend over the band *P*, as in my Patent No. 209,912, I have any desirable number of rows of short bristles, which slightly touch the band *P* to clear off the fly.

I make the head *r* of the link *S* of lead or other soft metal, to cause it to slide easily against the lower side of the arm *Q* of the slide *E*, and to cause but little wear of the same.

I claim as my invention—

1. The slide *R*, in combination with the bar *T*, brush-slide *E*, and carriage-board *G*, for giving a reciprocating movement to said brush-slide through suitable intermediate devices, all substantially as set forth.

2. The combination of the slide *R* and belt *V*, having a weight, *X*, with the carriage-board *G*, drums *J* and *J'*, pulleys *O* and *O'*, band *P*, link *S*, and brush-slide *E*, having an arm, *Q*, for giving a reciprocating movement to said brush-slide, substantially as set forth.

3. The wire springs *j* and *j'*, in combination with the brush-slide *E* and longitudinal wire *a*, for clearing the fly from the latter, substantially as set forth.

SEVERIN MOCK.

Witnesses:

THOMAS J. BEWLEY,  
STEPHEN USTICK.