

(No Model.)

E. E. PIPER & G. H. DAVIS.
CURTAIN HOLDING DEVICE.

No. 515,924.

Patented Mar. 6, 1894.

Fig. 1.

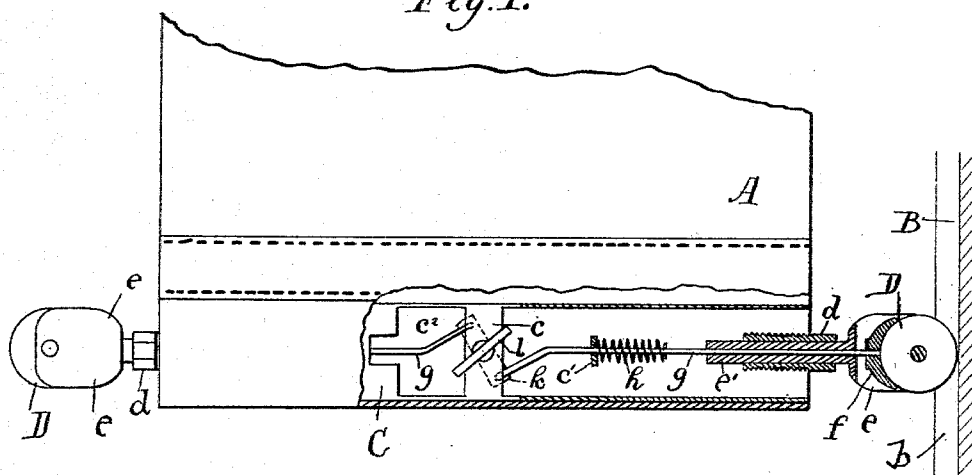
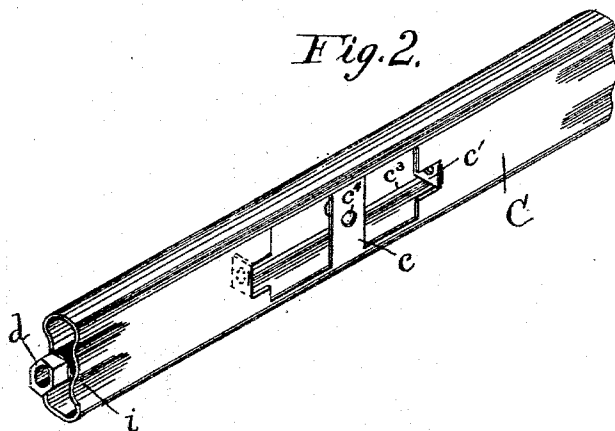


Fig. 2.



Witnesses
Chas. H. Mosley
W. B. Rotten

Inventors
Edward E. Piper
George H. Davis
by J. W. Bates
Their atty.

UNITED STATES PATENT OFFICE.

EDWARD E. PIPER AND GEORGE H. DAVIS, OF PORTLAND, MAINE.

CURTAIN-HOLDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 515,924, dated March 6, 1894.

Application filed May 1, 1893. Serial No. 472,479. (No model.)

To all whom it may concern:

Be it known that we, EDWARD E. PIPER and GEORGE H. DAVIS, citizens of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented a certain new and useful Improvement in Curtain-Holding Devices; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to a curtain holding device and it has particular application to improvements on the invention covered by Letters Patent No. 491,588, issued to us February 14, 1893.

In our curtain holding device as already patented we make use of a hollow stick or tube secured to the lower end of the curtain and it is very desirable that this tube be made flat approaching the form of the ordinary curtain stick, the reason for this being obvious. This hollow tube contains a spindle extending from the center through each end and on the outer end of each spindle is a head containing a friction device which is pressed normally against the casing of the window by means of a spiral spring surrounding the spindle within the tube. A button or cam is pivoted in the center of the tube and is connected with the inner ends of the spindles for the purpose of retracting them against the force of the spring.

One of the difficulties which we had to encounter in constructing our device with a flat tube, was to find a cheap and practical way of supporting the spindle when it passed through the end of the tube. It was also found desirable to provide for extending the length of the tube to fit the variations in the width of the windows and to furnish a shoulder against which the head on the outer end of the spindle could strike when it was retracted, to the end that it could not be pulled back far enough to leave the groove. We remedied these two difficulties by inserting a bushing in the end of the flat tube, the sides of the tube being bent in to conform to its surface and to form a bearing for it. This bushing constitutes a support for the spindle and it is so constructed that it can be moved lengthwise and secured in place and we prefer for

this purpose to cut on it a screw thread and to cut a corresponding thread in the end of the tube. The tube we make of a piece of sheet metal bent or folded to form a flat tube and on one side it is cut away each side of the center to give access to the interior for connecting the ends of the spindles with the mechanism which retracts them. A web is left at the center to form a bearing for the pivot which turns the cam or button and a portion of the metal at the outer ends of the openings is turned inward to form rests for the ends of the spiral springs and supports for the spindles.

We illustrate our invention by means of the accompanying drawings, in which—

Figure 1 is a front view with a portion in section, and Fig. 2 is a perspective of the hollow tube or stick.

A represents the lower end of the curtain to which our device is applied and B is the casing which is provided with a groove *b* in which runs the friction wheel D. *g* is the spindle, on the outer end of which is the brake *f*. *e* is the head to which the wheel D is pivoted and *e'* is the tube to the end of which the head *e* is secured, *h* being the spiral spring surrounding the spindle and pressing it outward. The parts so far mentioned are common to our original device and we will now describe those parts which embody our present invention.

C is a flat tube made of a sheet of metal, preferably steel and bent or folded into the form shown, with an abutting joint at *c*³, as here shown. In order to get access to the inner ends of the spindles we cut away a portion of the metal on one side of the tube at each side of the center leaving a web *c* in which is made an aperture *c*⁴ for the pivot of the cam or button *k* to which the inner ends of the spindles are pivoted. At the outer end of the opening *c*³ formed on each side of the web *c*, a portion of the metal is bent or turned inward and perforated to allow the spindle to pass and to provide a rest or stop *c'* for one end of the spiral spring *h*. The cutting out of these two openings and the turning in of the rest *c'* we are enabled to do before the tube is formed or bent and while the metal is in the form of a sheet, thus making the tube an economical one to manufacture. The tube

e' and the spindle are supported when they pass from the end of the stick or tube *C* by means of a tubular bushing *d* which we prefer to make screw-threaded with a nut on its outer end. The sides of the tube *C* are compressed around the bushing to form a bearing for it and a thread is cut in the end of the tube to correspond with that of the bushing so that the latter can be screwed in and out to any desired position. It will be seen that the bushing *d* provides a stop or shoulder to limit the distance to which the head *e* may be withdrawn and by turning it to the proper position the wheel may be kept always within the groove *b*. The support for the bushing formed by bending in the sides of the tube is a solid one and it can be cheaply formed by the use of suitable dies. The bushing may be also supported at any position in the end either centrally or at the top or bottom.

i represents the thumb piece by which the cam or button *k* is turned.

The operation of my holding device is similar to that shown in our original patent. The spring presses the brake normally against the wheel and forces the wheel against the casing, the tube *e* being free to move in either direction. When the button *k* is turned by the thumb piece *l* the spindles are retracted and the wheel allowed to roll on the casing as the curtain moves up and down.

We claim—

1. A hollow curtain stick for curtain hold-

ing devices, having a spindle extending from the center to each of the ends, a spiral spring surrounding each of said spindles for forcing the same outward, said curtain stick being composed of a sheet of metal bent or folded to form a flat tube, a portion of one side of said tube being cut away on each side of the center leaving a central bar or web, a portion of the metal at the outer ends of each of the openings so formed being turned inward to form a rest or bearing for said spring and provided with an aperture to admit the passage of said spindle, substantially as described.

2. In a curtain holding device, a hollow tube, a spindle extending from the center to each end thereof and means for forcing said spindle outward and for retracting it, the outer ends of each of said spindles being provided with a head containing a clamping or retaining device for acting on the casing, a bushing inserted in the end of the tube and having a central opening for forming a bearing for said spindle and means for securing said bushing lengthwise in any desired position whereby the length of said tube may be regulated, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWARD E. PIPER.
GEORGE H. DAVIS.

Witnesses:

S. W. BATES,
HELEN N. BATES.