May 19, 1925. 1,538,545

P. G. EMERY

RELEASING HANDLE FOR VESTIBULE CURTAINS

Filed Jan. 25, 1924

Fig. 1.

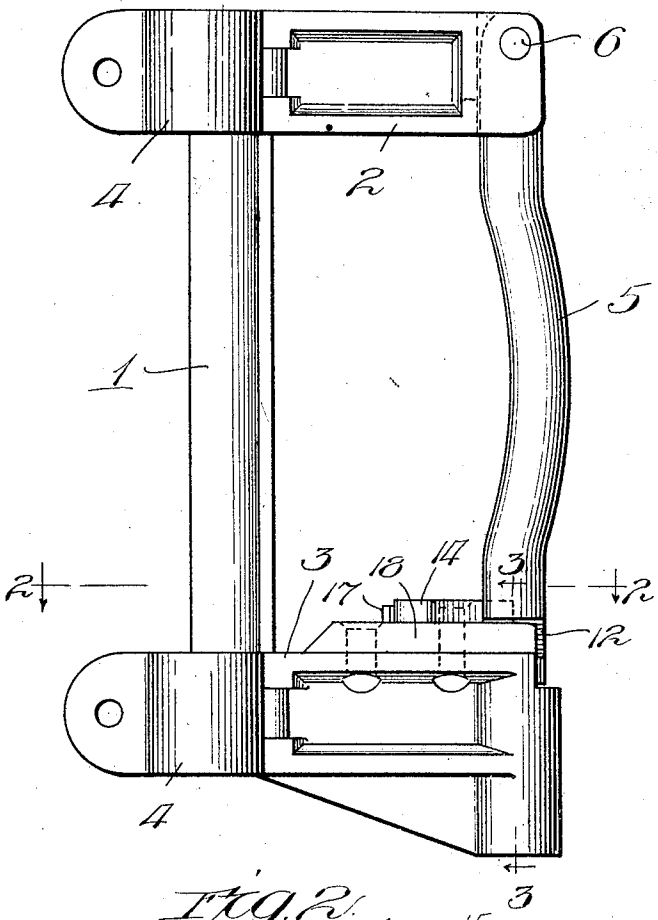


Fig. 3.

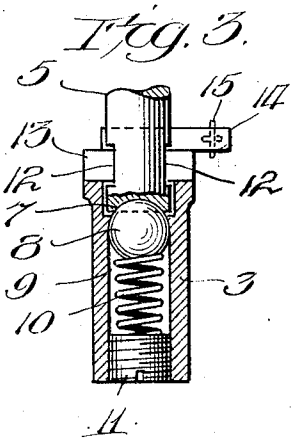
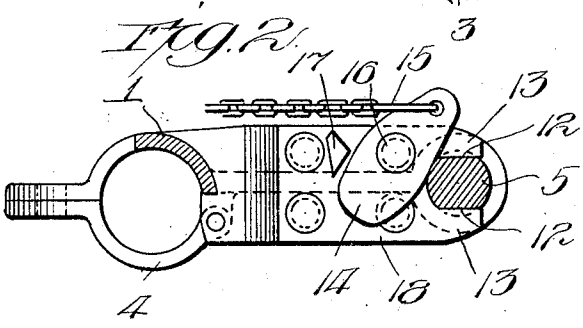


Fig. 2.



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Patented May 19, 1925. 1,538,545

UNITED STATES PATENT OFFICE.

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RELEASING HANDLE FOR VESTIBULE CURTAINS.

Application filed January 25, 1924. Serial No. 688,416.

To all whom it may concern:

Be it known that I, PLATO G. EMERY, a citizen of the United States, residing in the city of Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Releasing Handles for Vestibule Curtains, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, which forms a part of this specification.

The present invention relates to handles for automatically releasing the vestibule guard curtains of railway cars separated from each other sufficiently to endanger the safety of the curtains; particularly handles of the type in which there is a movable finger, bail, or other hook-engaging element that is held in its normal working position by spring means whose resistance must be overcome in order to release the handle. On various railways, and under differing conditions, the resistance that must be overcome to release the handle, or in other words, the pull which shall be effective to release the handle varies considerably. One of the objects of the present invention is, therefore, to produce a simple and novel yielding holding device for the movable element for the handle of the character described, which may readily be set or adjusted to cause the handle automatically to release when any desired pull is exerted.

The nature and use of these release handles are such that the handles are comparatively light and frail and, if they are roughly used by trainmen or shopmen, they may become distorted and release under a lesser or greater pull than that which is intended. A further object of the present invention is to produce a simple and novel construction and arrangement whereby, when the movable or release member of the handle is brought into its working position, it will compensate for any small distortion or bending of parts of the handle which would otherwise affect the adjustment of the catch device, whereby the handle will always be enabled to release when a predetermined pull is exerted thereon. A further object of the present invention is to produce a simple and novel tripping device, operated by a chain or other member for releasing a handle of the character above specified, without depending on the curtain to exert a sufficient pull to detach the handle from the hook with which it is engaged.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein:

Figure 1 is a side elevation of a handle arranged in accordance with a preferred form of my invention; Fig. 2 is a section taken approximately on line 2—2 of Fig. 1; and Fig. 3 is a section taken approximately on line 3—3 of Fig. 1.

Referring to the drawing, it will be seen that the body of the handle comprises a U-shaped member consisting of a vertical piece 1 and short horizontal arms 2 and 3 projecting in the same direction from opposite ends of the member 1. These parts, together with the clamp device 4 for attaching the handle to the curtain-stick or rod, may be of any usual or suitable construction. The space between the free end of the arms is bridged by a bar 5 hinged at one end, as indicated at 6, to the arm 2. In the free end of the bar 5 is a depression or seat 7 that is adapted to fit over a yieldingly-held plunger which conveniently takes the form of a ball 8 loosely arranged in and projecting out of the top of a vertical socket 9 in the arm 3. The ball is supported and yieldingly held in its working position by a spring 10 underneath the same. The spring rests on a plug 11 screwed into the lower end of the socket 9 so that, by adjusting the plug, the degree of compression of the spring may be varied. Therefore, since the lower end of the bar can be released from its working position in which its lower end fits over the upper portion of the ball only by pressing the ball down against the resistance of its supporting spring, and since the resistance of the spring may be varied, the handle may be adjusted so as to release when the pull thereon reaches any desired predetermined maximum.

If the body of the handle or the bar 5 should become bent or distorted somewhat, but not enough to prevent the swinging bar from swinging into its working position, it might happen that the ball could exert only a very slight holding influence and, upon

putting the handle into service, it would release under conditions requiring no release. To avoid this I form in the sides of the swinging bar 5, near its free end, notches 12, 12 that are adapted to receive the prongs 13 of a fork forming part of the arm 3; these prongs lying on opposite sides of a vertical plane containing the center of the ball and at a short distance above the ball. The result is that if there happens to be any distortion which will interfere with the proper engagement of the free end of the bar 5 with the ball, the forcing of the prongs of the fork into the notches, during the operation of swinging the bar into its working position, will bring about a counter-distortion such that the ball and the bar will be properly engaged with each other.

In case it is desired to release the handle by a pull exerted through a chain or other element than the curtain itself, this may conveniently be accomplished by mounting on the arm 3 a cam or lever 14 attached to one end of a chain 15 or other flexible device which will not interfere with the rolling up and unrolling of the curtain, but will come into play to operate the member 14 to disengage the free end of the bar 5 from the arm 3 whenever the curtain has been unwound to a predetermined degree. In the arrangement shown, the member 14 is a simple flat dog pivoted between its ends, as indicated at 16, to the arm 3; the operating chain being connected to one end, and the other end being made cam-shape or eccentric for engaging with the bar 5 and gradually forcing the lower end thereof outwardly when the dog is turned. If desired, a stop or projection 17 may be located on the upper side of the arm 3 in rear of the dog, to limit the swinging movement of the latter.

The fork 13 is shown as forming part of a plate 18 riveted upon the arm 3, the dog 14 being also mounted on this plate. While this is a convenient arrangement, for manufacturing purposes, my invention is of course not limited to this particular detail.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be limited to the exact details thus illustrated and described; but intend to cover all forms and arrangements that come within the definitions of my invention constituting the appended claims.

I claim:

1. A device of the character described, comprising a U-shaped body member, a bar hinged to the free end of one of the arms of said member and having in its free end a seat, the other arm of said member having a socket opening out of the top thereof, a spring in said socket, a catch element resting on said spring and projecting out of the socket to engage in said seat in said bar, and means for adjusting said spring to vary the pressure on said element.

2. A device of the character described, comprising a U-shaped body member, a bar hinged to the free end of one of the arms of said member and having in its free end a seat, the other arm of said member having a socket opening out of the top thereof, a spring in said socket, a catch element resting on said spring and projecting out of the socket to engage in said seat in said bar, and a support for the lower end of the spring adjustable lengthwise of said socket to vary the initial compression of the spring.

3. A device of the character described, comprising a U-shaped body member, a bar hinged to the free end of one of the arms of said member and having in its free end a seat, the other arm of said member having a socket opening out of the top thereof, a spring in said socket, a catch element resting on said spring and projecting out of the socket to engage in said seat in said bar, and a dog movably mounted on said member adjacent to said socket for engaging with said bar near the free end of the latter and forcing it laterally out of engagement with said catch element.

4. In combination, a handle comprising a body member and a bar hinged at one end to said body member, said bar having in the free end a seat, said body member having a socket aligned with said bar when the latter is in its working position, a ball arranged in said socket and adapted to project therefrom into the seat in said bar, and a spring in the socket below said ball.

5. In combination, a handle comprising a body member and a bar hinged at one end to said body member, said bar having in the free end a seat, said body member having a socket aligned with said bar when the latter is in its working position, a ball arranged in said socket and adapted to project therefrom into the seat in said bar, a spring in the socket below said ball, and a support for said spring adjustably screwed into said socket below the spring.

6. In combination, a handle comprising a body member and a bar hinged at one end to said body member, means for detachably holding the free end of said bar to said body member in the working position of the bar, and said bar and member having shoulders adapted to engage with each other when the bar is swung into its working position and cause the free end of the bar always to assume the same relation to said holding means regardless of slight distortions of the handle.

7. In combination, a handle comprising a body member and a bar hinged at one end to said body member, said bar having a seat in its free end, said body member having a

socket aligned with said bar when the latter is in its working position and adjacent to the free end of the bar, a ball mounted in said socket and yieldingly held projecting beyond the socket in position to engage with said seat in the bar, and said bar and said body member having shoulders adapted to engage with each other when the bar is swung into its working position, in order always to maintain the same relation between the free end of the bar and said ball when the bar is in its working position.

8. In combination, a handle comprising a body member and a bar hinged at one end to said body member, said bar having a seat in its free end, said body member having a socket aligned with said bar when the latter is in its working position and adjacent to the free end of the bar, a ball mounted in said socket and yieldingly held projecting beyond the socket in position to engage with said seat in the bar, a two-pronged fork on said member lying near to and having its prongs lying on opposite sides of said ball, and said bar having in the sides thereof near its free end notches adapted to receive said prongs.

In testimony whereof, I sign this specification.

PLATO G. EMERY.