To all whom it may concern:

Be it known that we, EMIL A. STROMBERG and KNUTE E. BOBERG, citizens of the United States, and residents of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in an Automatic Curtain Roller; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to an automatic curtain roller and particularly to a curtain roller which is adapted to be employed to roll the storm curtains of vehicles automatically thereon and to be folded out of the way with the curtains thereon when the same are not in use. Difficulties have heretofore been experienced in the storing of the storm curtains for the reason that if the same were placed under the seat of the vehicle they became quickly worn out and access thereto became difficult and often caused annoyance to the passengers in the vehicle.

The fact that it is necessary in such cases to fold the curtains has also proven objectionable, on account of the time required to properly fold the curtains and also on account of the fact that the same became quickly worn on the lines along which they are folded.

It is an object, therefore, of the present invention to provide means upon which vehicle curtains may be rolled when not in use, said means being adapted to be secured in the top of the vehicle out of the way of the occupants thereof.

It is another object of this invention to provide automatic spring actuated curtain rollers adapted to receive the vehicle storm curtains rolled thereon.

It is also an object of this invention to provide pivotally mounted automatic spring actuated curtain rollers adapted to receive vehicle curtains rolled thereon and to be swung and locked out of operative position when the curtains are not in use.

It is an important object of this invention to provide a swingingly mounted means adapted to have vehicle curtains detachably secured thereto and adapted to be rolled thereon and to be swung and locked out of operative position.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawings.

The invention (in a preferred form) is shown on the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a side elevation of a motor vehicle equipped with the improved curtain rollers of this invention.

Figure 2 is a slightly enlarged fragmentary section on the line 2—2 of Figure 1.

Figure 3 is an elevation of the curtain roller.

Figure 4 is a vertical longitudinal section of the curtain roller showing the swinging connection thereon.

Figure 5 is an end elevation showing the curtain roller with the storm curtains rolled thereon.

Figure 6 is an enlarged fragmentary section on the line 6—6 of Figure 4.

Figure 7 is a slightly enlarged section showing the curtain roller pawl and ratchet mechanism in elevation.

Figure 8 is an enlarged fragmentary section on the line 8—8 of Figure 7.

Figure 9 is a slightly enlarged fragmentary section on the line 9—9 of Figure 8.

As shown on the drawings:

The device of this invention is adapted to be secured inside the top 1 of a motor vehicle 2 and is adapted to have rolled thereon storm curtains 3, which are secured to said top 1 and to the body of said vehicle 2 by means of snap buttons in a usual and well-known manner. Said devices comprise a roller 4, which is preferably constructed of metal and which is provided with an axial rod 5 extending longitudinally and projecting from the end thereof. Said rod 5 is rotatably mounted in a plate 6, which is secured in one end of the tube 4 and secured to the opposite end of said rod 5 is a plate 7 which is rotatable in the tube 4 and which is provided with a plurality of grooves 8, adapted to be engaged by a gravity pawl 9 pivotally mounted on the inside of the roller 4, as clearly shown in Figures 4 and 8.

Surrounding the rod 5 and having an
end secured thereto adjacent the plate 7 is a coil spring 10, which has its other end secured to the inner face of the plate 6 by means of staples 11, as clearly shown in figure 9. It is thus apparent that the roller 4 is provided with an automatic spring actuating construction whereby the same will be automatically rotated by the coil spring 10 to wind articles thereon upon the release of the gravity pawl 9 from the grooves in the plate 7.

This automatic rotation of the spring actuated roller 4 is utilized in the present invention to roll the storm curtains 3 thereon and in order that they may be conveniently and safely stored in an accessible position and not interfere with the occupants of the vehicle. For the purpose of attaching the curtains to the roller a plurality of snap fasteners 12 are provided and said snap fasteners are adapted to be engaged through apertures in the storm curtains which are ordinarily used in securing said curtains to the vehicle top. In order that the rollers 4 may be moved into a position where they will not interfere with the occupants of the vehicle, the same are pivotally mounted in the top thereof on plates 13 which are secured to the side portions of said top and on which are hinged brackets 14, having downwardly opening members 15 thereon and cylindrical transverse passages 16 therein, above said members and of greater diameter than the distance between the same. Engaged between said members 15 is a flattened portion 17 of the outer end of the rod 5, while a ball 18 on the end of said flattened portion is engaged in the cylindrical passage or recess 16. Pins or bolts 19 engaged through the portions 15 of the brackets 14 act to secure the flattened portion 17 of the rod 5 therein, and in order that the same may be conveniently removed from the bracket by the removal of one of said pins, the same are preferably provided with knurled heads 20 whereby they may be readily removed.

The connection just described makes possible the folding of the rollers 4 upwardly into the inside of the vehicle top 1 when the same are not in use, and in order that they may be secured in position in said top, brackets 21 are secured to the inner side of the central portion thereof and are adapted to receive the ends of the rods 5, which project outwardly beyond the plate 6 and thus support the same and the rollers 4 with the storm curtains 3 rolled thereon in position adjacent the inside of the top 1 of the vehicle. In order that said rollers 4 may be held in convenient position while the storm curtains 3 are being taken off or put on, brackets 22 may be provided if desired on the vehicle body, as shown in Figure 2, and said brackets 22 are adapted to be engaged by the end of the rod 5, which has been released from the bracket 21 to hold the rollers 4 in vertical position. This latter arrangement is shown in the lower right hand corner of Figure 2.

The operation is as follows:

When it is desired to remove the curtains 3 from the vehicle the rollers 4 are lowered into the position shown in Figure 2 and the ends of the curtains are unfastened from the side of the vehicle top 1 and are secured in position on the snap fasteners 12. The remainder of the snap fasteners securing the storm curtains to the vehicle top and to the body of the vehicle are disengaged and by subsequently pulling slightly on said curtains the gravity latch 9 is dislodged from its position in the grooves 8, and the spring 10 actuates the rollers 4 to wind the curtains 3 thereon.

After the curtains are wound on the roller, said roller is moved into a position where it will not be in the way of the passengers in the vehicle and the end thereof is secured in the bracket 21 in the inside of the top of the vehicle. The reverse of this process is repeated when it is desired to attach the curtains to the top and the vehicle body, and in cases where the vehicle is provided with the brackets 22 it is possible to fix the curtains entirely in position before removing the ends of the same from the snap fasteners 12 on the roller 4. Of course, when the curtains have been removed from the rollers and are placed in position on the vehicle, the rollers are again returned to their position inside the top 1 where they are supported by the brackets 21.

It is apparent from the foregoing description that this invention provides a convenient means for the storing of vehicle storm curtains when the same are not in use, and also an easily accessible means whereby they may be quickly and easily secured in position on the vehicle when needed. Due to the fact that the curtains are rolled, there is little likelihood of deterioration of the same due to creases, as is the case where the curtains are folded.

We are aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and we therefore do not purpose limiting the patent granted other wise than necessitated by the prior art.

We claim as our invention:

1. In combination, an automobile, curtains thereof, separable fasteners each composed of two cooperating parts, one part of each fastener being located on the automobile and the cooperating part being on a curtain, rollers, one for each curtain, each roller having thereon a set of parts of fasteners like the parts on the automobile and suitably
located along the roller to cooperate with the parts of fasteners on the curtain, and means for securing said rollers in position to support the curtain while it is being fastened in place on the automobile.

2. In combination, an automobile, curtains therefor, separable fasteners each composed of two cooperating parts, one part of each fastener being located on the automobile and the cooperating part being on a curtain, rollers, one for each curtain, each roller having thereon a set of parts of fasteners like the parts on the automobile and suitably located along the roller to cooperate with the parts of fasteners on the curtain, pivotal means for securing one end of each of said rollers, means to removably secure the free ends of the rollers to the vehicle body, said means cooperating with said pivotal means to secure said rollers in position to support the curtains while they are being fastened in place on the automobile, and means cooperating with said pivotal means for securing said rollers in a position away from said first-named position when desired.

In testimony whereof, we have hereunto subscribed our names in the presence of two subscribing witnesses.

EMIL A. STROMBERG.
KNUTE E. BOBERG.

Witnesses:
CARLTON HILL,
JAMES M. O'BRIEN.