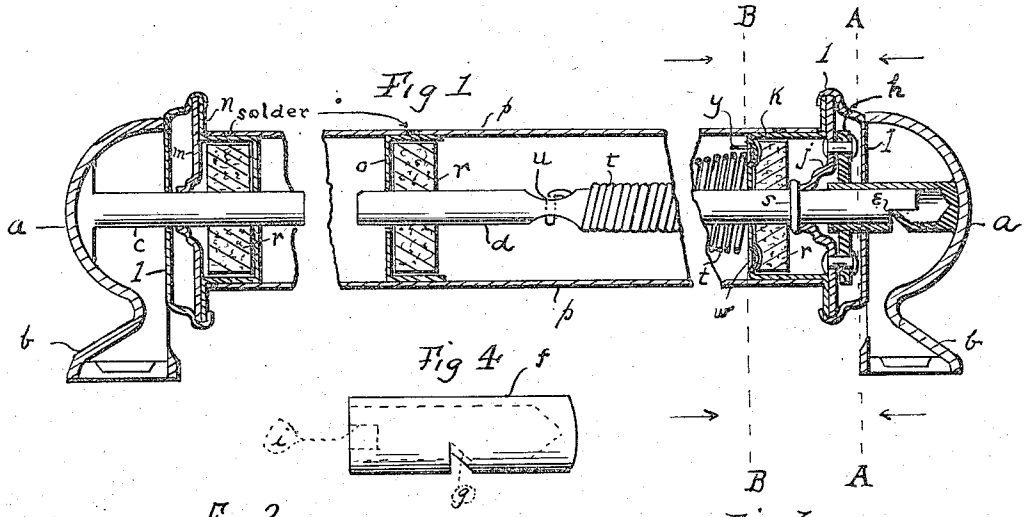
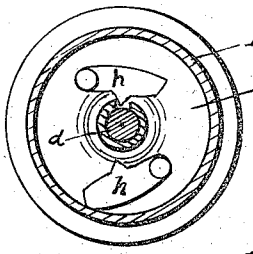
L. W. GATES.

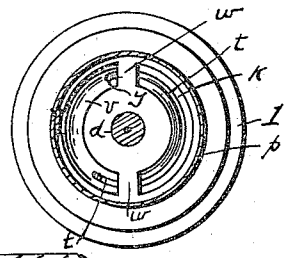
CURTAIN ROLLER.

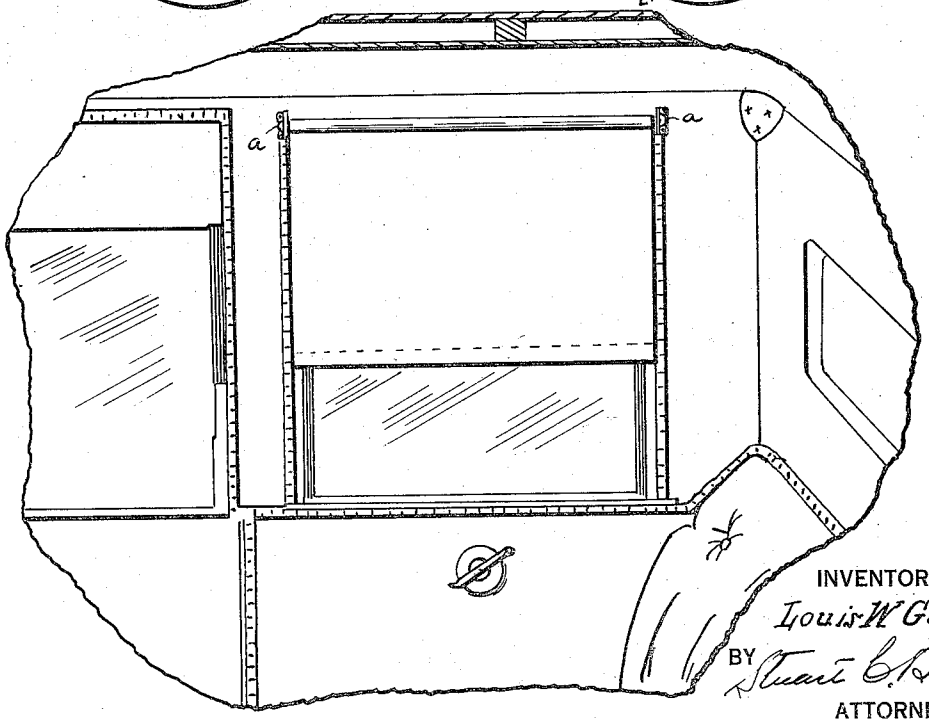
APPLICATION FILED MAR. 20, 1918.

1,277,902. Patented Sept. 3, 1918.









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CURTAIN-ROLLER.

1,277,902. Specification of Letters Patent. Patented Sept. 3, 1918.

Application filed March 20, 1918. Serial No. 223,486.

To all whom it may concern:

Be it known that I, LOUIS W. GATES, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Curtain-Rollers, of which the following is a specification.

This invention relates to curtain rollers, especially curtain rollers intended for closed automobile bodies. It has for its object a roller which can be constructed entirely of metal except for the felt washers and which is made almost completely of stamped parts.

One of the features of construction is the use of a two-part curtain rod. The curtain roller assembly may easily be disassembled by simply unscrewing one of the brackets and taking out the roller unit.

The parts are so designed as to lend themselves to stamping operations and the entire assembly is so arranged that after it has been put together it seldom, if ever, will require being taken apart other than by the separation of the two bracket and rod units, as will hereinafter be explained.

In the drawings,—

Figure 1 is a longitudinal section of the curtain roller.

Fig. 2 is a section on the line A—A of Fig. 1 with the bracket and ratchet portion turned through 90% so as to be in the usual position of service.

Fig. 3 is a section on the line B—B of Fig. 1.

Fig. 4 is an enlarged elevation of the rod socket on one of the brackets.

Fig. 5 is a fragmentary inside elevation of a closed automobile body showing the curtain roller in use.

A pair of nearly hemispherical curtain brackets *a*, *a* cast with suitable spreading bases *b* are used to support the curtain rod, which is a two-part rod having a short length *c* and a long length *d*. The short length *c* is provided with a head which may be soldered to the left-hand bracket, and the long length *d* has a shoulder *e* formed by a notch in its right hand end. This end of the long length rod *d* is held in a sleeve-like socket *f* (detailed in Fig. 4). This socket is provided with a struck-in lug *g* which engages with the shoulder *e* notched in the end of the long length *d* for the purpose of limiting the longitudinal movement of the rod and also for holding it in non-turning relation.

This socket *f* is soldered to the bracket *a* at the right hand side. It is provided with a notch *i* into which one of the gravity pawls *h* drops when the roller's turning is arrested in winding or unwinding. The noses of these pawls are such that if they ride rapidly over the ratchet-like end of the socket member they will not catch in the notch far enough to be effective, but if the action is hesitating one of them will catch in the notch and hold the curtain roller at this position of turning. These gravity pawls are carried on the pawl plate *j* which in connection with the outwardly turned flange of the roller hub *k* is pinched in by turning over the rim of the stamped end-caps *l*.

A plain plate *m* occupies the same position as the pawl plate at the opposite end of the curtain roller and is similarly pinched into the end cap by turning over the rim upon the plate *m* and the outwardly extending flange of the hub *n*. There is also a hub *o* at the center of the roller for supporting the same on the long rod length *d*. These hubs may be perforated and soldered or otherwise secured to the roller shell *p* which is simply a lapped or locked seam tubing. Contained within the inclosure of each of these hubs is a felt washer *r* which serves to make the roller noiseless.

An annular shoulder *s* is upset near the outer end of the long rod length *d* by dies and end thrusting of the rod and this serves to locate the whole assembly permanently upon its proper place upon the rod, for it will be seen that the pawl plate *j* is provided with a neck portion which abuts on the right hand side of the shoulder while there abuts on the left hand side of this shoulder the felt washer that is urged against it by the hub *k* that in turn is tied to the pawl by means of the turning over of the end cap *l*. It being understood that the other hubs are soldered or otherwise fastened to the roller tubing, and with a similar arrangement of plate and end cap at the opposite end of the tubing, it will be seen that the whole assembly is located upon the long length rod by means of this shoulder *s*.

The torsional spring *t* is wound about the rod length *d* which is swaged and punched at the point *u* to receive one end of the torsional spring *t*, while the opposite end of the torsional spring has its last whirl seated in

the mutilated annular groove *v* pressed in the end of the hub *k* and under the straps *w*, which are not carried down into the groove, the end *y* being turned up so as to form an abutment in connection with one of the straps *w*. Now obviously when the roller is turned away from one, looking at Fig. 1, the strap *w* will bear against the end *y* of the torsional spring and wind it up. When the roller is allowed to wind up the curtain, the torsional spring under the torsional strain will unwind, the end *y* bearing against the strap *w* and turn the roller in the winding up action.

From the above description it will be seen that the entire assembly consists simply of two brackets, one with a small rod length and the other with a long rod socket and a unit roller which is provided with a torsional spring that is put under strain when the curtain is unwound from the roller, and which recoiling from the strain when released causes the roller to wind up.

The two part rod construction enables the use of standard rod lengths no matter how the roller barrel varies within reasonable limits. This is a decided advantage in stocking up for manufacture. The rod itself is swaged and punched to avoid a longer and more expensive drilling operation to anchor the torsional spring. The shoulder *s* is upset by thrusting the rod substance endwise into suitable dies. It will be seen that nearly all the parts can be stamped out, cheapening and facilitating manufacture.

What I claim is:

1. A curtain holder, comprising a bracket provided with a short rod length, a bracket provided with a rod socket, and a roller unit comprising a long rod length adapted to be borne by the bracket with the rod socket, the opposite end of the roller being apertured for slipping over the short rod length on the bracket, said roller being provided with a spring motor, and a temporary restraining device.

2. A curtain holder, comprising three units, to-wit, a bracket provided with a permanently attached short rod length, a bracket provided with a rod socket, and a roller having a rod portion adapted to fit into the socket and the other end of the roller slipping over the short rod length.

3. A curtain holder, comprising a pair of brackets, one of which is provided with a rod length, the other of which is provided with a rod socket, and a roller provided with a spring motor and a temporary restraining device, said roller also having a rod length adapted to fit into the socket and having its opposite end arranged to fit over the rod length in the other bracket.

4. A curtain holder, comprising a pair of brackets, one of which is provided with a rod portion and the other of which is provided with a rod socket, and a roller having a torsional spring wound up by pulling the curtain down and serving as a motor to wind the roller up when the curtain is to be raised, and temporary restraining devices contained in the roller, the said roller being provided with a rod length fitting into the socket and having its opposite end arranged to slip over the rod length while attached to the bracket.

5. A curtain holder, comprising a pair of brackets, one of which is provided with a rod length, the other with a rod socket having its end fitted to serve as a ratchet, a roller provided with a torsional spring to act as a spring motor and having one or more pawls fitted on one end which are adapted to engage with the ratchet-like portion of the socket, said roller provided with a rod length adapted to fit into the socket and having the opposite end arranged to fit over the rod length attached to the bracket.

6. A curtain holder provided with a pair of brackets, one of which is provided with a rod socket having a struck-in portion, a roller provided with a rod length having a notched end adapted to engage with the struck-in portion of the rod socket to be held in non-turning relation, said roller being provided with a torsional spring, and one or more detent devices, said roller having its opposite end arranged to be rotatably supported by the other bracket.

7. A curtain holder, comprising a pair of brackets, and a roller unit having at opposite ends plates, hubs with out-turned ends, and cap ends having their rims turned over the plate edges and the hub edges to tie them together, the said roller unit being rotatably supported by said brackets.

8. A curtain holder, comprising a pair of brackets, one of which is provided with a rod socket, a roller unit comprising a tube, hubs and plates at opposite ends, and end caps adapted to fold over the plates and hubs to tie them together, the said roller unit being provided with a rod length adapted to fit in the rod socket and having an annular shoulder which in connection with one of the plates and one of the hubs permanently locates the rest of the roller unit with respect to the rod.

In witness whereof I have hereunto set my hand on the 15th day of March, 1918.

LOUIS W. GATES.