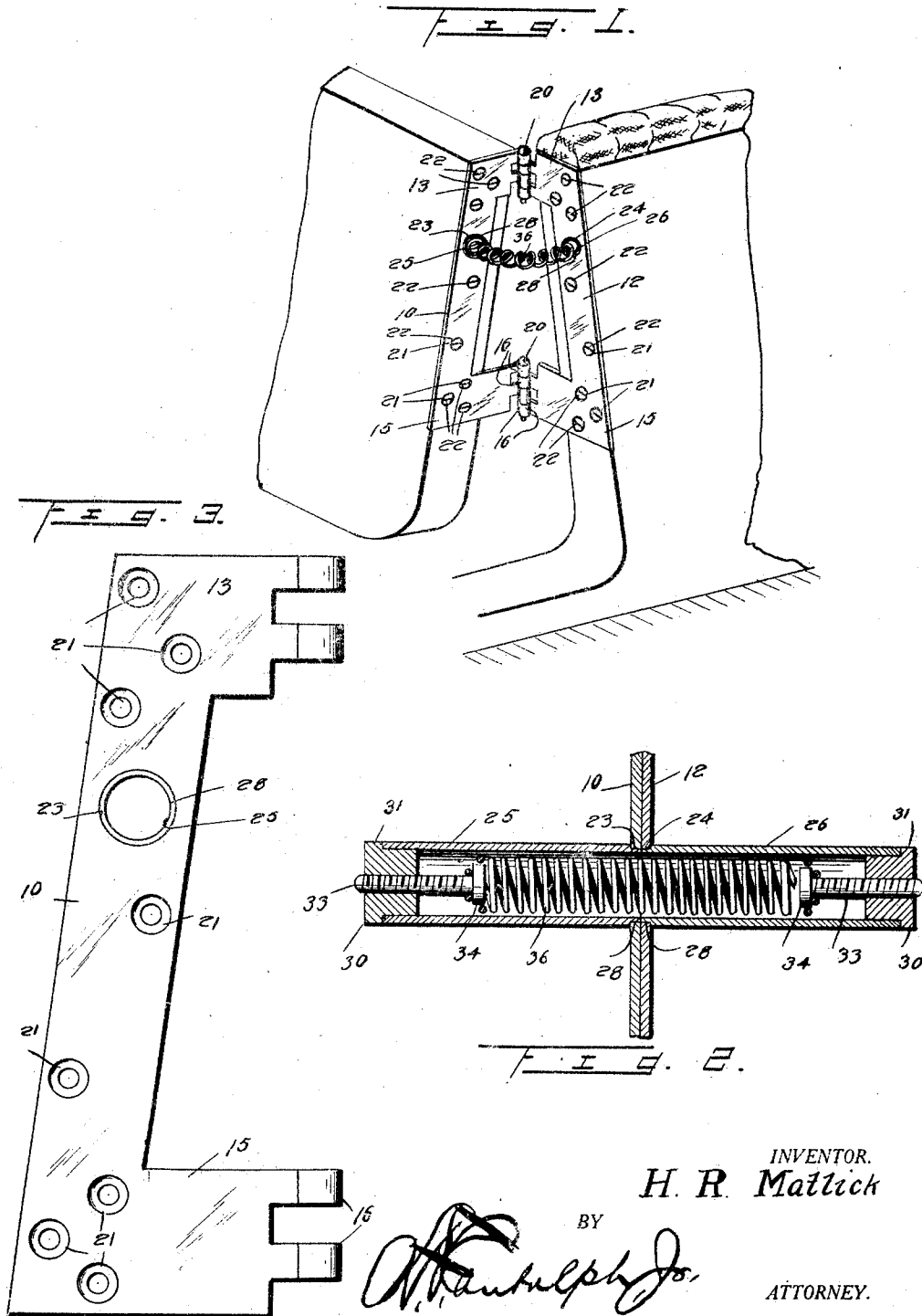


H. R. MATLICK,
AUTOMATIC DOOR CLOSING DEVICE.
APPLICATION FILED SEPT. 16, 1920.

1,367,414.

Patented Feb. 1, 1921.



UNITED STATES PATENT OFFICE.

HOBSON R. MATLICK, OF CUMBERLAND, MARYLAND.

AUTOMATIC DOOR-CLOSING DEVICE.

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Specification of Letters Patent.

Patented Feb. 1, 1921.

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To all whom it may concern:

Be it known that I, HOBSON R. MATLICK, a citizen of the United States, residing at Cumberland, in the county of Allegany and State of Maryland, have invented certain new and useful Improvements in Automatic Door-Closing Devices; and I 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.

This invention relates to an automatic door closing device, and the object is to provide an article of the type of a spring hinge, with certain important modifications, whereby it is especially adapted for application to the side doors of one or more well known types of motor cars.

A further object is to provide in connection with a pair of plate members, with means for hingedly connecting the latter,—a spring extending perpendicularly with reference to said members and with reference to the axis of rotation.

A still further object is to provide in connection with the construction above outlined, a tubular element extending perpendicularly with reference to each plate member and proportioned to receive the ends of the spring and permit of the free movement of the spring.

A still further object is to provide, in connection with a plurality of plate members hingedly connected,—a tubular member extending perpendicularly with reference to each of the elements first named, means for closing the outer ends of the tubular members, and a spring connected with said closing means, passing through the aforesaid tubes, and being freely movable within the tubes.

With the foregoing and other objects in view, the invention consists in the novel construction, combination, and arrangement of elements hereinafter described and claimed.

In the accompanying drawing:

Figure 1 is a perspective view of a door and the adjacent portion of the body of a motor vehicle, the door closing device being in position, and the door being partly open.

Fig. 2 is a vertical section through the tubular members.

Fig. 3 shows one of the plate members, constituting a leaf of the hinge, with the tubular element connected therewith.

In carrying out my invention I provide a plurality of plate members 10 and 12 each provided with an angular portion 13 at one end, having ears 14 formed thereon, and with an angular portion 15 at the opposite end having ears 16 extending therefrom. These ears are rolled in the manner illustrated and form knuckles for receiving the bolts or pintles 20. The plates 10 and 12 are drilled at several points, as indicated at 21, and the screws 22 are countersunk. The plates are also provided with larger apertures 23 and 24 respectively for the accommodation of the tubular members 25 and 26, these elements last named being connected with the members 10 and 12 by welding or forging.

The tubes just referred to are each provided with reduced ends 28 fitting into the apertures provided for the purpose. The outer ends of the tubes are closed by caps 30, each having a flange portion 31 formed thereon for engaging the extreme end of the tube to which it is applied.

Each cap is threaded internally and receives the threaded shank of the bolt 33 having a head 34 formed thereon. A spring 36 passes through both tubes, and the end coils of the spring are of reduced diameter, forming eye members for engagement by the head of the bolt, the engagement being such that the bolt will not turn when the spring is tensioned. The caps are rotatable in the smooth bore of the tube, and the spring is freely movable within the bore.

It will be observed that the tension of the spring may be varied by adjusting the nuts or caps 30, and the spring is of course normally under sufficient tension to close the door positively, without too violent action. By the use of the device all danger of injury to doors by reason of their being left open, is avoided, and other forms of accident due to the same cause are also prevented. Modifications in construction may be made within the scope of the appended claims.

Having thus described the invention, what I claim is:—

1. In a device of the class described, a plurality of plate members hingedly connected, each of said members being apertured, and the apertures registering, a tubular member connected with each plate member at the apertured portion thereof, a cap rotatably mounted in the outer end of each tubular member, a spring extending transversely

of the axis of rotation of the plate members, and having its ends projecting into the tubular members, and means adjustably connecting the ends of the spring with the caps.

- 5 2. In a device of the class described, a plurality of plate members hingedly connected, a tubular member extending outwardly from each plate member and being fixed with reference thereto, caps freely mounted in the
10 ends of the tubular members, a spring extending transversely of the axis about which the plate members are rotatable, the ends of

the spring projecting into the tubular members, and the outer ends of the spring each including a coil of reduced diameter, a bolt 15 threaded into each cap and including a head engaging the adjacent reduced portion of the spring.

In testimony whereof I affix my signature in presence of two witnesses.

HOBSON R. MATLICK.

Witnesses:

F. C. KERNS,
R. L. RICE.