

(No Model.)

# E. C. HOFFMAN. HINGE.

No. 588,642.

Patented Aug. 24, 1897.

FIG. 1.

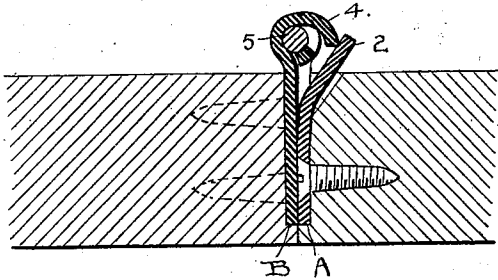


FIG. 2.

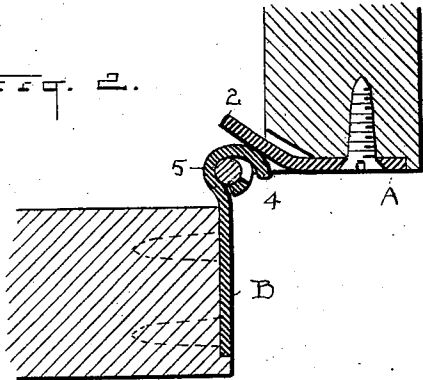
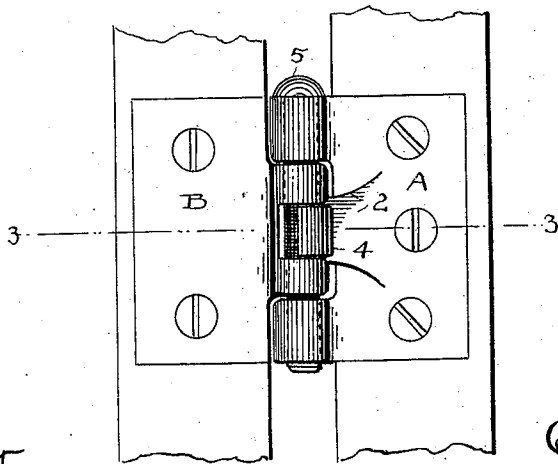


FIG. 3.



ATTEST

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ATTY

# UNITED STATES PATENT OFFICE.

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## HINGE.

SPECIFICATION forming part of Letters Patent No. 588,642, dated August 24, 1897.

Application filed February 26, 1897. Serial No. 625,108. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD C. HOFFMAN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Hinges; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to hinges for doors, gates, blinds, and other hinged and swinging objects wherein it is desirable, first, to have quiet from rattling or other noises occasioned by looseness in the hinges, and, secondly, to facilitate keeping the door, gate, or blind closed without the usual latches or other means of fastening.

My invention therefore consists in a hinge constructed substantially as shown and described, and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a cross-section of my improved hinge and sections of a door and its casing on a line corresponding substantially to 3 3, Fig. 3, and showing the hinge closed. Fig. 2 is a cross-section of the hinge and associated parts on the same line as Fig. 1, but showing the hinge half-way open. Fig. 3 is an elevation of sections of a door and casing and of the hinge with the door swung wide open, the same as looking inside in Fig. 1.

I have observed that in many places doors are found which are objectionable on account of the constant noises they are liable to make when more or less shaken—as, for example, in carriages, where the movements of the vehicle cause a constant vibration or tremor of all the parts, thus causing any loose part, like a door or window, to rattle and make disagreeable and annoying noises. Then again it is often desirable to have doors which are much used provided with means which will keep them tightly closed after closing by hand, but which are rendered more or less inconvenient and noisy if latches or catches of any of the usual kind are employed. These and kindred observations and experiences have led to this invention, in which complete and satisfactory provision is made, first,

against noises on any and every account, whether in door, gate, window, blind, or other hinged object and whether in a moving or stationary place, as a carriage on the one hand or a residence on the other, and, secondly, against the inconvenience and necessity for catches or latches to fasten the object when closed. I am of course aware that the desirability of a hinge having these advantages is not new with me, and I am also aware that a number of spring-pressed hinges of one form and another having these or kindred objects in view are not broadly new, but I am not aware that any one has ever before known or made a hinge having the construction set forth in my present invention and claim.

To the several ends above enumerated I make a simple hinge which embodies in its own two parts A and B all the features of the invention. These parts or sections A and B may be stamped and formed up out of plates of steel or other suitable metal which has a springy texture; or by some other equivalent way or method of manufacture.

The hinge-section A is shown here as having a central spring 2, while the section B has a cam 4 opposite said spring and bearing thereon, and the cam is so positioned on its section and in relation to the spring that its deepest point will bear against the spring when the door is in closed position, thereby getting the spring-tension most effectually to keep the door closed. The cam is constructed with a gradually-decreasing bearing-surface from its highest to its lowest point, so that all movements will be even and uniform whether the door be opened or closed, and the minimum pressure on the spring will occur when the door is open. The effect of this construction and relation of spring-tongue and cam, respectively, is to have the door gradually released from pressure through the outer half of its full open movement and to bring said parts together with increasing pressure during the inner half of its movement and to its full pressure as it comes to a close.

If the part B were cast, the cam 4 would be formed thereon to operate exactly as it does now.

What I claim is—

In door-hinges, a set of hinge-sections pivotally connected, one of said sections having a spring integral therewith and the other section having a cam to bear against said  
5 spring, said cam gradually decreasing in radius from one side to a point diametrically opposite, whereby the maximum spring-pressure is exerted against the cam when the door is in closed position and is gradually

diminished as the door is opened, substantially as described.

Witness my hand to the foregoing specification this 23d day of February, 1897.

EDWARD C. HOFFMAN.

Witnesses:

H. T. FISHER,  
R. B. MOSER.