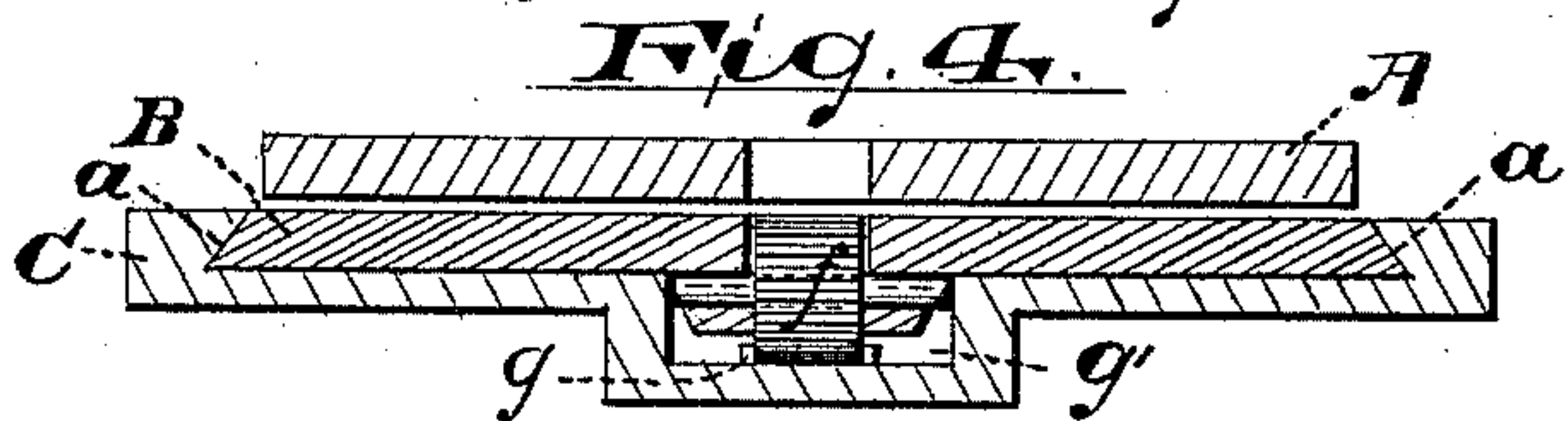
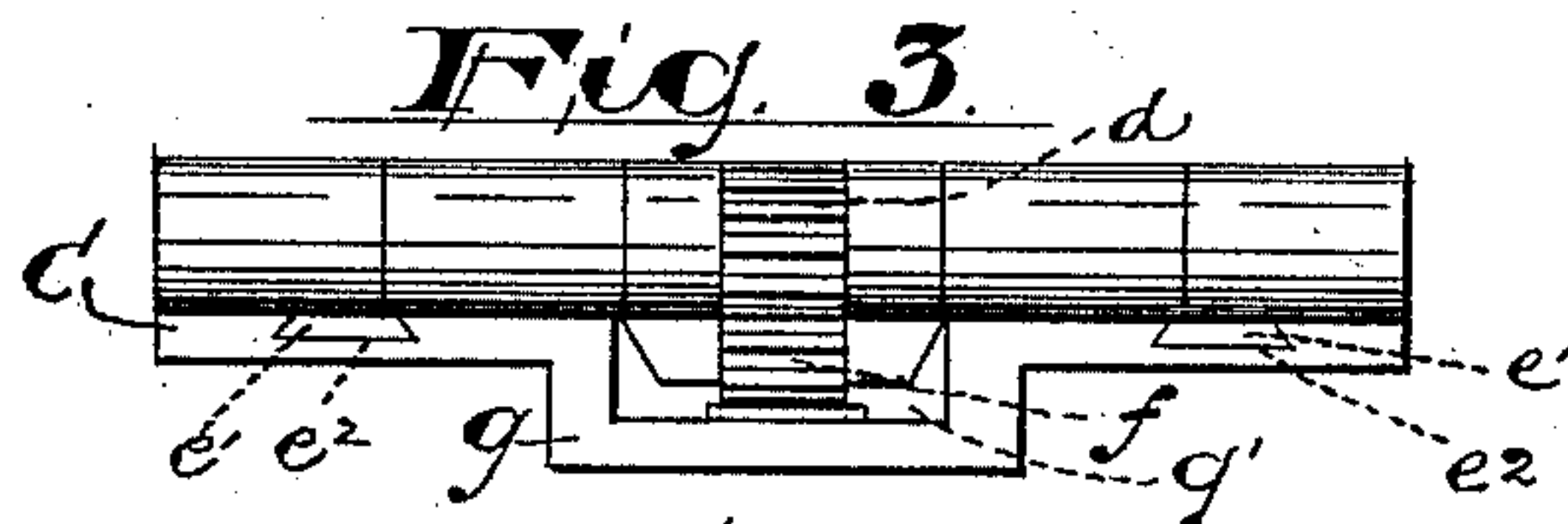
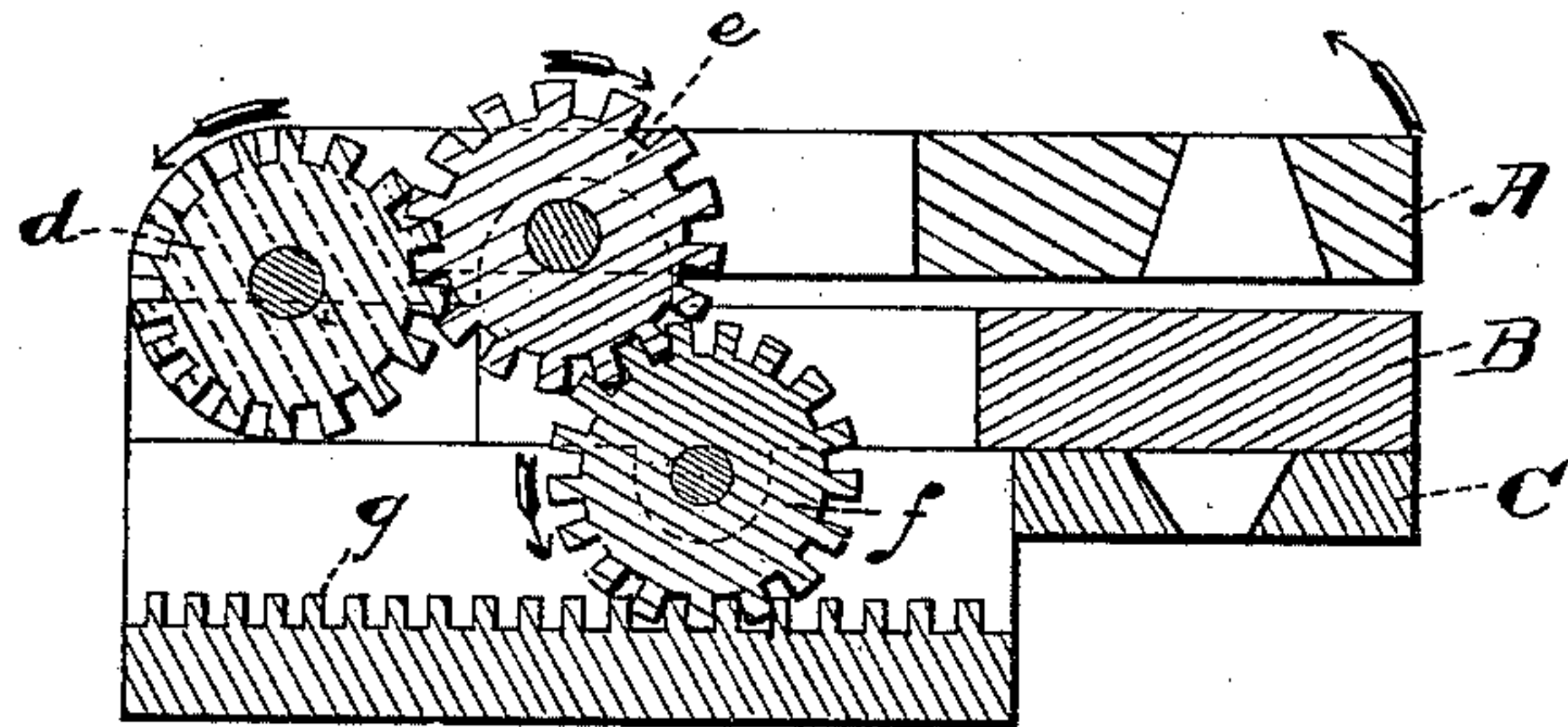
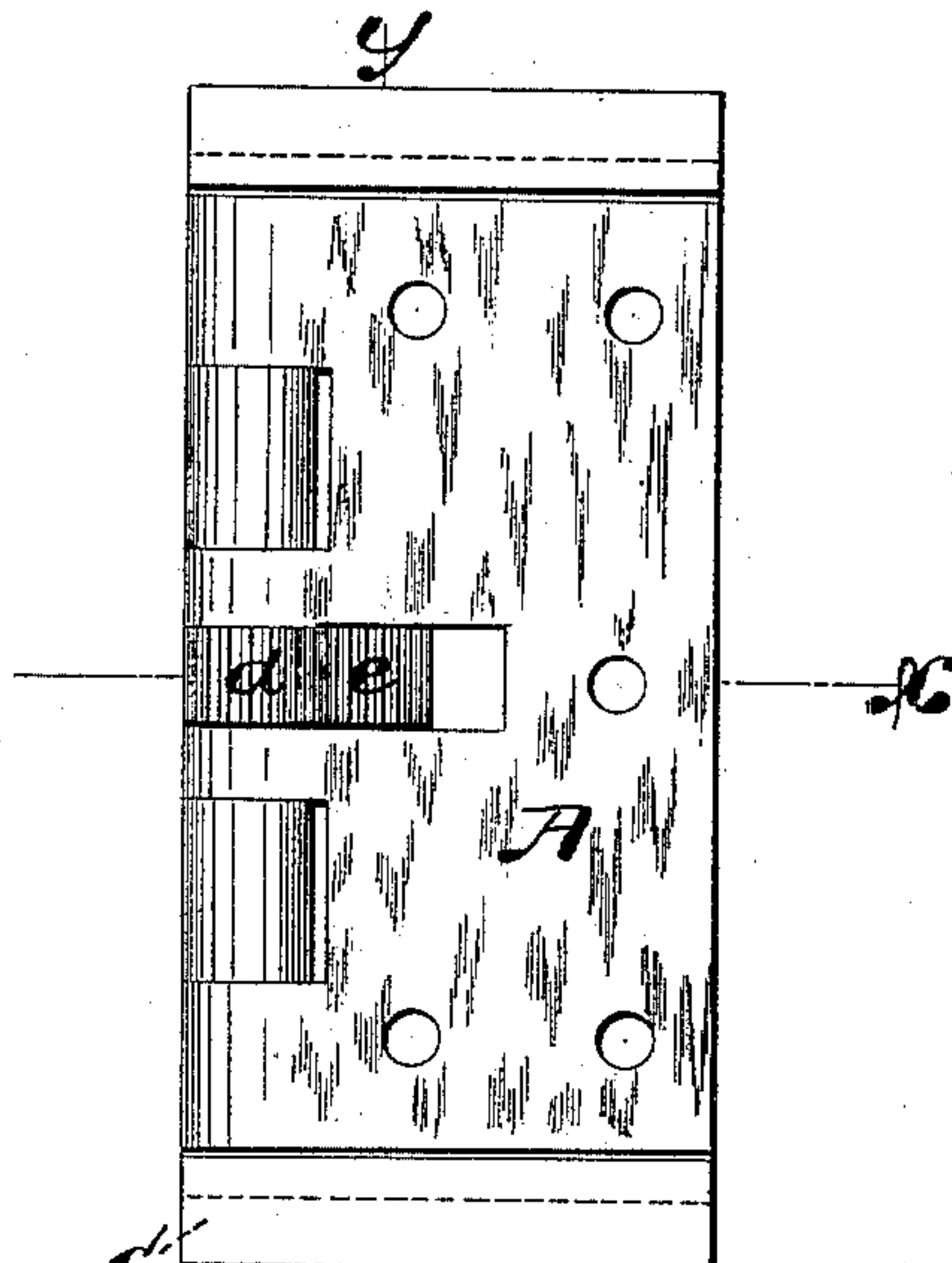
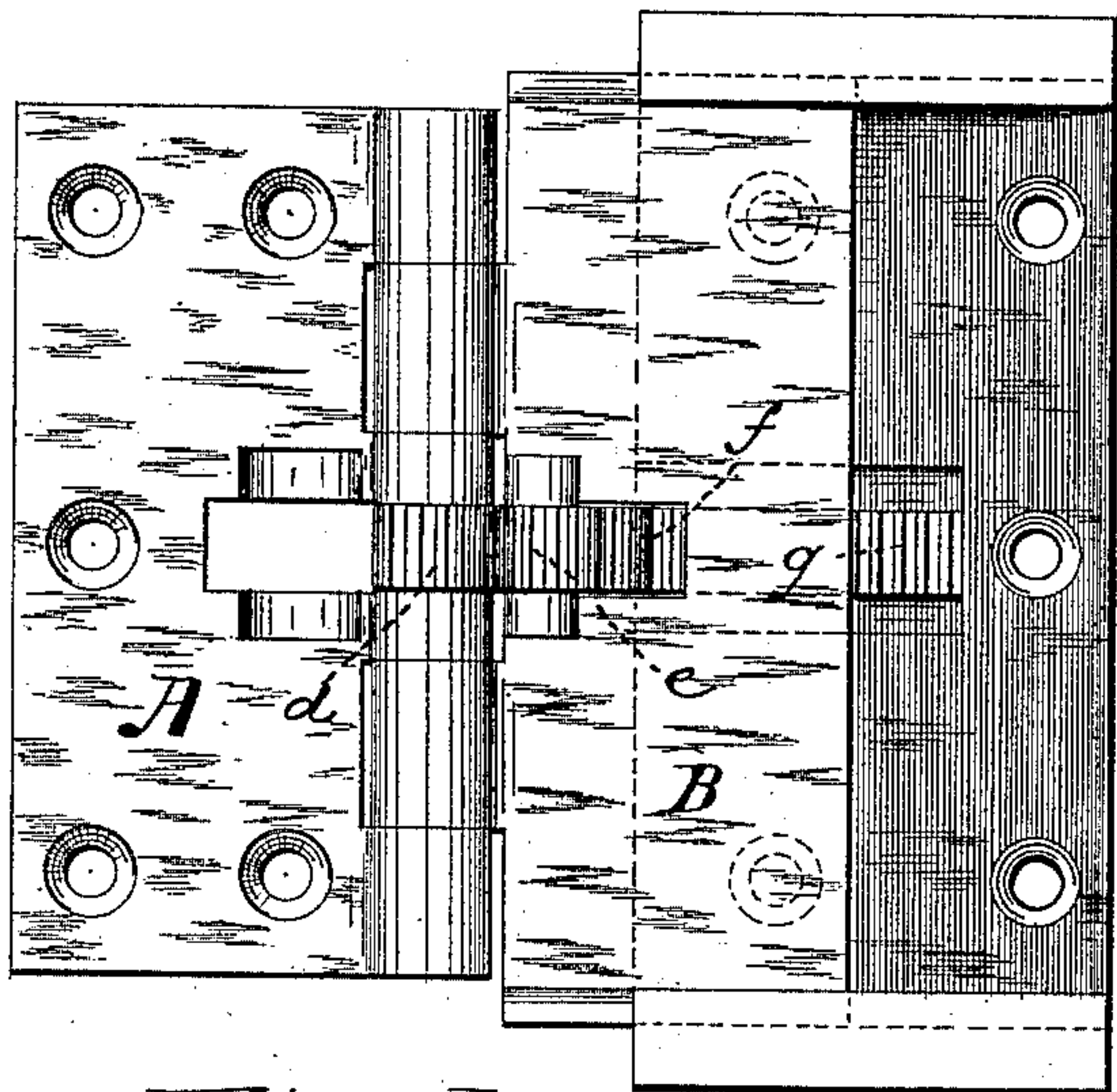


(Model.)

J. G. KEARSING.  
HINGE.

No. 465,112.

Patented Dec. 15, 1891.



Witnesses

Inventor:

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# UNITED STATES PATENT OFFICE.

JOHN G. KEARSING, OF NEWARK, NEW JERSEY.

## HINGE.

SPECIFICATION forming part of Letters Patent No. 465,112, dated December 15, 1891.

Application filed February 21, 1891. Serial No. 382,281. (Model.)

*To all whom it may concern:*

Be it known that I, JOHN G. KEARSING, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Hinges; 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 ap-  
10 pertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to avoid the  
15 necessity of having the hinge project outside of the surface of the wood and to secure other advantageous results, hereinafter referred to.

The invention consists in the improved hinge and in the combination and arrange-  
20 ments of the several parts thereof, as herein set forth, and finally pointed out in the claim.

Referring to the accompanying drawings, in which similar letters of reference indicate  
25 corresponding parts in each of the several figures where they occur, Figure 1 represents a plan view of my improved hinge, the leaves thereof being open. Fig. 2 represents the same with the leaves closed. Fig. 3 is a  
30 transverse section taken through line *x* of Fig. 2. Fig. 4 is a rear end view showing a modification, and Fig. 5 is a section through line *y* of Fig. 2.

In said drawings, A indicates the leaf in-  
35 tended to be secured to the door.

B indicates the adjoining leaf, which is arranged to slide upon a plate C, which is firmly secured to the door frame or casing.

*d*, *e*, and *f* indicate a train of connecting-  
40 gears and pinion, one of which, the pinion *d*, is carried by the leaf A and is fixed thereto. The two gears *e* and *f* are carried by the leaf B and rotate upon their respective axles, the lower one *f* engaging with a rack *g*, carried  
45 by the plate C in a depression *g'* therein, as will be understood upon reference to Fig. 3.

The leaf B slides in a recess formed in the plate C, the extremities or sides of which are undercut, as at *a*, to correspond with the  
50 beveled edges of the leaf B, as clearly indi-

cated in Fig. 5, whereby said leaf is held in position upon said plate. If preferred, however, said leaf may be provided with dove-tailed tongues *e'* to work in corresponding ways or grooves *e''* in the plate C, as indicated  
55 in Fig. 4, or any other appropriate arrangement may be substituted to subserve the desired purpose.

It will be observed and understood that when the hinge or leaves are closed the back  
60 or joint portion of the hinge will be flush with the outer surface of the wood-work, which is very important in fine cabinet-work, and especially when applied to a piano or an organ, as outwardly-projecting hinges are  
65 very apt to cut, and do cut and deface or ruin the covers in many cases, and are unsightly.

The operation is as follows: As a door or lid is opened the pinion *d*, being fixed to the leaf  
70 A, causes the gears *e* and *f* to revolve on their axles in the direction indicated by the arrows, the result of which, owing to the rack, is to move the hinge proper outward and thereby give the needed clearance to the door  
75 when opened wide, as will be understood upon reference to Fig. 1. As the door or lid is being closed, the hinge gradually resumes its normal position, as indicated in Figs. 2 and 3, as will be obvious.

Having thus described my invention, what  
80 I claim as new, and desire to secure by Letters Patent, is—

The improved hinge consisting of a grooved plate C, provided with a rack, a hinge plate  
85 or leaf B, adapted to slide on the plate C and carrying the intermeshing gears *e* and *f*, the latter adapted to gear with said rack, and the leaf A, articulated or jointed directly to the leaf B after the manner of the leaves of an ordinary hinge and carrying a pinion adapted  
90 to mesh with the gear *e*, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 17th day of February, 1891.

JOHN G. KEARSING.

Witnesses:

CHARLES H. PELL,  
OSCAR A. MICHEL.