

C. M. Lane,

Hinge.

N^o 32,482.

Patented June 4, 1861.

Fig. 3.

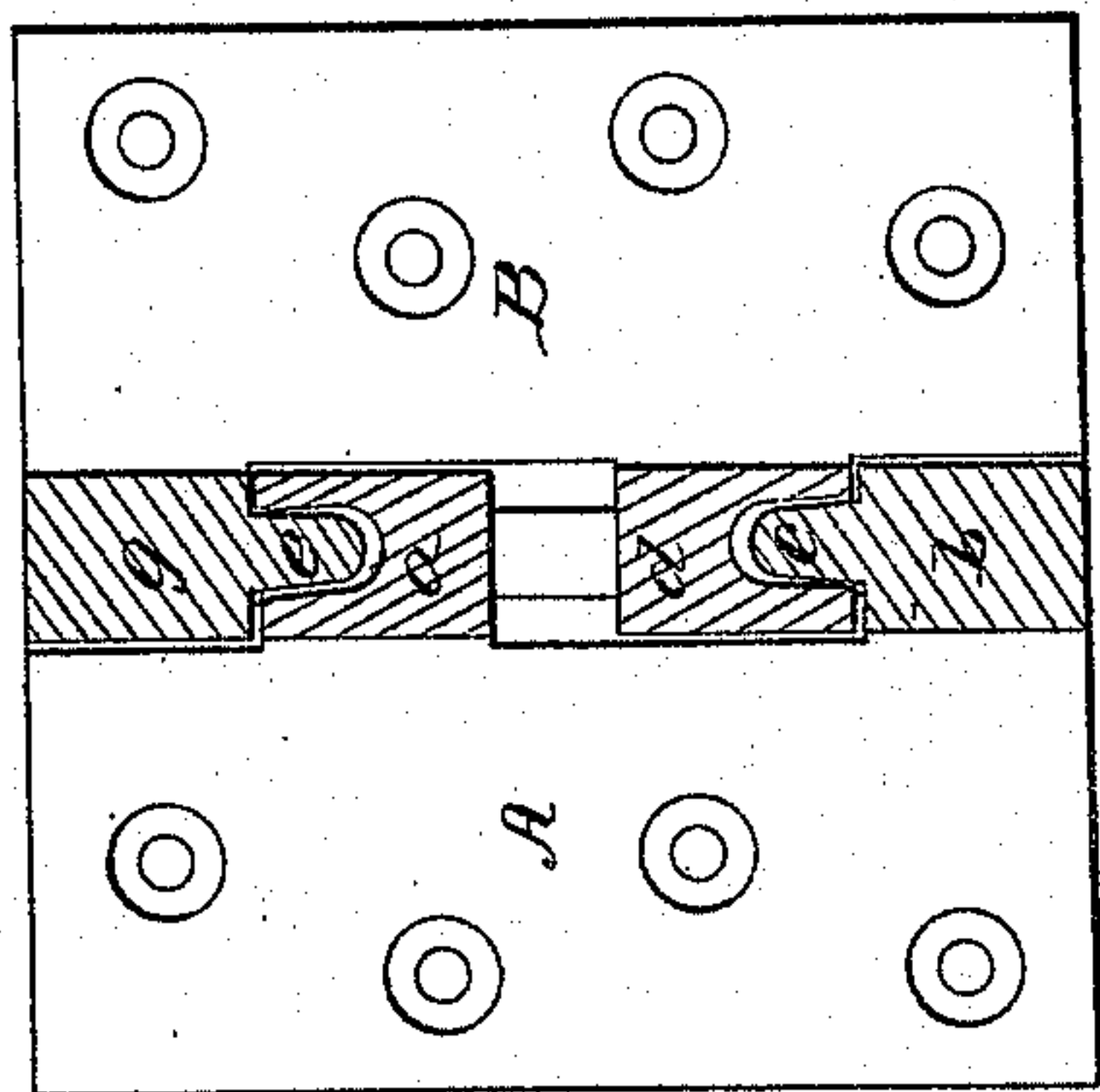


Fig. 2.

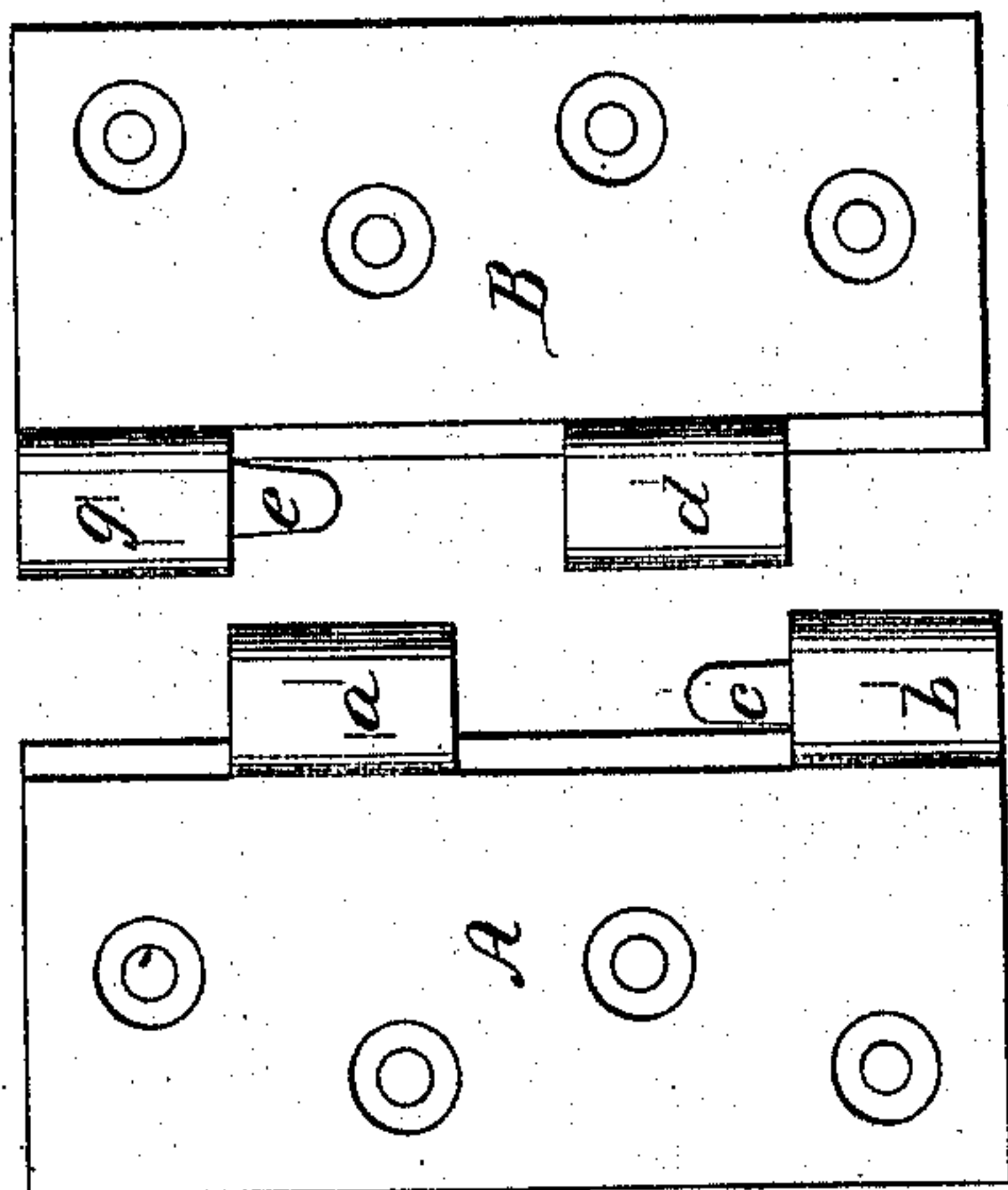
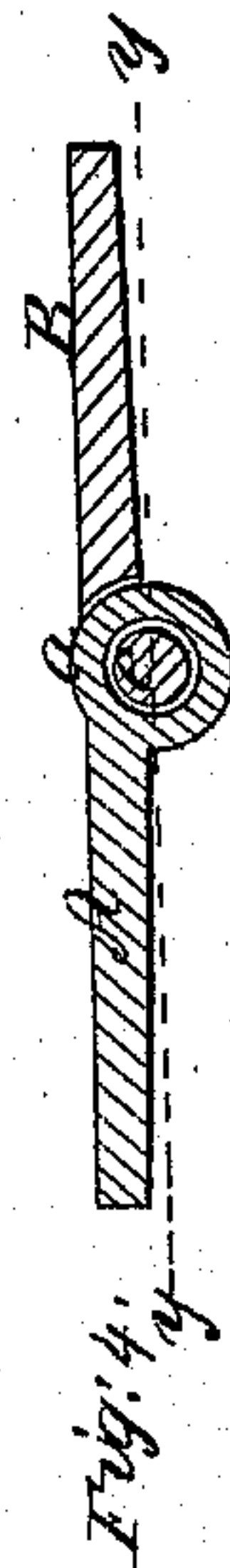
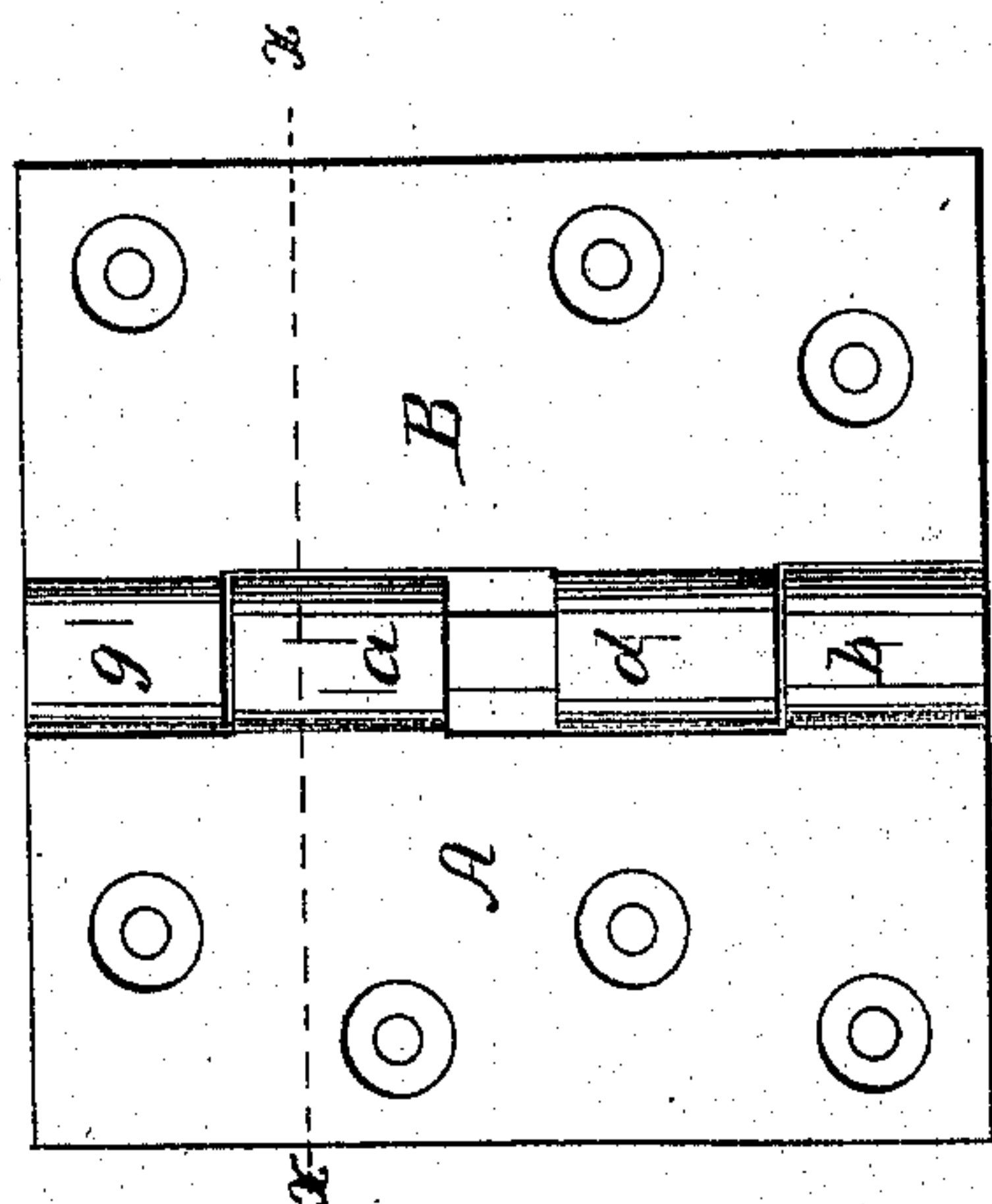


Fig. 1.



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UNITED STATES PATENT OFFICE.

CONRAD M. LANE, OF CINCINNATI, OHIO.

HINGE.

Specification of Letters Patent No. 32,482, dated June 4, 1861.

To all whom it may concern:

Be it known that I, C. M. LANE, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and Improved
5 Hinge; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

10 Figure 1, shows the two parts of my improved hinge when put together. Fig. 2, shows the parts detached. Fig. 3, is a vertical section through the eyes and pins of my improved hinge. Fig. 4, is a horizontal
15 section in the plane indicated by red line x, x , Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

20 This invention relates to an improvement in the loose-joint butt-hinges.

It consists in casting or otherwise forming on the leaves of the hinge two or more pins and corresponding socket bearings for said pins, either by forming the pins on one leaf
25 and the socket bearings on the other leaf of the hinge, or by forming a pin and a socket on one leaf, and a corresponding socket and pin on the other leaf, thereby combining the advantages of a tight joint hinge with
30 a loose joint hinge, as will be hereinafter described.

To enable those skilled in the art to make and use my invention I will proceed to describe its construction and operation.

35 In the accompanying drawings A, represents one leaf of the improved hinge and B, is the opposite leaf. On leaf A, two cylindrical portions a, b , are formed, the portion a , has a deep socket in it open at the
40 upper end only; and the portion b , has a strong cylindrical pin c , formed on its upper end. Leaf B, is made like the leaf A, the difference being only in the arrangement of the pin and socket. The socket portion d ,
45 of leaf B, is opposite the pin carrying portion b , of leaf A, and the pin e , of leaf B, is opposite the socket portion a , of leaf A, as clearly shown in Figs. 1, and 2, of the drawings. The pins c , and e , of the cylindrical portions b , and g , are formed in casting
50 the leaves of the hinge and so also are the sockets into which these pins fit. The space between the end of pin c , and cylindrical portion a , is such as to allow the
55 socket portion d , of leaf B, to be passed over the pin c , and the pin e , to be passed over

socket portion a , in putting the leaves of the hinge together. Now instead of forming a pin on one leaf and a socket on the other leaf, both pins may be formed on one leaf to fit into two sockets on the other leaf, but in the plan shown and described above there is an advantage obtained in matching the leaves, as any two leaves or halves of the same pattern will form a perfect hinge and a good joint.

In very long hinges if found desirable several pins with corresponding sockets may be used to still further increase the strength of the hinge but for all ordinary sized hinges the two pins and sockets, one at the top and the other at the bottom of the leaves, will possess sufficient strength.

The pins c , and e , in my hinge can be formed slightly conical or tapering from the ends of their cylindrical portions to their points. This will give a greater body of metal where the greatest strain is felt and consequently increase the strength of the pins.

When the leaves of the hinge are put together, by inserting the pins c , e , in their respective sockets, the lower ends of the portions g , and d , will bear on the upper ends of their respective portions a , and b , as in the common fast-joint hinges where a pintle is used, the strength of the tight joint hinge will thus be obtained, combined with all the advantages of the loose joint hinges.

One important advantage in my improved hinge which adds greatly to its strength, consists in forming the bearings near the ends of the hinge, instead of the center as on the old loose joint hinge. Another advantage equally important, which also adds to the strength and durability of the hinge, consists in doubling or trebling the number of bearings; as, for example, a heavy door hung with three of my three pintle hinges, would have nine bearings to receive its weight and consequent wear, while with the old loose joint hinge the same number would give but three bearings.

The old loose joint hinge is seldom used on heavy doors, on account of its liability to wear, and the difficulty hanging heavy doors with it. Having but one bearing it is difficult to keep in line, and very liable to be broken or wrenched off by the slightest deviation of the top or bottom of the door. The same difficulty is experienced in remov-

ing the door or shutter from its place, or rehang-
ing when desired, as great care is required lest the hinge be broken, by one of the pintles being in its socket while the other
5 is out. All these objections and difficulties are remedied in my improved hinge, by having the bearings increased in number and placed at the top and bottom of the hinge, thereby giving the door or shutter
10 to which it is attached much greater support, which may be opened or shut on one hinge alone without injury. There is also an important advantage in casting over all cast iron hinges; as by reference to the
15 drawings it will be seen, that only one pattern is required to cast both leaves of the hinge, thereby saving largely in patterns, as also in labor of sorting and matching. It has also an advantage over all other
20 hinges in breakage, as however many may be broken there can never be but one odd

leaf if any, as any two leaves fit each other equally well, whereas with the old loose joint hinge the pintle leaf being most liable to be broken, large quantities of unmatched halves
25 are constantly on hand.

I am aware that the single pin and socket joint hinge is not new, and I therefore disclaim it; but

What I do claim as new, and desire to
30 secure by Letters Patent is,

A hinge constructed substantially as described, consisting of two or more pintles and sockets, or bearings, when combined with a loose joint hinge, or a hinge the two
35 parts of which may be lifted on or off at pleasure.

CONRAD M. LANE.

Witnesses:

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