

H. M. BEECHER.
Clip King-Bolts and Plates.

No. 139,855.

Patented June 17, 1873.

Fig. 1.

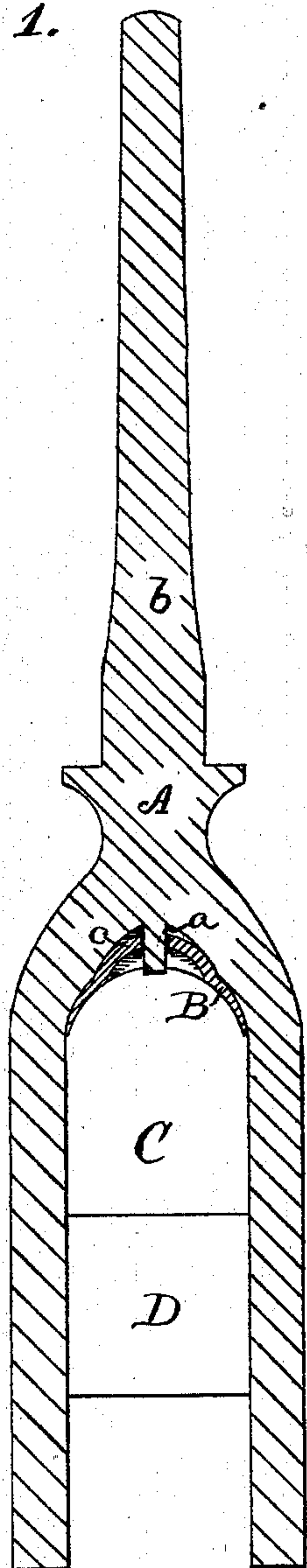


Fig. 2.

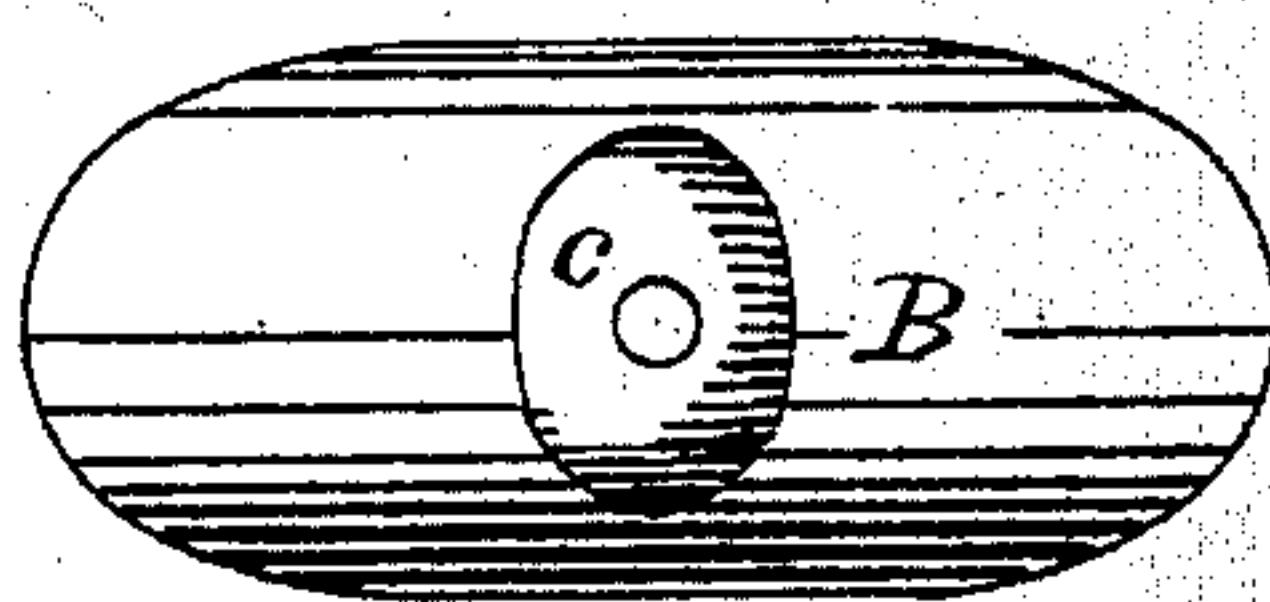
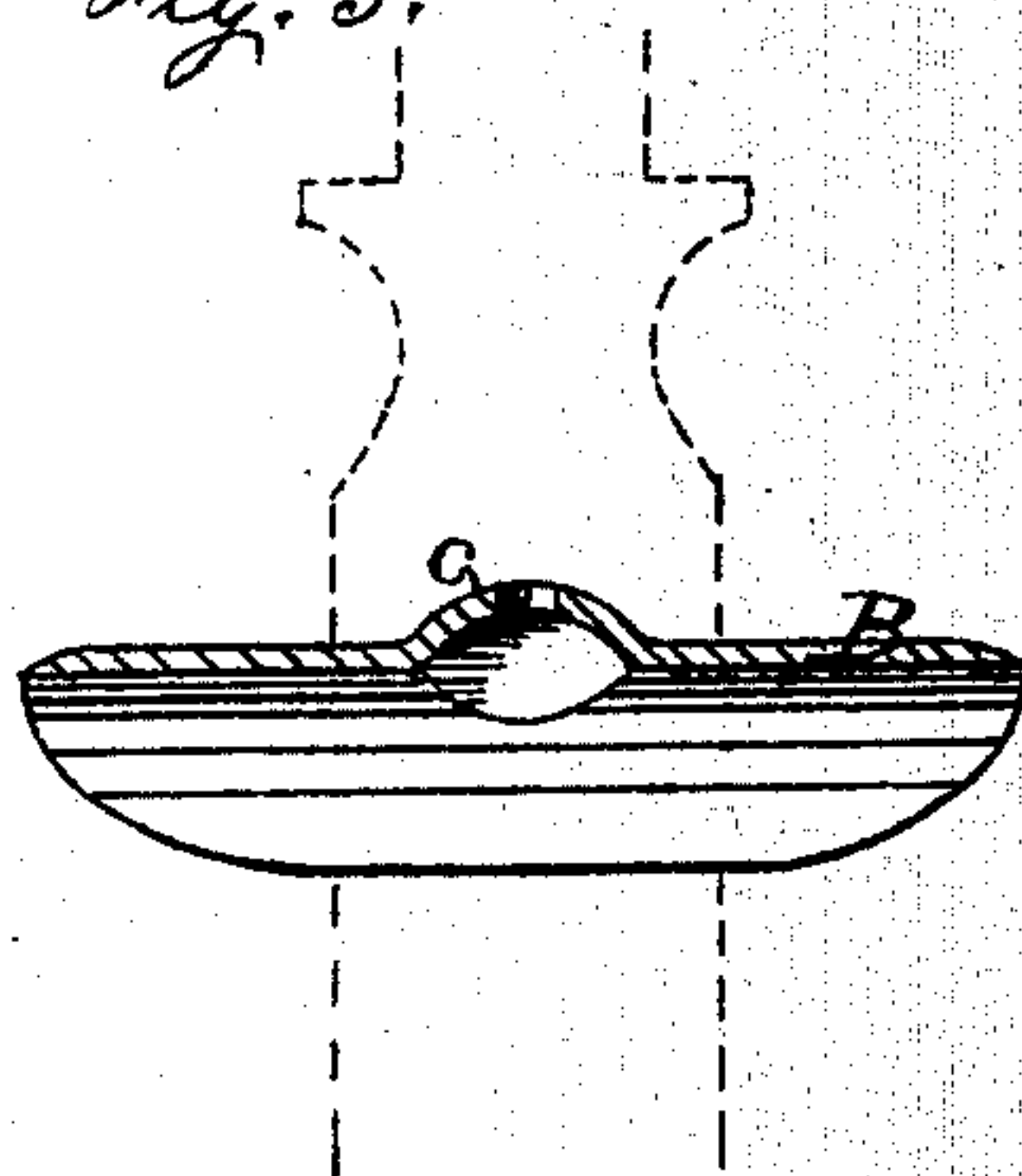


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY M. BEECHER, OF PLANTSVILLE, ASSIGNOR TO BEECHER MANUFACTURING COMPANY, OF WEST MERIDEN, CONNECTICUT.

IMPROVEMENT IN CLIP KING-BOLTS AND PLATES.

Specification forming part of Letters Patent No. 139,855, dated June 17, 1873; application filed March 8, 1873.

To all whom it may concern:

Be it known that I, HENRY M. BEECHER, of Plantsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Clip King-Bolts and Plates, of which the following is a specification:

In my improved clip king-bolt and plate there is a recess in the center of the bearing-surface between the arms of the bolt, and the sheet-metal concave-plate which caps the axle has a projection which rests in said recess, when the two are placed together, and prevents the plate from working endwise with the axle and out from under the king-bolt, as hereafter described.

In the accompanying drawing, Figure 1 is a central vertical section of a clip king-bolt and plate, which embody my invention, the same being taken on a line transversely to the axle on which they rest. Fig. 2 is a plan or top view of said plate when removed from the king-bolt, and Fig. 3, is a central longitudinal section of the same. The king-bolt A is of the class generally known as clip king-bolts, from the fact that it embraces the axle instead of running through it. Such king-bolts are old, and may be made in any of the ordinary forms. My bolt differs from the old ones by being provided with the recess *a* between its arms, and directly opposite and under the center of the stem *b* of the bolt A. B designates a plate, which I prefer to form of sheet-metal, and it is of concave form and very similar to an ordinary felly-plate. In the middle of this plate I swage a projection, *c*, projecting from the convex side of the plate, and of a form corresponding to that of the recess *a* in the bolt A; in fact, the form of the whole plate is such as to fit between the arms of the bolt, as shown in Fig. 1, while the plate B is longer than the clip part of the bolt is wide; the broken lines in Fig. 3 representing the width of the bolt. The axle C D of a carriage is generally made of wood and iron. In the drawing, C designates the wood portion and D the iron. I place the plate B upon the axle C D, and then place the bolt A thereon, with the projection *c* resting in the

recess *a*, when the bolt is secured in the usual manner. The projection and recess prevent the plate from moving longitudinally out from under the bolt, and thus the plate forms a seat for the bolt and prevents it from wearing into the wood C, while the bearing-surface of the bolt is not enlarged, but remains, like that of the ordinary king-bolt, just the width of the clip-arms, as indicated by broken lines in Fig. 3.

Thus it will be seen that the plate does not brace the bolt laterally, nor add to its rigidity. In case the plate B, of the length shown, was rigidly secured to the bolt A, it would brace the bolt so firmly that when sudden lateral motion is given to the carriage-body the concussion would be liable to break the king-bolt, as has been found to be the case with king-bolts thus braced; but with a king-bolt having a narrow bearing-surface at the fork, the bolt will give more or less, at its junction with the plate, and thereby the concussion is less severe and the bolt less liable to be broken.

It is of course evident that a recess may be formed in the plate B and a corresponding projection formed on the bolt, instead of forming the projection on the plate and the recess in the bolt; or both may be employed, as shown in the drawing; and the end of the small projection or rivet formed on the bolt may be headed, if desired, to hold the plate and bolt together temporarily, until secured in their final position upon the axle.

I claim as my invention—

1. The concave metal king-bolt clip B, provided with the projection *c*, or its equivalent, to prevent the clip from working longitudinally out of place, substantially as shown and described.

2. The combination of the plate B, having the projection *c*, with the king-bolt A, having the recess *a*, substantially as and for the purpose described.

HENRY M. BEECHER.

Witnesses:

FANNIE J. MORSE,
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