

(No Model.)

A. W. ZIMMERMAN.
AXLE BOX LID.

No. 489,888.

Patented Jan. 10, 1893.

Fig. 1.

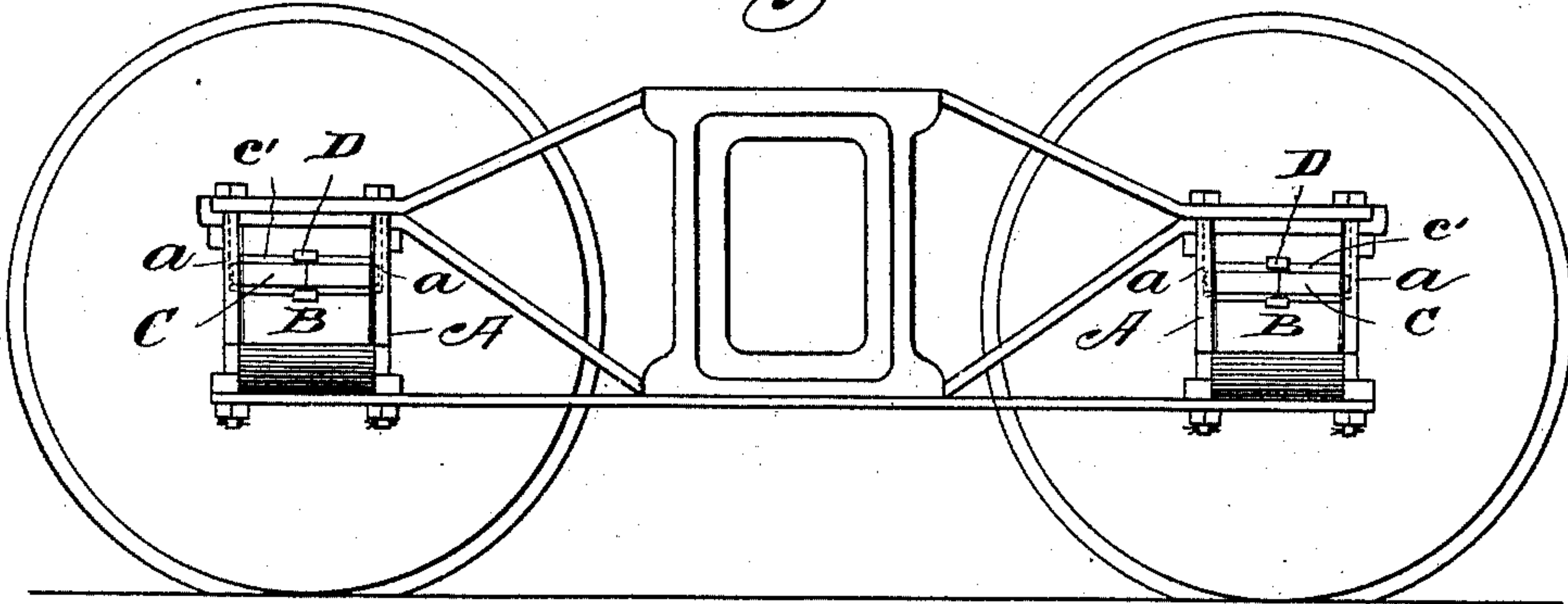


Fig. 3.

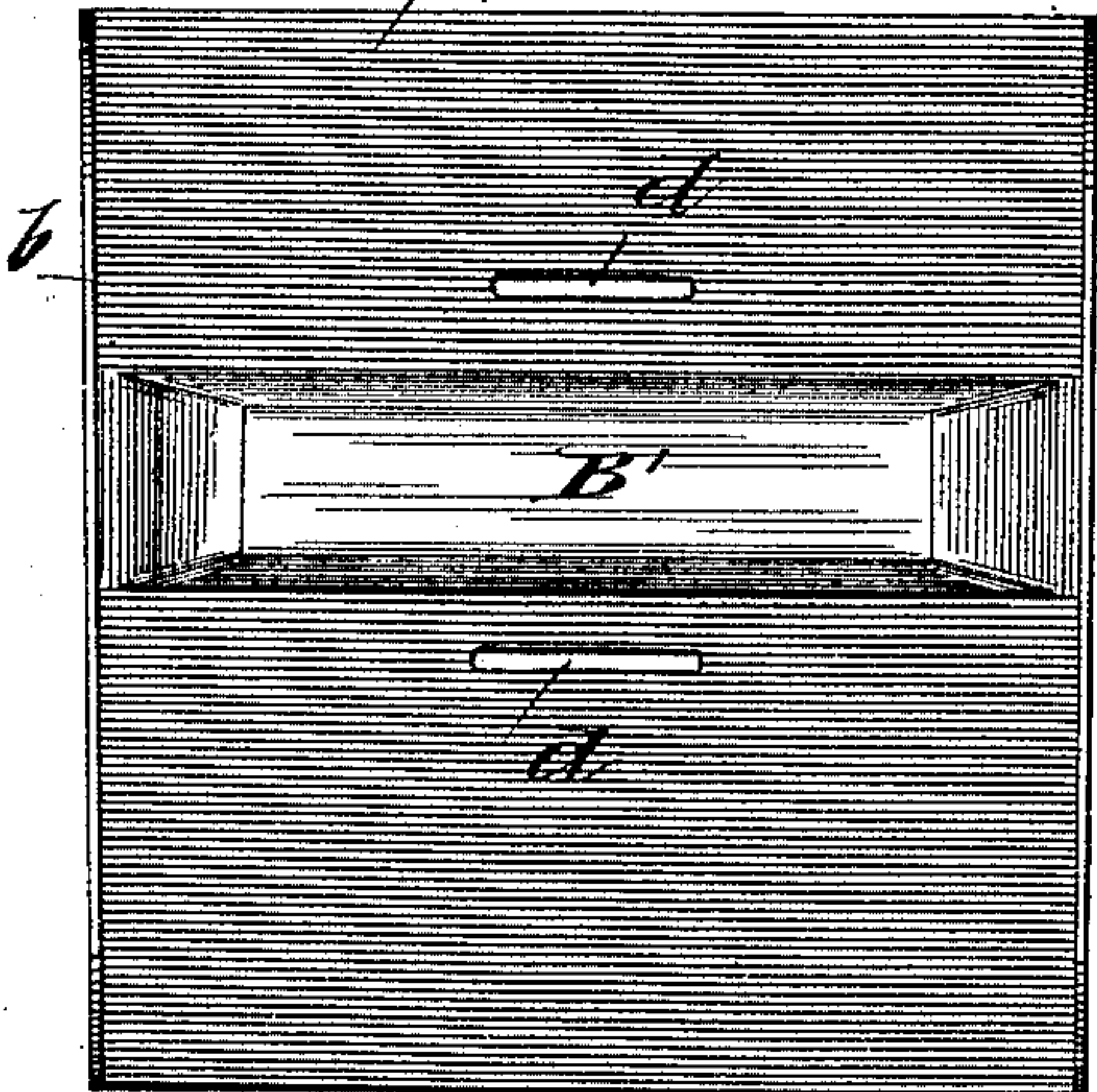


Fig. 2.

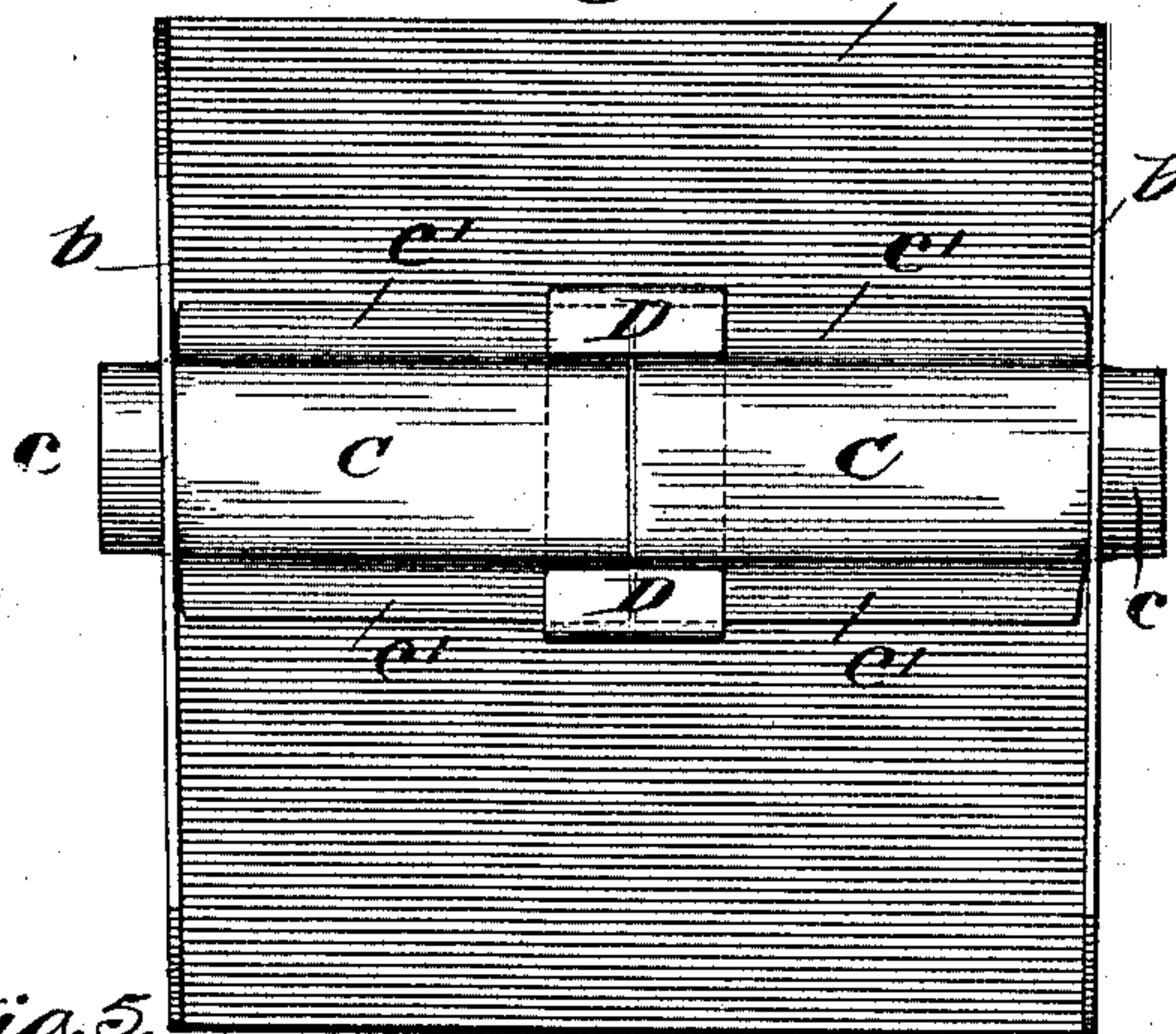


Fig. 5.

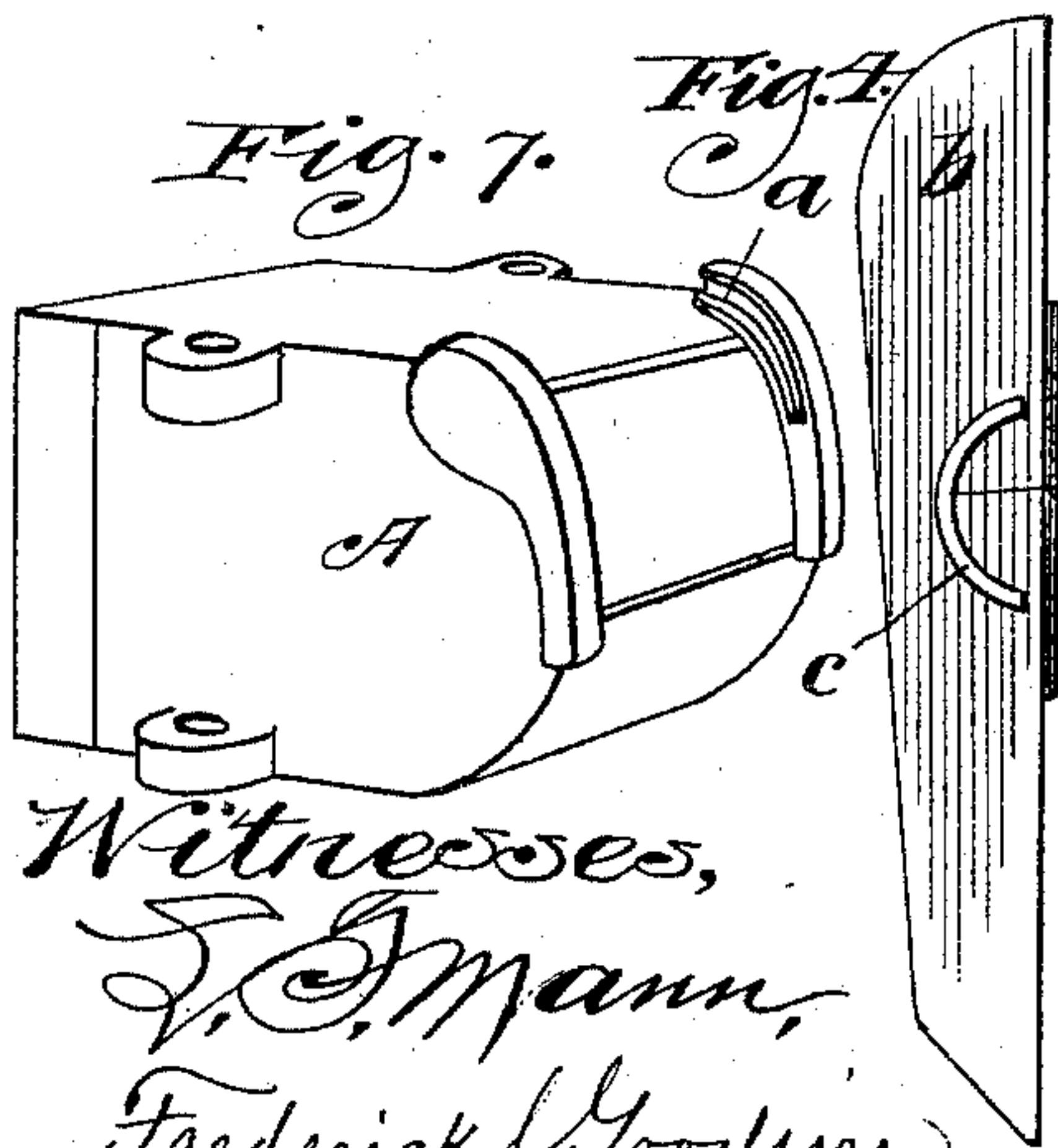


Fig. 7.

Fig. 4.

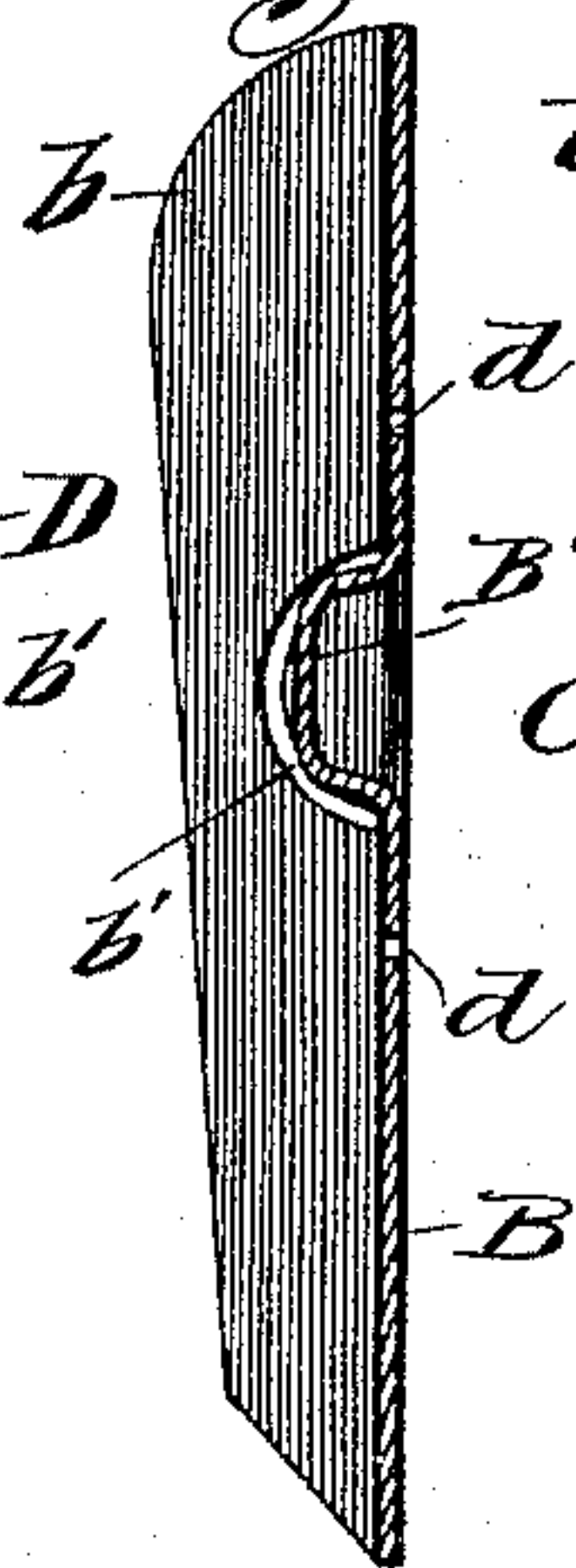
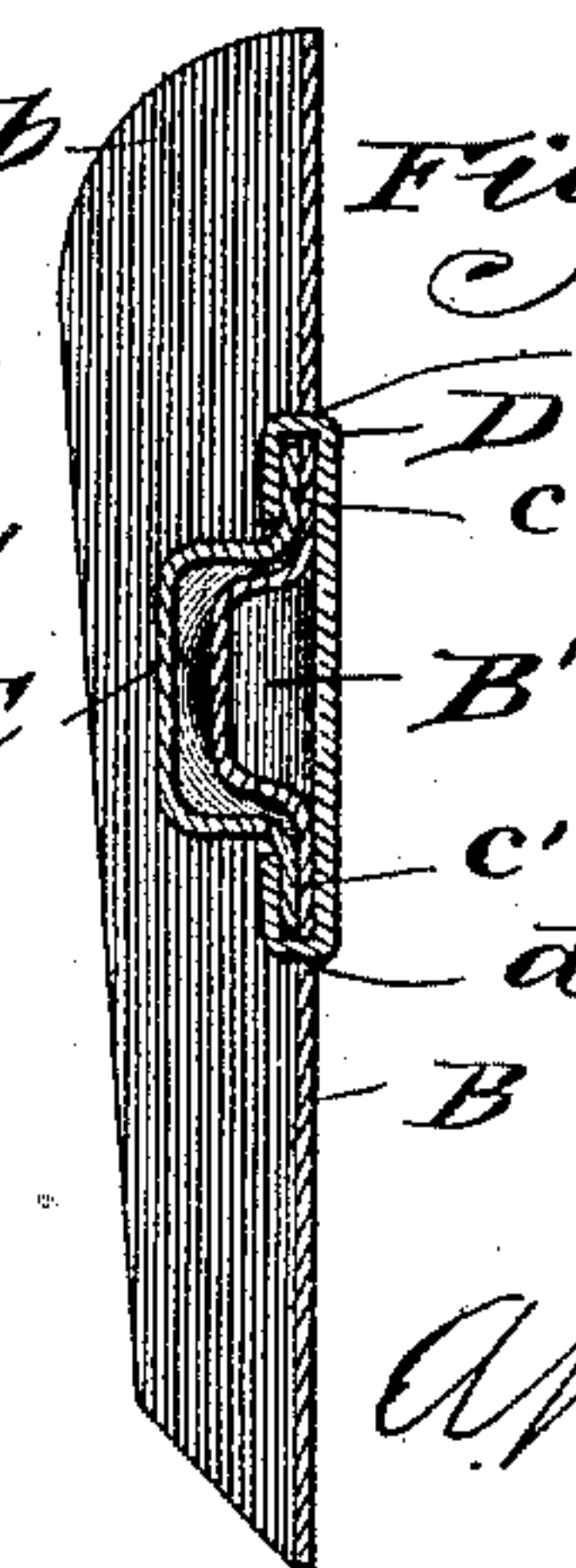


Fig. 6.



Witnesses,
J. E. Mann,
Frederick Goodwin

Inventor,

A. W. Zimmerman

By *Offield, Fowler & Hutchinson*
Attys.

UNITED STATES PATENT OFFICE.

ARNOLD W. ZIMMERMAN, OF WASHINGTON HEIGHTS, ILLINOIS.

AXLE-BOX LID.

SPECIFICATION forming part of Letters Patent No. 489,888, dated January 10, 1893.

Application filed January 18, 1892. Serial No. 418,407. (No model.)

To all whom it may concern:

Be it known that I, ARNOLD W. ZIMMERMAN, of Washington Heights, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Journal-Box Lids, of which the following is a specification.

This invention relates to that class of journal box lids which are adapted to slide in ways or grooves of a car axle box so that they may be raised for the application of the lubricant, and the invention relates more particularly to a box lid of this general character which is constructed from sheet metal, preferably steel, pressed to provide a raised central portion or dome which strengthens the lid and at the same time affords a shoulder against which force may be applied for raising the lid. In order to secure the lid in place there is also provided keys which are also pressed from sheet metal and have their ends adapted to be inserted through slits in the side flanges of the lid while their bodies are concave to adapt them to fit over the raised portion of the lid, and they are preferably provided also with flanges which lie flat upon the face of the lid and the ends of which form stops or abutments. The lid is also provided with a clamp or clamps which may be conveniently made from a strip of sheet metal, the ends of which are inserted from the inner side through slits in the body of the lid and project so that after the keys have been put in place these projecting ends may be knocked down over the flanges of the keys to lock them securely in place. The ends of the keys which project through the slits in the side flanges of the lid are adapted to travel in the ways of the box.

The improved lid is very light and yet strong and can be manufactured at a fraction of the cost of the usual cast box lid, while its form is such that it can be readily made in a press and without any hand labor whatever.

In the accompanying drawings, Figure 1 is a side elevation of a car truck showing two axle boxes with my improved lids applied thereto. Fig. 2 is a face view of the lid complete. Fig. 3 is a similar view, the keys and clamps omitted. Fig. 4 is an end elevation of the lid showing the circular slit through which the end of the key projects. Fig. 5 is

a transverse sectional view of Fig. 3. Fig. 6 is a sectional view of Fig. 2; and Fig. 7 is a perspective view of the box showing the ways in which the box lid slides.

In the drawings, A represents a car axle box and *a* the curved ways thereof.

B represents the body of the lid which is made from sheet metal and preferably from sheet steel, the side margins of which body are turned upwardly to provide angular flanges *b*. The longitudinal center of the body of the lid is pressed up as at B' and the flanges *b* are provided with apertures *b'* preferably curved in outline.

C, C represent keys which are pressed from steel plate to adapt them to fit over the domed or raised portion B' of the lid and they have projecting ends *c* adapted to pass through the apertures *b'* of the flanges *b*, forming curved lugs which ride in the ways *a* of the box. The flanges *c'* *c'* form shoulders or stops which abut against the side flanges *b* *b* of the body of the lid and serve to limit the outward movement of the keys. These keys may be put in place by inserting their curved projections *c* through the apertures in the side flanges of the lid and then pressing them down over the domed portion thereof until their side flanges rest upon the face of the lid. In order to fasten them securely in place, I provide a suitable clamping device, and in the preferred form I employ a strip D of sheet metal, malleable iron or other material, the ends of which are inserted from the inner side of the box through slits *d* in such body, said slits running parallel to the domed portion B' and after said ends are inserted they are knocked down over the flanges of the keys, as clearly seen in Figs. 2 and 6. By this means the keys are held securely in place and prevented from working out of the box in service.

The improved lid is far superior to the cast lid for several reasons: First, it can be made very much lighter; second, it will not break from the ordinary shocks of usage; and, third, it can be constructed as cheap or cheaper than the usual cast lid.

In case it be desired at any time to remove the lid, this can be done easily by prying up the turned over ends of the clamp so as to release the keys and permit their withdrawal.

I do not limit my invention to the precise

details of construction. For example, the domed central portion might be omitted, the keys might be flat or of other form, and the clamp might be integral with the body of the lid, or an ordinary clamping bolt may be employed in lieu of the clamp above described; and other structural changes might be made without departing from the spirit and scope of my invention. It may be found expedient also to use sheet iron instead of sheet steel and any good charcoal iron of suitable thickness being well adapted for the purpose, but I prefer the steel. A further utility of this construction resides in the fact that the box lid when constructed from pressed steel or sheet iron and with the marginal side flanges can be made to accurately fit a box which is worn at the sides or imperfect in construction by bending the side flanges where necessary to secure an accurate fit.

I claim:

1. A car axle box lid comprising in combination with the body having angular side flanges perforated for the passage of retaining lugs or keys, and two keys having their outer ends adapted to pass through the perforations in the flanges and their inner ends secured, substantially as described.

2. A car axle box lid comprising in combination a body portion having angular flanges provided with apertures and adapted to slide in suitable ways in the box lid, keys having portions adapted to pass through said aper-

tures and a clamp for securing the ends of the keys, substantially as described.

3. In a car axle box lid the combination with a body having side flanges apertured to provide for the passage of retaining lugs, and lugs having their outer ends adapted to pass through the apertures of the flanges and to ride in the ways of the box and their inner ends abutting, and a sheet metal clamp secured with the body and having its ends adapted to be turned down upon the abutting ends of the keys whereby to secure them, substantially as described.

4. In a car axle box the combination with the body composed of sheet or plate metal, said body having a domed or raised central portion and side flanges provided with apertures, lugs of curved form adapted to fit over said domed portion and having ends to pass through said apertures, and a clamp for securing the inner ends of the key, substantially as described.

5. A car axle box lid comprising in combination a body having side flanges provided with apertures, a domed central portion, keys having ends projected through the apertures of the flanges and shoulders forming stops for said lugs and a clamp for securing the inner ends of said keys, substantially as described.

ARNOLD W. ZIMMERMAN.

Witnesses:

C. C. LINTHICUM,
N. M. BOND.