

G. A. LAMBERT.
 VEHICLE SHAFT OR THILL.
 APPLICATION FILED FEB. 12, 1908.

900,288.

Patented Oct. 6, 1908.

Fig. 1.

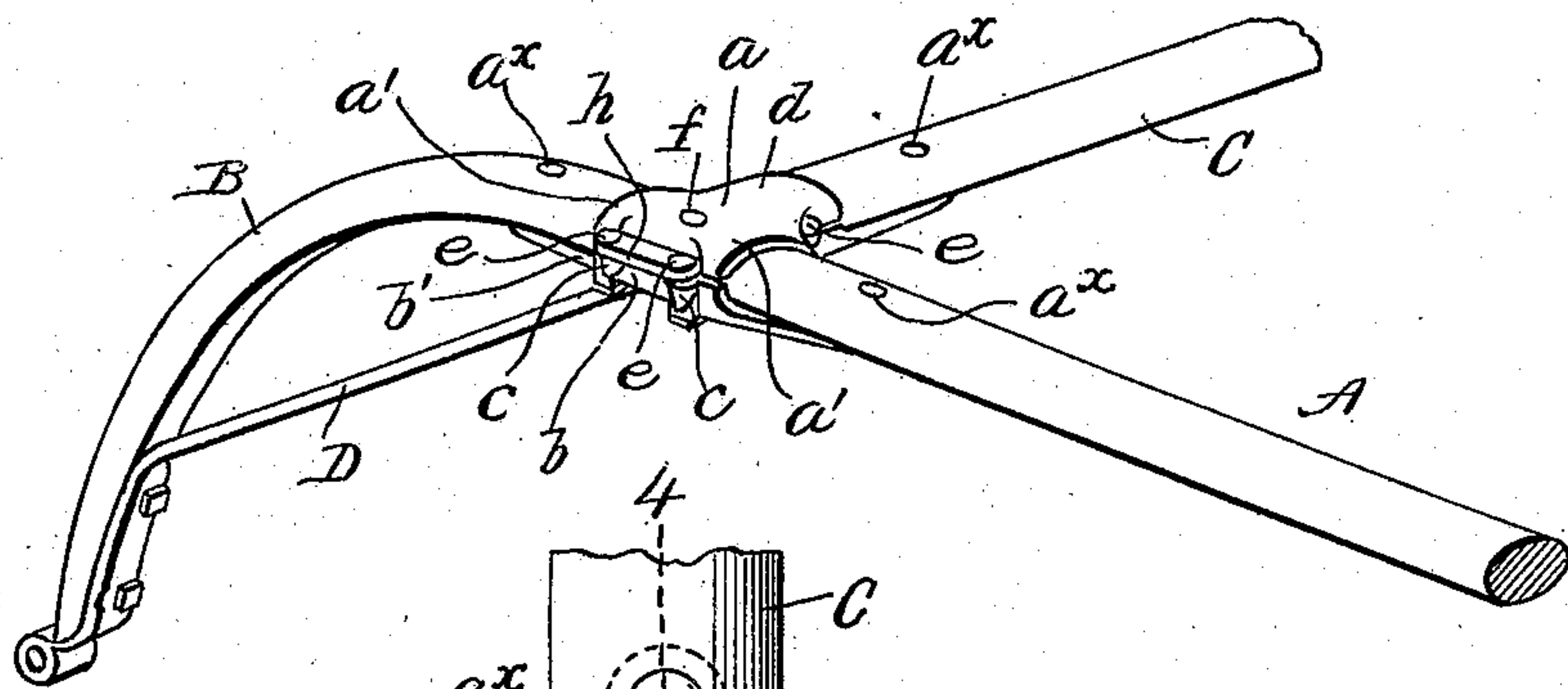


Fig. 2.

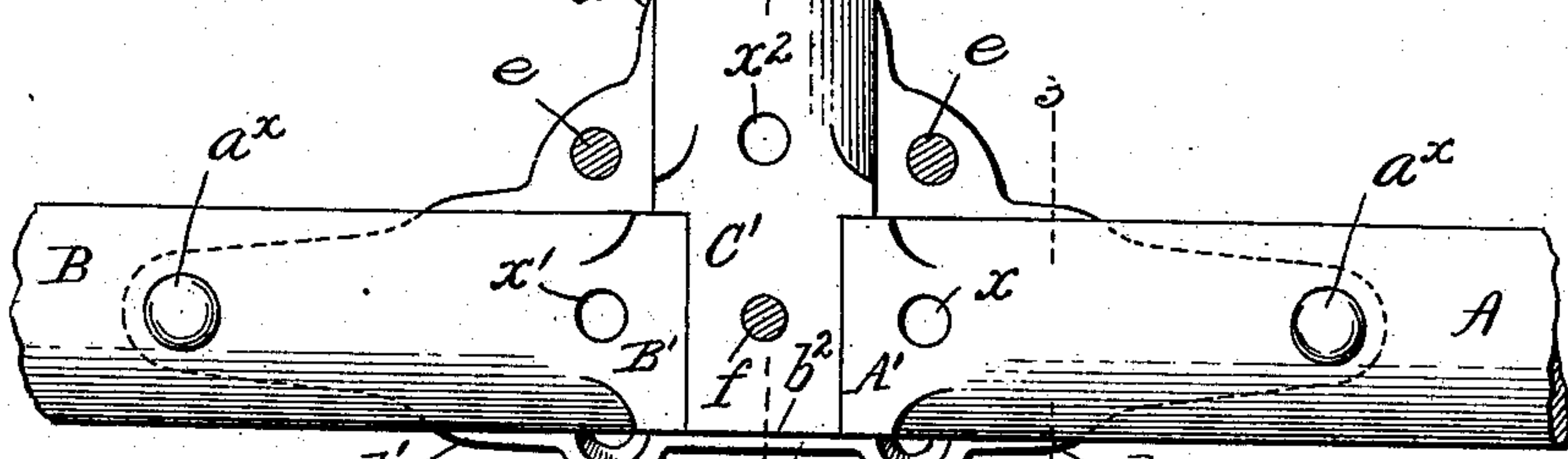


Fig. 3.

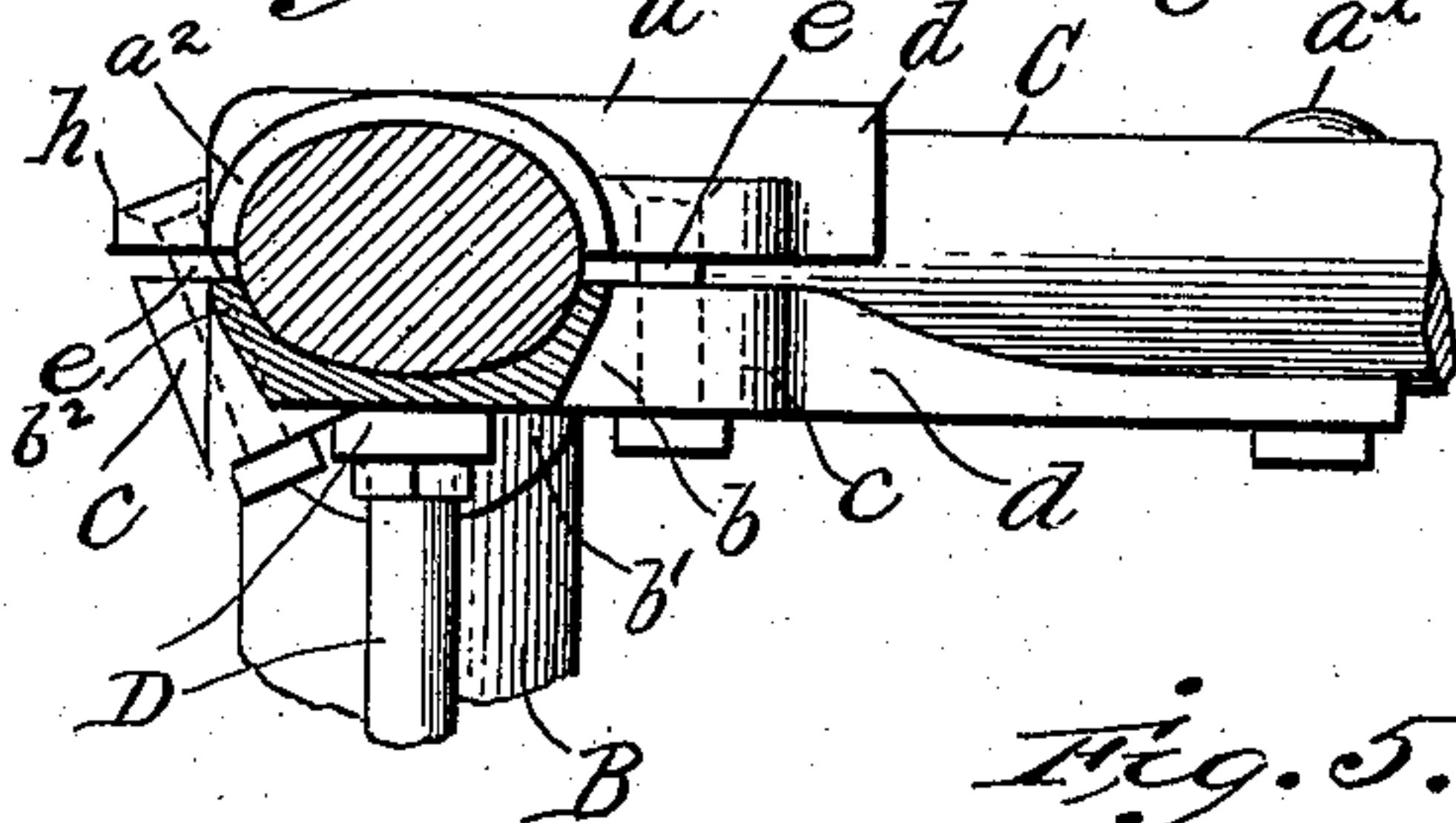


Fig. 4.

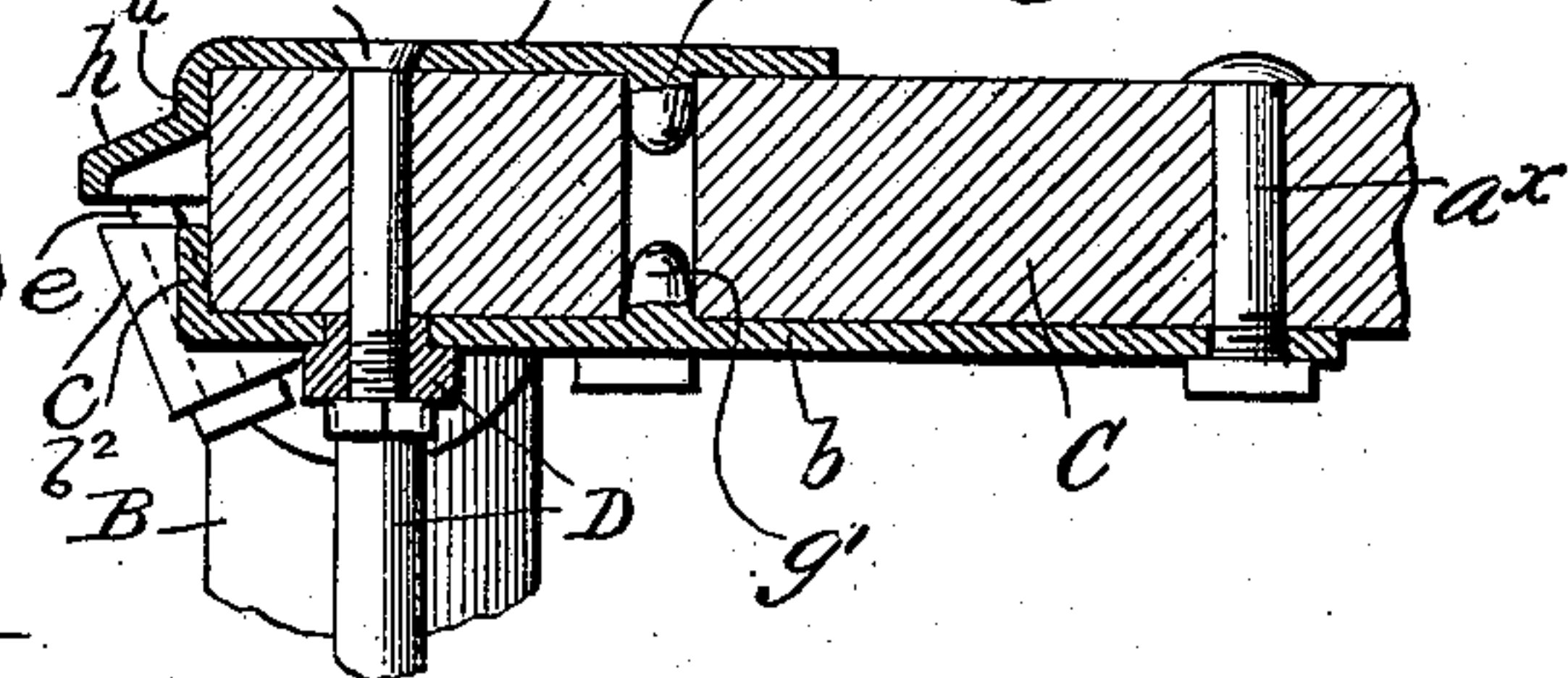
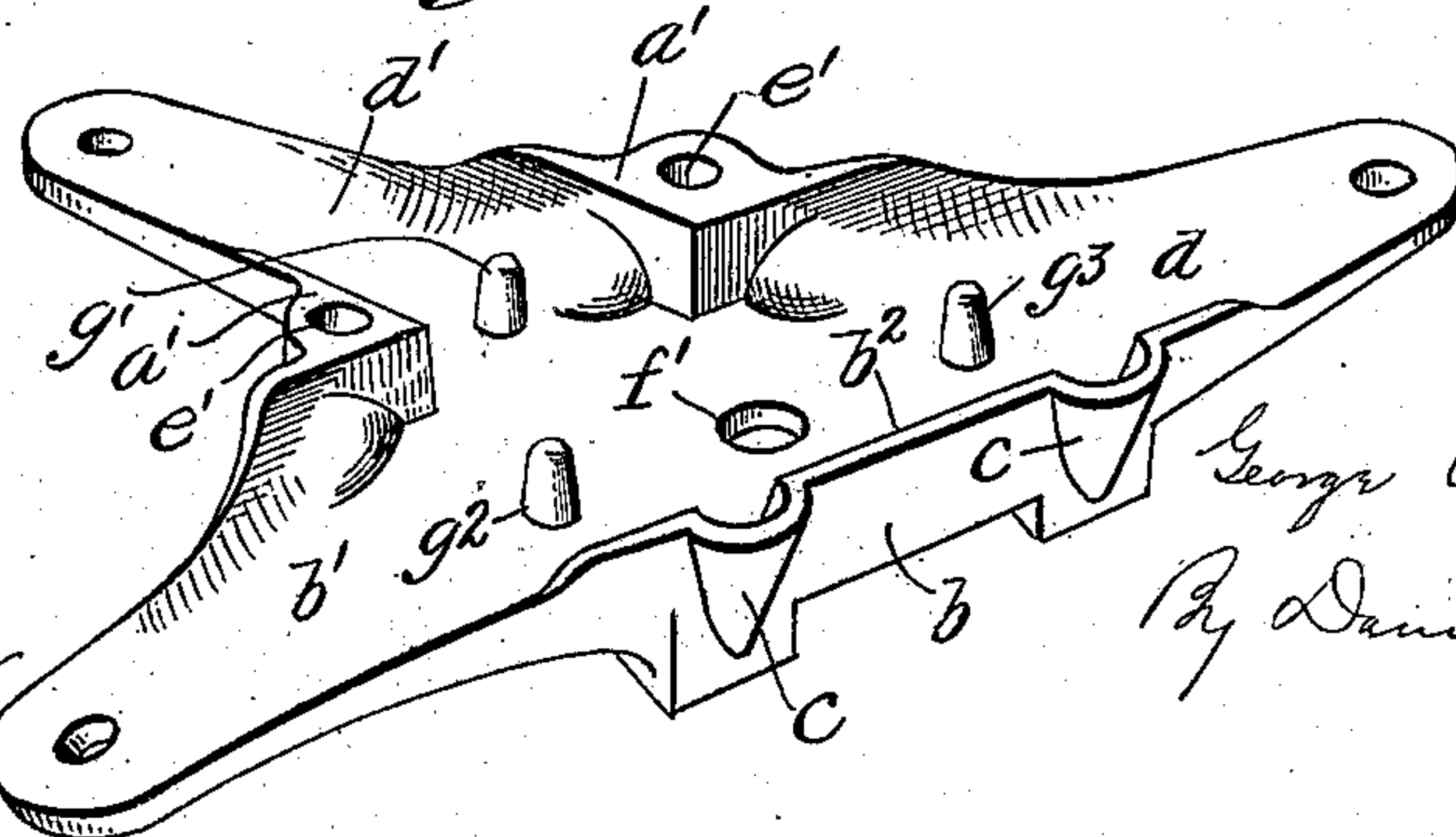


Fig. 5.



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VEHICLE SHAFT OR THILL.

No. 900,288.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed February 12, 1908. Serial No. 415,550.

To all whom it may concern:

Be it known that I, GEORGE A. LAMBERT, a citizen of the United States of America, residing at Anderson, in the county of Madison, State of Indiana, have invented certain new and useful Improvements in Vehicle Shafts or Thills, of which the following is a specification, reference being had therein to the accompanying drawing, in which—
Figure 1 is a perspective view of a portion of a pair of thills; Fig. 2 a plan view showing my invention, one of the clamp plates being removed and the securing bolts being shown in horizontal section; Fig. 3 a transverse section on line 3—3 of Fig. 2; Fig. 4 a transverse section on line 4—4 of Fig. 2; Fig. 5 a detail perspective view of one of the clamp plates.

The main object of this invention is to produce a pair of shafts or thills at a very low cost by utilizing short sections of wood and so connecting said sections as to form a very rigid and durable structure, the thills being preferably constructed in two sections connected together and to the cross bar by means of clamping plates, the clamping plates being so constructed that the bolts connecting said plates will not pass through the wood sections of the thills or through the cross bar, the object of this being to avoid weakening the wood sections by bolt-holes near the joints.

Referring to the various parts by letters, A designates the forward section of the thill; B the rear curved section; and C the cross bar. The object of making the thill in two sections is to enable me to utilize small sections of timber, which at present can not be used in the manufacture of vehicle thills. These sections of the thill are formed rectangular at their adjoining ends, which ends fit squarely against the opposite sides of the cross bar, near the end thereof.

The sections A and B of the thill are formed near their abutting ends with enlargements or heads A' and B', respectively, and the cross bar is also provided near its ends with a head or enlargement C', as shown clearly in Fig. 2, these enlargements being formed by the reduction in the diagonal diameters of the parts which occurs when the corners of the bars are rounded off, as shown.

The wood sections of the thill are rigidly held in their abutted positions by means of clamping plates a and b , which are formed

with the flanges a^2 and b^2 which embrace the outer side of the thill sections and the outer end of the cross-bar. The upper one of these flanges is preferably strengthened by an outward projecting rib or lug h which when the plates are clamped in place resembles in appearance the tenon of the usual wooden cross bar.

The plates lie flat against the upper and lower sides of the wood members and are clamped thereon by four bolts e which do not pass through the wood members but lie alongside the vertical edges of these members, the two inner ones being located in the corners formed by the cross bar and the thill members and the two outer ones lying closely adjacent to the joints. The flanges a^2 and b^2 are suitably bulged to accommodate these bolts and to inclose them. The front and rear edges of the plates are provided with flanges a' which together with the ends of the flanges a^2 and b^2 are shaped to closely hug the beveled portion of the heads B' and A', and the inner edges of the plates are shaped to closely embrace and hug the beveled shoulders of the head C' on the cross bar, so that when the plates are clamped tightly in position they rigidly grasp the three shouldered or headed portions of the wood members and thus firmly attach them together, thus holding the cross bar in position between the abutting ends of the thill members and tightly and rigidly clamping the abutting ends of the thill members against the adjacent squared faces of the cross-bar.

The plates may each be provided with suitable inwardly extending lugs g^1 , g^2 and g^3 which shall be so shaped as to enter holes x , x' and x^2 in the wood members and thus assist in preventing the wood members being pulled out of the clamp socket. A central bolt f passes down through the plates and the interposed cross-bar and serves to clamp to the under plate the forward end of a brace D of the usual construction, which brace is attached at its rear end to the rear end of the thill and to the thill-eye. In this way a considerable portion of the draft strain is taken off the thill member B thus reducing the danger of this member pulling out of the socket to a minimum. To further insure against the wood members pulling out of the coupling the flanges d , b' and d' of the lower plate are extended three or four inches along the under sides of the respective wood mem-

bers and are rigidly bolted by bolts α^* each of which is passed down through the wooden member and the extended flange or tail-piece and rigidly clamped in position.

5 From the foregoing it will be readily seen that I provide means for rigidly connecting together two sections of a wood thill and the cross-bar, thus enabling me to use short sections of timber and thereby greatly reduce
10 the cost of the thill. This construction also enables me to repair thills cheaply, it being manifest that the broken section of the thill may be removed and a new one inserted at a comparatively small cost. It will be ob-
15 served also that the clamp plates may be tightened up from time to time should rough usage or weather loosen the parts.

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

1. A vehicle thill formed of two sections and a cross-bar, the end of the cross-bar lying between the adjoining ends of the thill sections, said thill sections and cross-bar being
25 formed with heads at their ends, a pair of clamping plates, one of said plates being on the upper side of the thill sections and the other being on the lower side thereof, said plates bridging the joints between said sec-
30 tions and the cross-bar and having flanges bearing against the shoulders of the heads on the thills and cross-bar, and fastening devices whereby said thill sections and the cross-bar will be secured in position between
35 said clamping plates.

2. A vehicle thill formed of two sections and a cross-bar, the end of the cross-bar lying between the adjoining ends of the thill sections, said thill sections and cross-bar being
40 formed with shoulders near their ends, a pair of clamping plates, one of the said plates being on the upper side of the thill sections and the other being on the lower side thereof, said plates bridging the joints
45 between said sections and the cross-bar, and having flanges on their side edges embracing the sides of the thill sections and the cross-bar, and being shaped to closely embrace the shoulders, four rigid fastening devices con-
50 necting said plates outside the said thill sections and cross-bar, whereby said thill sections and the cross-bar will be secured in position between said clamping plates.

3. A vehicle thill formed of two sections
55 and a cross-bar, the ends of these parts abutting, a pair of clamping plates, one of said plates being on the upper side of the thill and the other being on the lower side and both plates bridging the joints between the
60 cross-bar and thill sections, and both plates being flanged so as to grasp the adjacent ends of the cross-bar and thill sections, rigid clamping or fastening devices connecting
65 said plates at points outside of the thill sections and cross-bar, a brace-iron connecting

the lower plate to the rear end of the thill, and a fastening bolt passing down through the clamping plates and the brace-iron, substantially as set forth.

4. A vehicle thill formed of two sections 70 and a cross-bar, the end of the cross-bar lying between the adjoining ends of the thill sections, said thill sections and cross-bar being formed with shoulders near their ends, a pair of clamping plates, one of said plates 75 being on the upper side of the thill section and the other being on the lower side thereof, said plates bridging the joints between said sections and the cross-bar, said plates being formed with studs or projections on their 80 inner sides adapted to enter corresponding recesses in the ends of the thill sections and the cross bar, rigid fastening devices connecting said plates outside the thills and the cross-bar whereby said thill sections and the 85 cross-bar will be secured in position between said clamping plates and the fastening means will not extend through said sections.

5. A vehicle thill formed of two sections and a cross-bar, the end of the cross-bar 90 lying between the adjoining ends of the thill sections, said thill sections and cross-bar being formed with shoulders near their ends, a pair of clamping plates, one of said plates 95 being on the upper side of the thill sections and the other being on the lower side thereof, the plates bridging the joints between said sections and the cross-bar, and being shaped to conform to the heads or enlargements formed by the shoulders, a brace-iron con- 100 necting the lower plate to the rear end of the thill section, fastening devices extending through said brace-iron and through the clamping plates, a set of rigid fastening de- 105 vices connecting said plates adjacent the shoulders formed on the thills and cross-bar whereby said thill sections and the cross-bar will be secured in position between said clamping plates.

6. A vehicle thill formed of two sections 110 and a cross-bar, the ends of these parts abutting and being provided with heads, a pair of clamping plates, one of said plates being on the upper side of the thill and the other being on the lower side and both plates 115 bridging the joints, between the cross-bar and thill sections, and both plates being flanged so as to grasp the adjacent headed ends of the cross-bar and thill sections, rigid clamping or fastening devices connecting 120 said plates at points outside of the thill sections and cross-bar, a brace-iron connecting the lower plate to the rear end of the thill, and a fastening bolt passing down through the clamping plates and the brace-iron, sub- 125 stantially as set forth.

7. A vehicle thill formed of two sections and a cross-bar, the ends of these parts abutting, a pair of clamping plates, one of said plates being on the upper side of the thill 130

and the other being on the lower side and both plates bridging the joints between the cross-bar and thill sections and both plates being flanged to grasp the adjacent ends of the cross-bar and thill sections, the flanges of the lower plate being extended along the under sides of the thill sections and the cross-bar, bolts fastening these extensions to the respective members, and additional

bolts rigidly connecting said plates at points outside of the thill sections and the cross-bar. 10

In testimony whereof I hereunto affix my signature in the presence of two witnesses this 17th day of Jany. 1908.

GEORGE A. LAMBERT.

Witnesses:

S. L. POSTLETHWAIT,
HANNAH M. SPARKS.