

No. 620,580.

Patented Mar. 7, 1899.

V. A. GATES.
WHEELBARROW.

(Application filed May 3, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

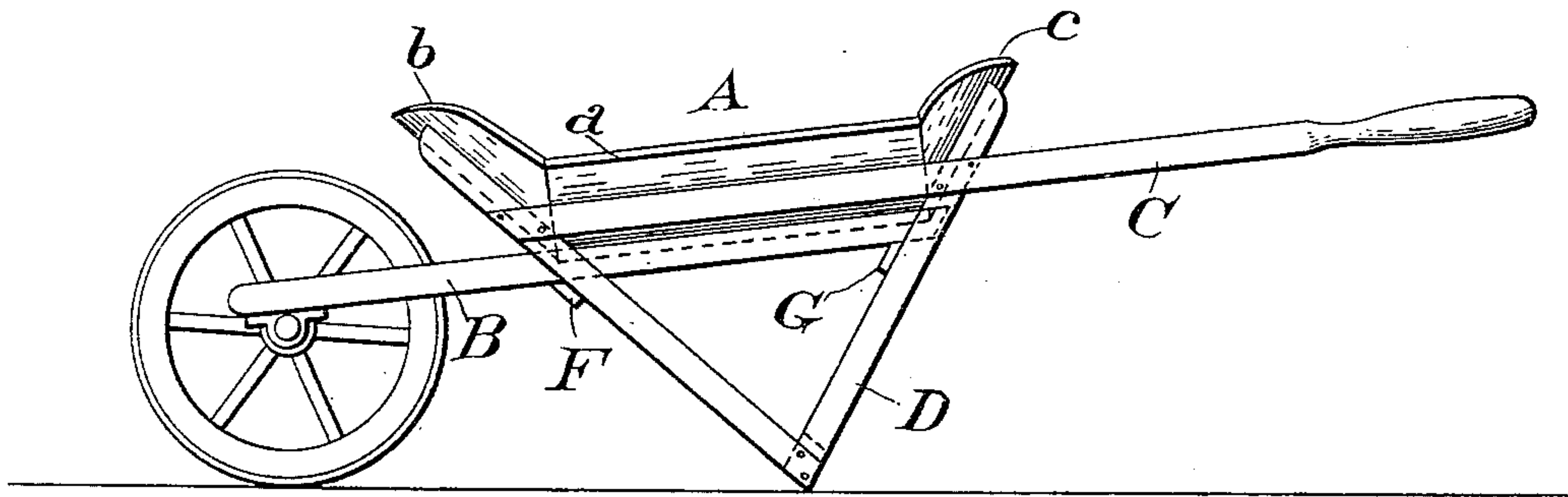
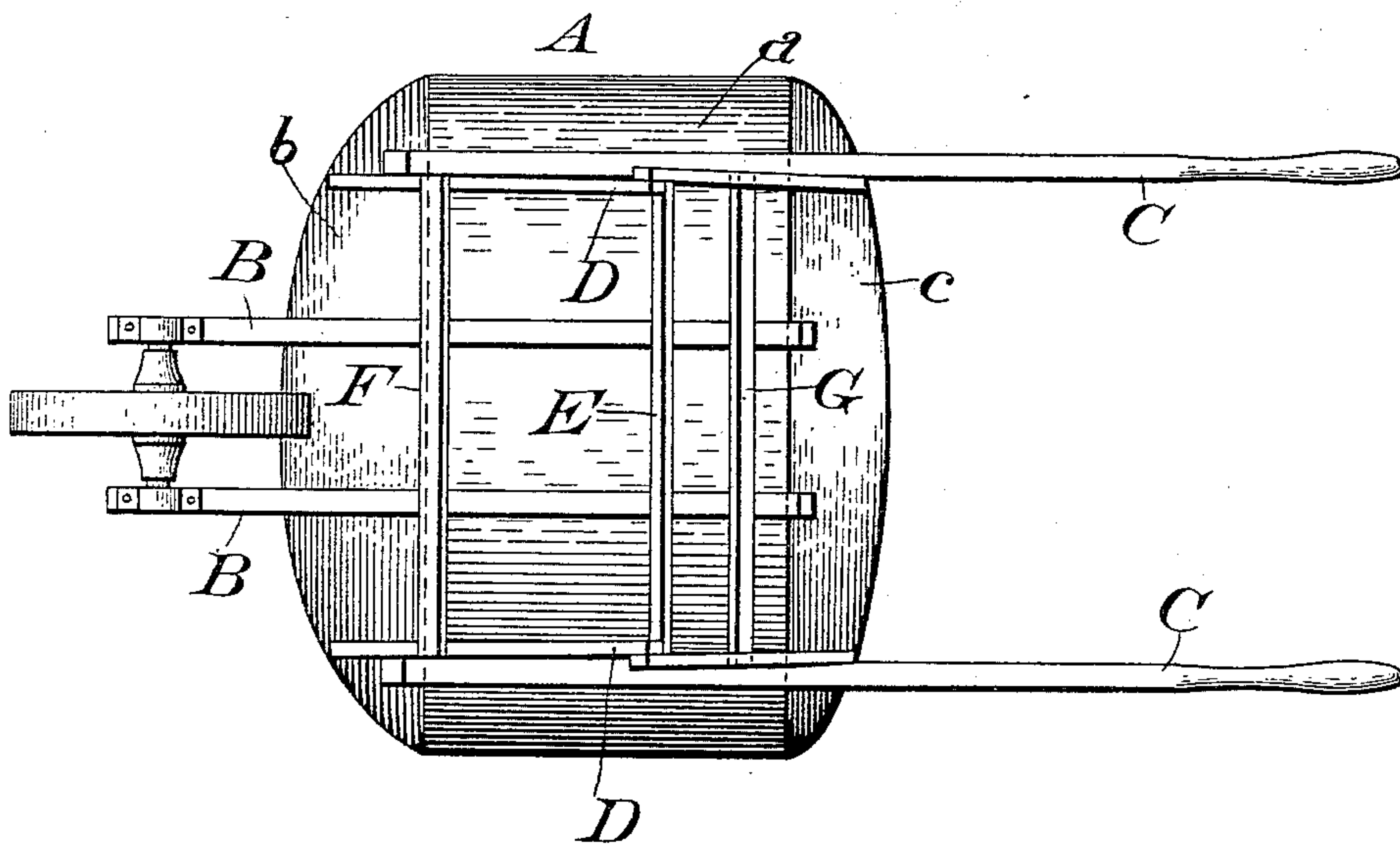


Fig. 2.



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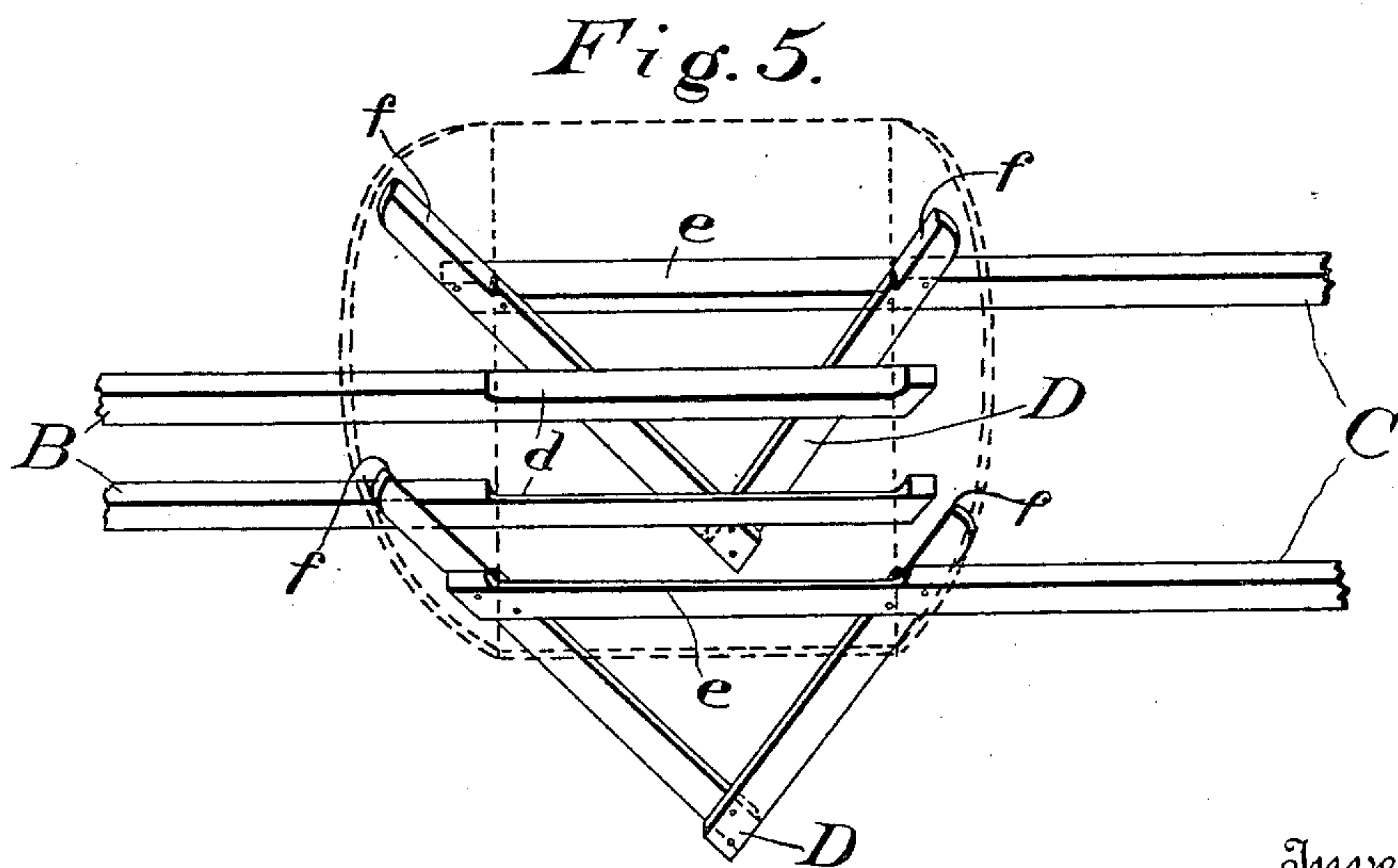
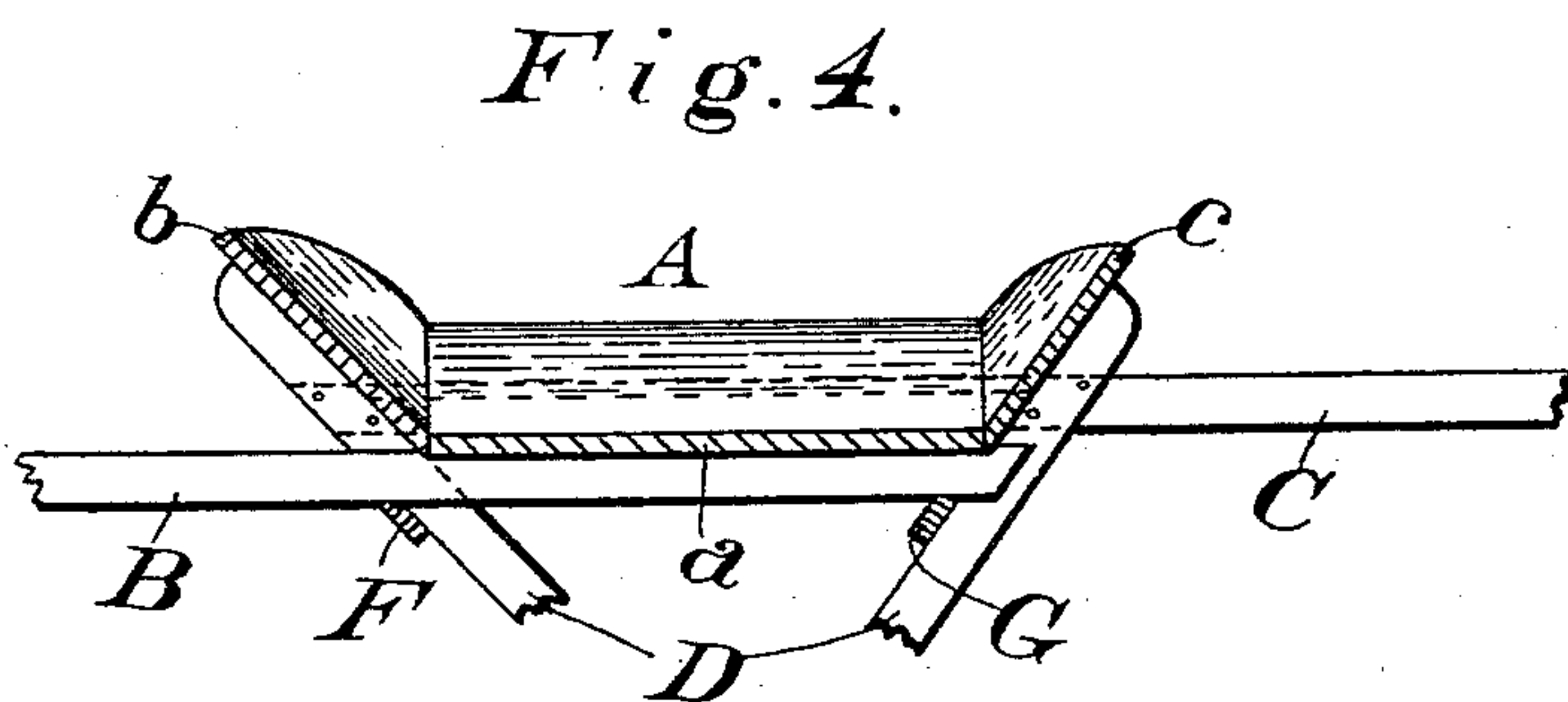
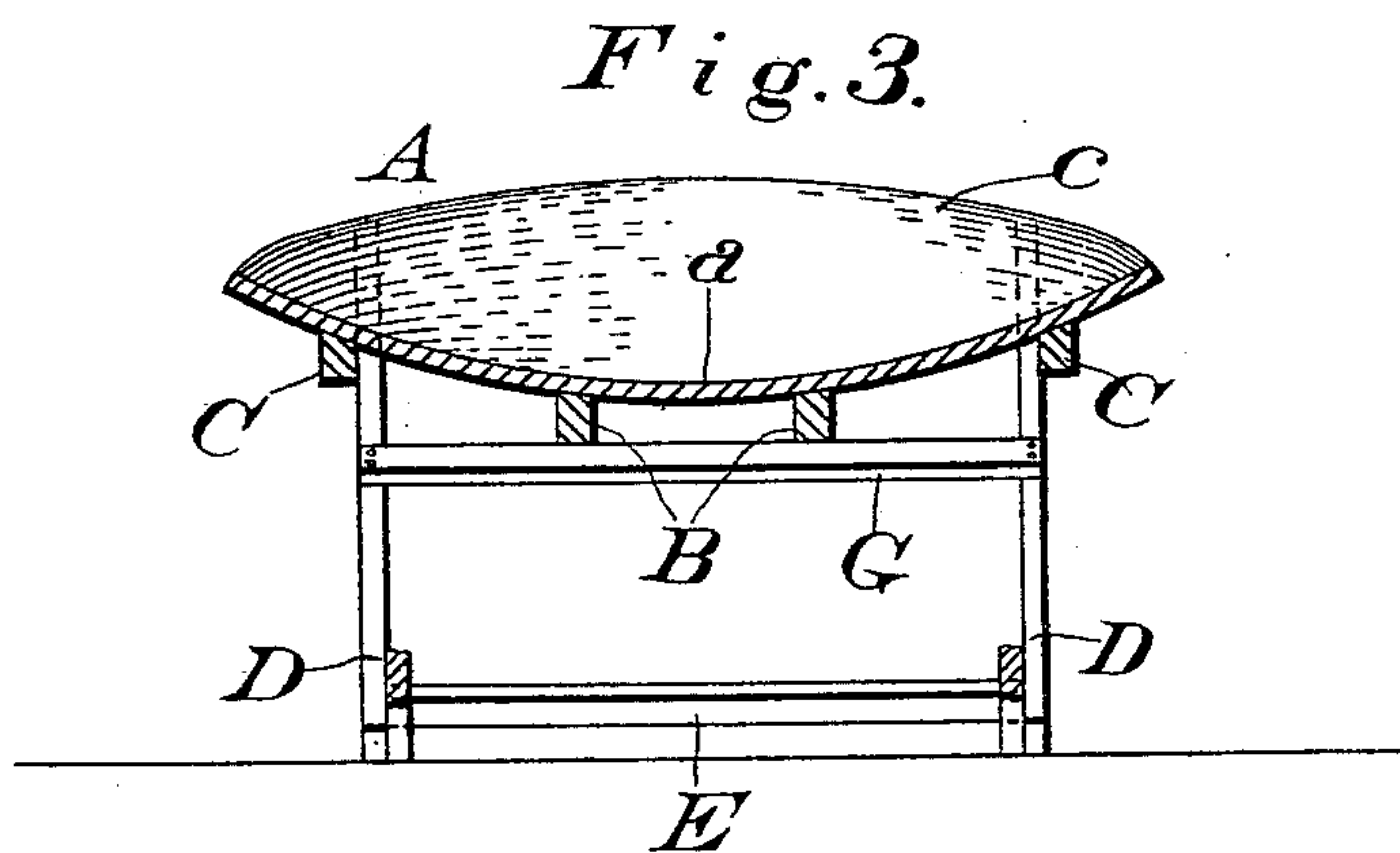
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UNITED STATES PATENT OFFICE.

VIRGIL A. GATES, OF CHARLESTON, WEST VIRGINIA.

WHEELBARROW.

SPECIFICATION forming part of Letters Patent No. 620,580, dated March 7, 1899.

Application filed May 3, 1898. Serial No. 679,594. (No model.)

To all whom it may concern:

Be it known that I, VIRGIL A. GATES, a citizen of the United States, residing at Charleston, in the county of Kanawha and State of West Virginia, have invented certain new and useful Improvements in Wheelbarrows; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to that kind of wheelbarrow commonly known as a "railroad" barrow, and the characteristic feature of which is its bowl-shaped tray. This tray from motives of economy is generally constructed of several pieces of board timber first shaped flat and then curved by steaming and pressure, so that when they are assembled and fastened together they form the shallow bowl, deeply rimmed at front and rear and unrimmed at the sides, which is the desired and desirable shape of the tray. A tray so made is apt under the influence of atmosphere and temperature to warp, split, or tear apart long before the rest of the barrow is out of condition. To guard against this premature disruption of the tray by improving its bracing is the primary object of my invention. A secondary object is to attain a better balance of the barrow on its wheel when lifted or in motion, and still another to give increased power and easier handling to the operator in trundling or tilting the barrow. These objects I accomplish by substituting for the ordinary single pair of combined wheel and hand shafts independent shafts, respectively, for wheel and hands.

In the accompanying drawings, wherein like letters represent like parts, Figure 1 is a side elevation of a barrow of my construction; Fig. 2, a bottom plan thereof; Fig. 3, a central vertical section thereof; Fig. 4, a lengthwise central section thereof; Fig. 5, an upper perspective of the framework, composed of the wheel-shafts, hand-shafts, and legs of the barrow, the tray, indicated by dotted lines, seated in and grasped by said framework, as shown also in the second figure.

A is the barrow-tray, consisting, as usual,

of the curved bottom *a*, the curved front rim *b*, and the curved hind rim *c*, which is narrower than the front rim, the three parts closely fitted and fastened together, as shown.

B is a pair of wheel-shafts parallel one to the other and extending straightforward from the hind rim of the tray beyond the front rim as far as needed to receive and accommodate the barrow-wheel. These shafts are placed equidistant from the lengthwise center line of the tray-bottom and fastened to the under surface thereof. A bevel *d*, as in Fig. 5, is formed in the upper surface of each shaft to enable it to fit tightly against the curved surface of the tray-bottom, and the bevel may be shouldered at each end, as shown, and thus the shaft be enabled to assist in bracing the rims against the bottom of the tray.

C is a pair of straight-running hand-shafts parallel to each other and extending from beyond the front rim of the tray as far behind the hind rim as needed to give proper hold and leverage to the operator. These shafts are placed equidistant from the side edges of the tray and fastened to the under surface of the bottom. A bevel *e*, as in Fig. 5, which may be shouldered at both ends, as shown, is formed in the upper surface of each shaft to enable it to fit closely against the curved surface of the tray-bottom, and when shouldered to clamp the tray-bottom and rims near those outer extremities where the tendency to rupture is naturally strongest.

By my construction and arrangement of wheel and hand shafts it results that the bracing powers and facilities of those shafts are better than those of the single pair of slanting shafts in common use, for the wheel-shafts brace the deep and central parts of the tray-bottom and the hand-shafts the shallow and outer parts, and each bracing is not only in a different horizontal plane from the other, but is straight across, making the braces as short as possible and giving them a direct grip upon the bottom of the tray. The wheel will be better mounted, and the power applied to it will be more direct in these parallel as compared with the usual converging shafts. The operator will be freed from the twist to hand and arm inseparable from the radiating shafts now in use and will gain in power and endurance.

D is the pair of barrow-legs, each strongly

fastened to one of the hand-shafts and extended above said shaft to brace the front and hind rims of the tray, bevels *f*, as in Fig. 5, being formed in each leg to enable it to
 5 closely fit the curve of the rims. Any of the known forms of leg will answer so long as it be adapted to fasten to the hand-shafts and brace both rims of the tray in the manner described, and I have shown the best form
 10 known to me at present.

I may choose to add a bar E, as in Fig. 3, across the bottom of the legs to stiffen them laterally, also a bar F, as in Fig. 2, across the front part of the legs to strengthen the
 15 wheel-shafts by bearing against them tightly, and a similar bar G, as in Fig. 2, across the rear part of the legs to further strengthen the wheel-shafts by bearing against them tightly; but none of these bars is a necessity
 20 of the construction.

The wheel-shafts B, the hand-shafts C, and the legs D—the two pairs of shafts fastened to the tray and the pair of legs to the hand-shafts—form a strong and rigid framework,
 25 as in Fig. 5, wherein the tray is tightly held, as shown in Figs. 2 and 5, so that it cannot break up under ordinary circumstances without rupturing the framework.

If the tray be formed integrally instead of
 30 from parts, my construction and arrangement are equally applicable and efficacious, and in either case, besides guarding against the warping and breaking tendencies due to temperature and atmosphere, would strengthen the tray against injury, impact, concussion, or pressure in the work of loading and
 35 unloading the barrow.

I claim the following:

1. The combination with the tray of an or-

dinary wheelbarrow of a pair of wheel-shafts 40 and a pair of hand-shafts, the latter placed exteriorly to the former and each pair separated from the other and arranged, in its own separate planes, in straight parallels on, and fastened to the bottom exterior of the 45 tray, all as herein described, for the purpose of improving the balance and leverage of the barrow, and strengthening the tray, as set forth.

2. The combination with the tray of an or- 50 dinary wheelbarrow of a pair of hand-shafts and a pair of wheel-shafts, the latter placed interiorly to the former and each pair separated from the other and in its own separate planes, and fitted in straight parallels to the 55 bottom exterior of the tray, and having a bevel in the upper surface of each shaft contoured to the curvature of the tray-bottom, all as herein described, for the purpose of strengthening the tray against warping or 60 breaking, as set forth.

3. The combination in a wheelbarrow of the described wheel-shafts and hand-shafts, each pair separated from the other and arranged in parallels upon and fastened to the bottom 65 of the ordinary tray of the barrow; together with a pair of legs, as described, each fastened to one of the hand-shafts and extended above it upon the front and hind rims of said ordinary tray, all in the manner described, 70 for the purpose of forming a strong and rigid framework for the holding of the barrow-tray.

In testimony whereof I affix my signature in presence of two witnesses.

VIRGIL A. GATES.

Witnesses:

D. D. STOUT,

CHAS. F. LITTLEPAGE.