

(No Model.)

A. C. CAREY.

BARREL.

No. 312,967.

Patented Feb. 24, 1885.

Fig. 1.

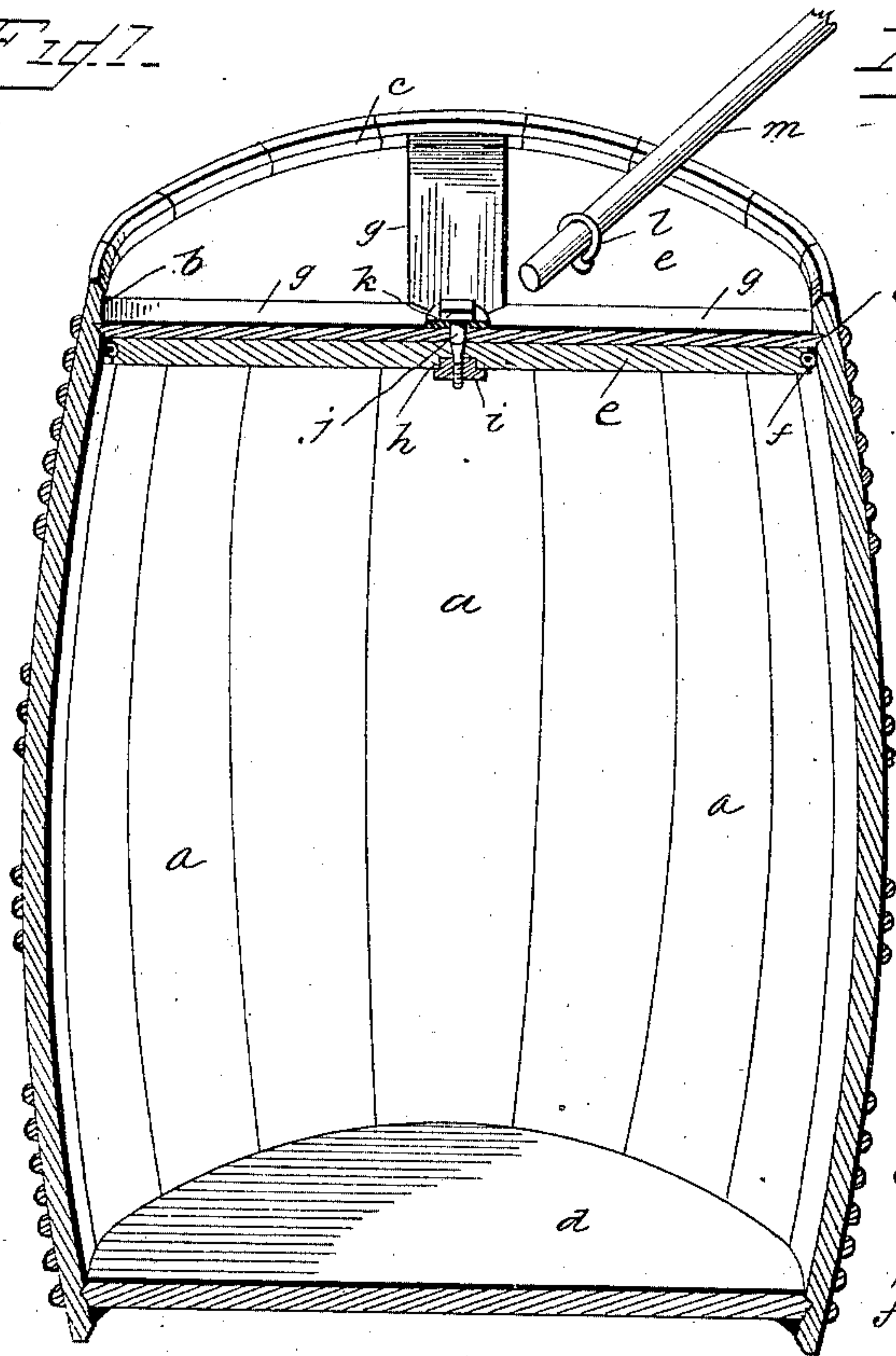


Fig. 2.

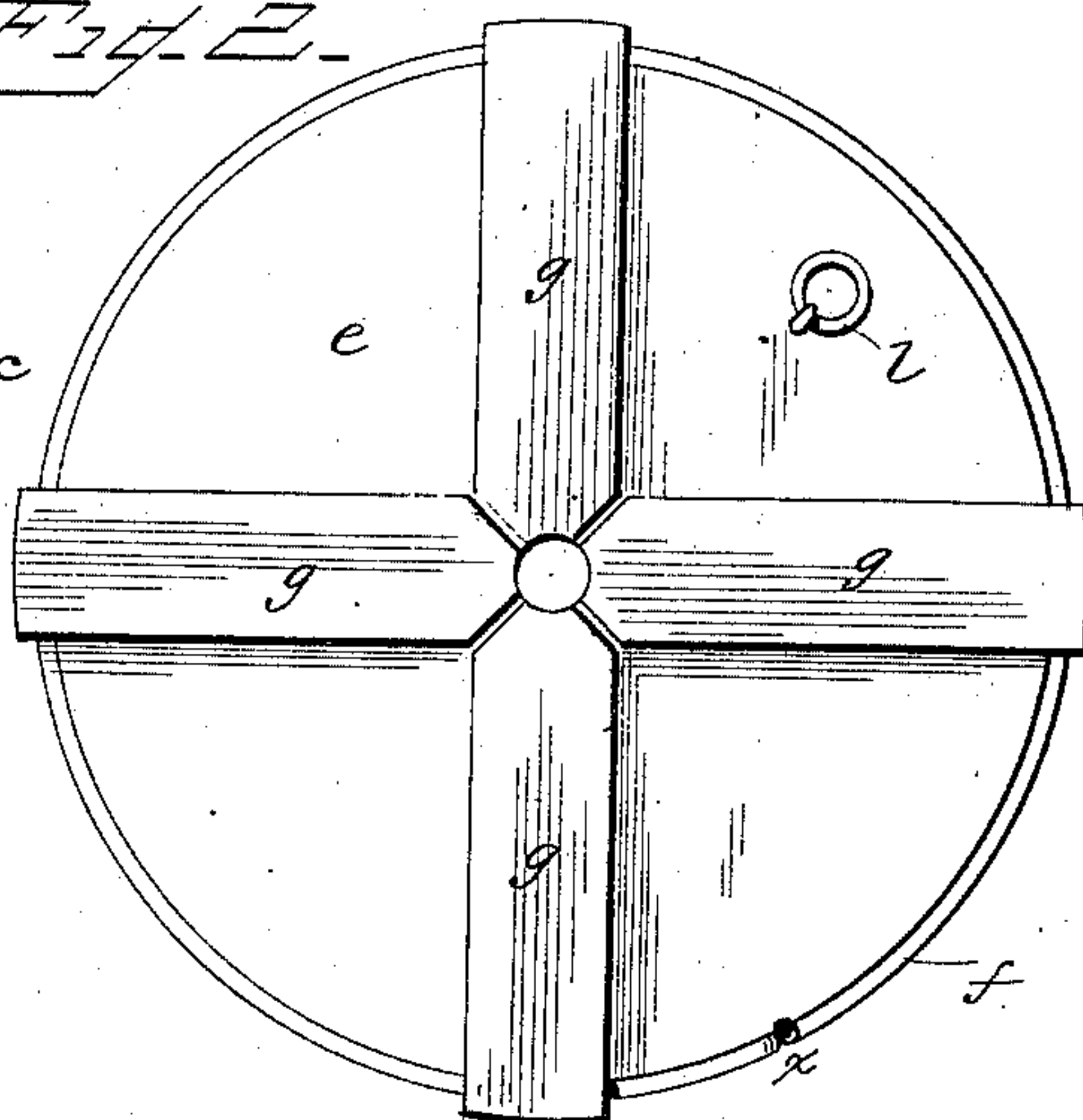


Fig. 3.

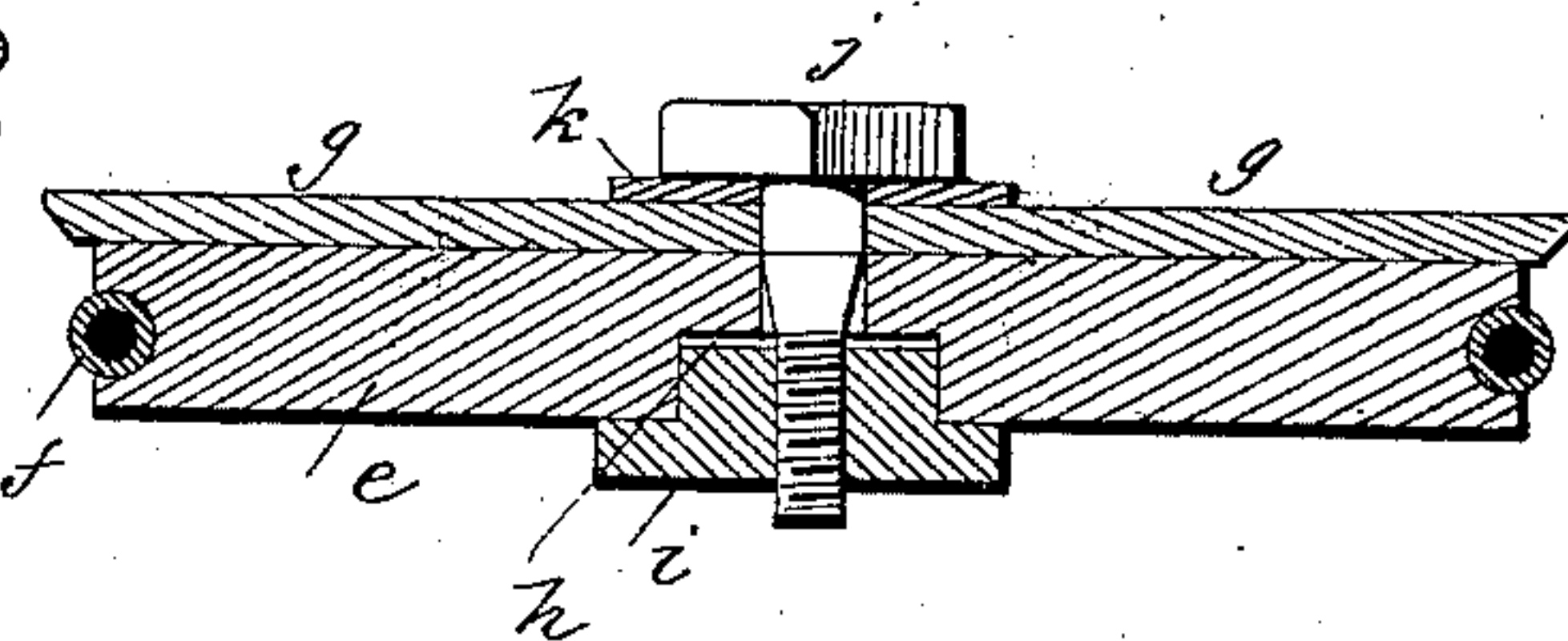


Fig. 4.

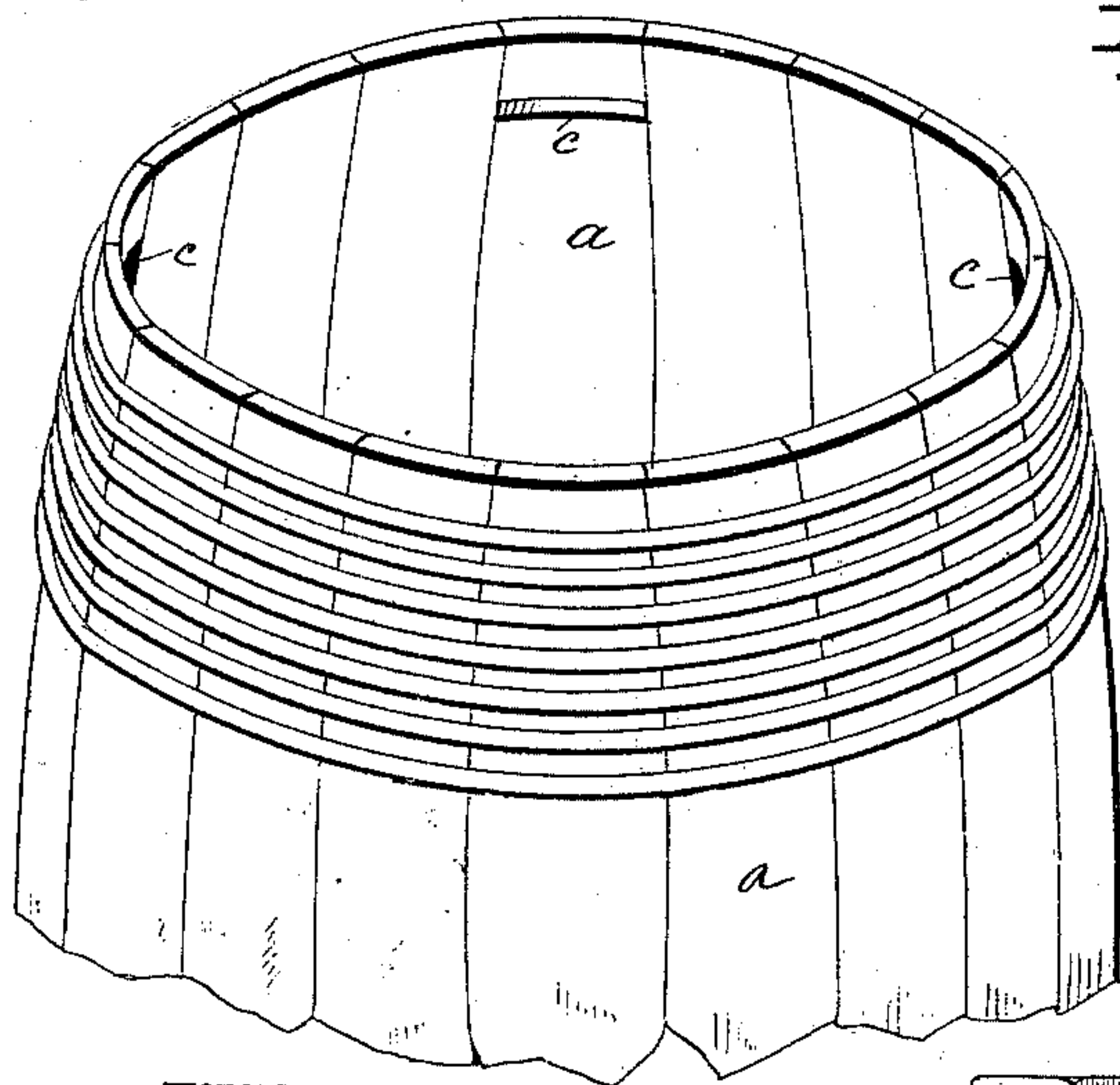
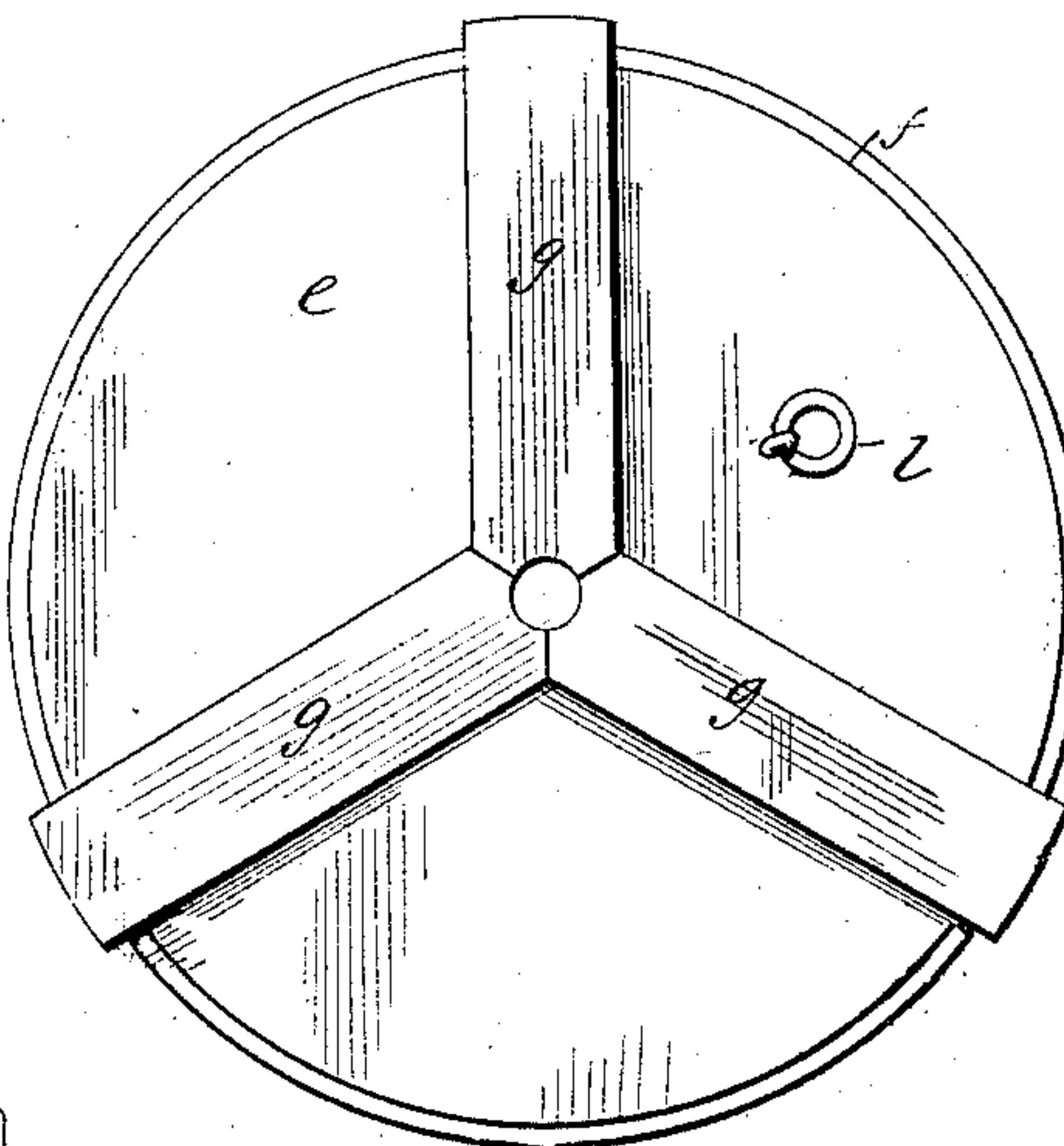


Fig. 5.



WITNESSES

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Fig. 6.



INVENTOR:

Augustus C. Carey,
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UNITED STATES PATENT OFFICE.

AUGUSTUS C. CAREY, OF BOSTON, MASSACHUSETTS.

BARREL.

SPECIFICATION forming part of Letters Patent No. 312,967, dated February 24, 1885.

Application filed December 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS C. CAREY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Barrels, of which the following is a full, clear, and exact description.

The object of this invention is to provide a strong tight barrel suitable for holding matter packed therein under pressure, and it is directed to the construction of a head, which, while perfectly tight and secure, may yet be readily removed without starting the hoops, so that the barrel may be kept intact for repeated reuse.

My invention consists in a stout, strong, and water and air tight barrel, preferably of staves, in which one head is preferably a fixture and the other is removable without starting the hoops, said last-named head being provided with an air and water tight packing which engages the inner surface of the chine below the croze, a plurality of movable battens radiating from a bolt-hole in the head and engaging the croze, and a screw-bolt in said bolt-hole engaging a nut in the head, and the several battens to hold the battens in the croze and to the head, and so securing the head removably in the barrel, all and severally as hereinafter set forth and claimed.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a central vertical section in perspective of a barrel embodying my invention. Fig. 2 is a top plan view of the head, with its battens removed from the barrel; and Fig. 3 is a central vertical cross-section thereof, these two last views, for the sake of clearness, showing the parts disproportionately thick. Fig. 4 is a perspective view of a modification in the croze. Fig. 5 is a top plan view, on another scale, of a barrel-head having three battens; and Fig. 6 is an elevation of a straight or parallel sided bolt which may be used instead of the tapering bolt shown in Figs. 1 and 3.

The barrel staves *a* have the chine *b* flat, and provided with a continuous croze, *c*, or individual crozes, as shown in Fig. 4, corresponding in number with the number of battens used on the head, and in this latter case

the crozes will be made preferably the width of a stave, so that the two next adjacent staves will present solid surfaces against which the sides of the battens when in place will abut, and the battens be thereby held against lateral slip or displacement. The under lip of the croze or crozes is of easy curvature or incline to permit the head to slip by it.

The barrel-head *d* may be of any approved construction and inserted in any usual way. The head *e* is circular with straight periphery, so as to slip along the straight chine of the barrel, and its periphery is grooved annularly to receive a packing-ring, *f*, which by preference is rubber tubing having its ends lap-jointed or otherwise connected, or having one end turned up and the other down in appropriate grooves in the periphery of the head, as indicated at *x*, Fig. 2. The contents of the barrel limit the downward movement of the head, and said head is pressed down hard upon such contents and held there by the battens *g*, of which there are a plurality arranged radially of the head, and having undercut outer ends to fit in the croze. The inner ends of these battens are beveled or mitered to register at the center of the head, and are also curved on the arc of a circle to form an orifice which registers with a hole, *h*, in the barrel-head, the said hole *h* being provided with a stationary nut, *i*, let into or fixed to the under side of the barrel-head. When the barrel-head and battens are in position in the chine, a screw-bolt, *j*, is passed through the orifice of the battens and the hole in the barrel-head, and screwed down into the nut *i*, a washer, *k*, being preferably first interposed between the battens and bolt-head to insure a tight joint. The bolt, if tapered, as in Figs. 1 and 3, will serve to spread out the battens longitudinally and insure their engagement with the croze or crozes; but it is an easy matter to have said battens of such invariable length and the diameter of the chine so fixed (owing to the fixture of the hoops at all times) that no longitudinal movement of the battens will be needed, and hence a straight bolt, as in Fig. 6, will suffice to hold them in the croze or crozes and to the head. The battens will be applied to a filled barrel while the head is under pressure, and may be simply laid in the croze flat on the head and then secured by the bolt. The bolt

may taper to its head, or have a tapering shoulder on a straight cylindrical shank.

I do not deem it advisable to force the battens into the croze by a bolt acting as a wedge for the reasons that there is too much wear by end-thrust on the battens, and there is a tendency to spread the barrel unduly to the injury of its hoops and the disjointing of the staves; but the tapering bolt I prefer to use, as shown in the drawings, will simply drive the battens home, and then there will be no further increase of pressure or thrust against the staves. This is true also of the well-matched battens and straight bolt. The mitering of the battens serves to insure against lateral displacement.

The barrel is uncovered by removing the screw-bolt, lifting off the battens, and then raising the cover; but, inasmuch as the cover is apt to stick, I provide it with a ring, *l*, fastened thereto—say by a staple—by which the barrel-head may be pulled out manually, and if it should refuse to move, a stick, bar, or lever, *m*, may be run through it, using the head of the barrel as a fulcrum, as indicated in Fig. 1.

What I claim is—

1. A barrel provided with a fixed head and a removable head, the latter comprising a circular disk provided with a peripheral packing, to engage the chine of the barrel below the croze, battens superposed upon such head and engaging the croze and having their inner ends matched, and a screw-bolt and nut to fasten the battens and head together, substantially as described.

2. The combination, with a crozed barrel, of the removable head having peripheral packing, battens having undercut outer ends and matched or mitered inner ends, a nut fast in said head, and a screw-bolt engaging such nut and the battens, substantially as described.

3. The combination, with a crozed barrel, of the removable head having peripheral packing, battens radiating from a central bolt-hole in the head and having undercut outer ends and matched or mitered inner ends, a nut fast in said head, and a screw-bolt engaging such nut and the battens, substantially as described.

4. The combination, with a crozed barrel, of the removable head, battens superposed on such head and engaging the croze, a tapering screw-bolt, and a nut therefor to hold the battens to the head and in the croze, substantially as described.

5. The combination, with a barrel-head secured in the barrel by superposed battens, and a bolt and nut applied thereto, of a series of crozed staves equal in number to the number of battens and engaged by such battens, and crozeless adjacent staves, substantially as described.

In testimony whereof I have hereunto set my hand this 23d day of December, A. D. 1884.

AUGUSTUS C. CAREY.

Witnesses:

E. F. WHITE,
E. A. FINCKEL.