

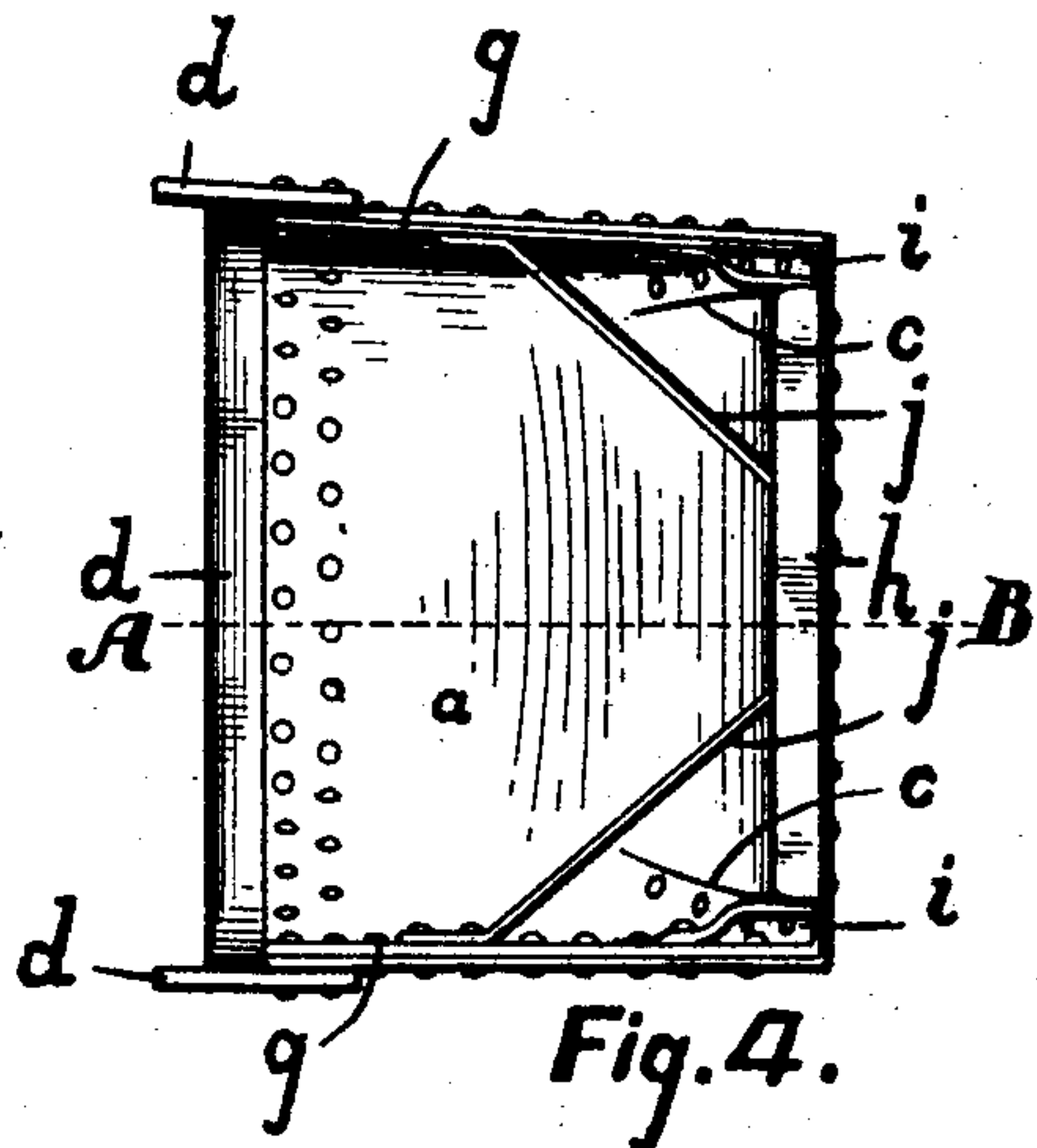
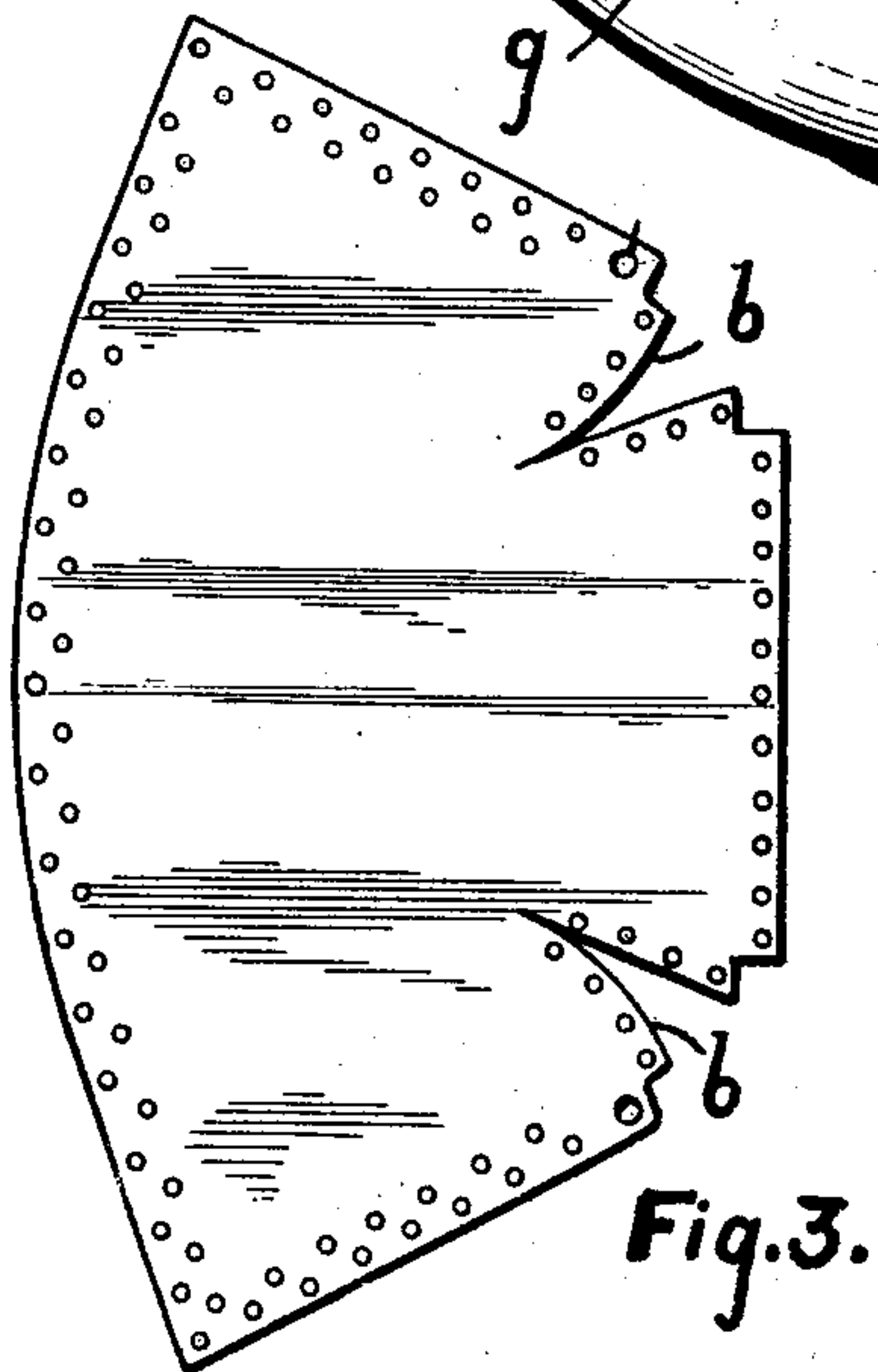
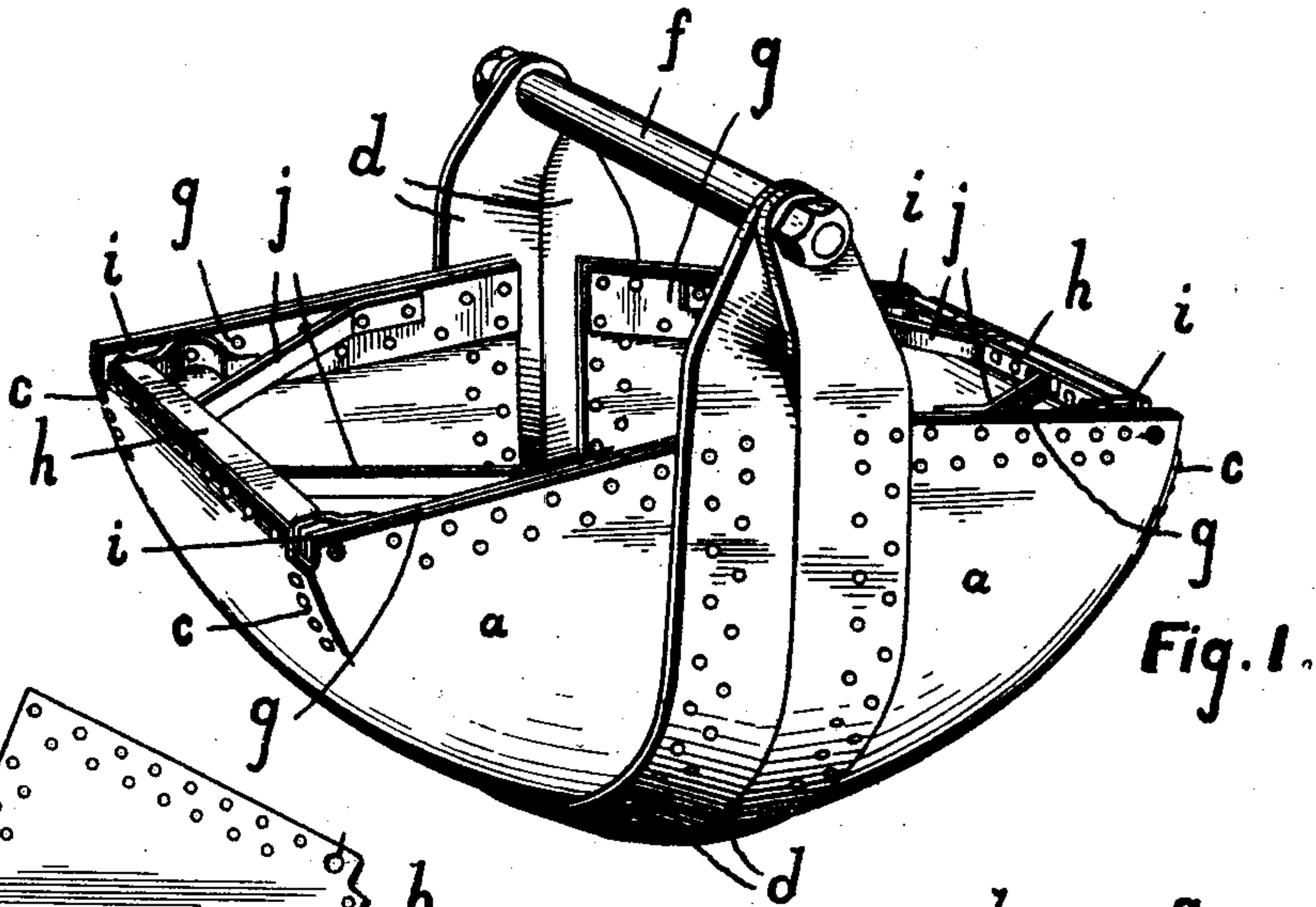
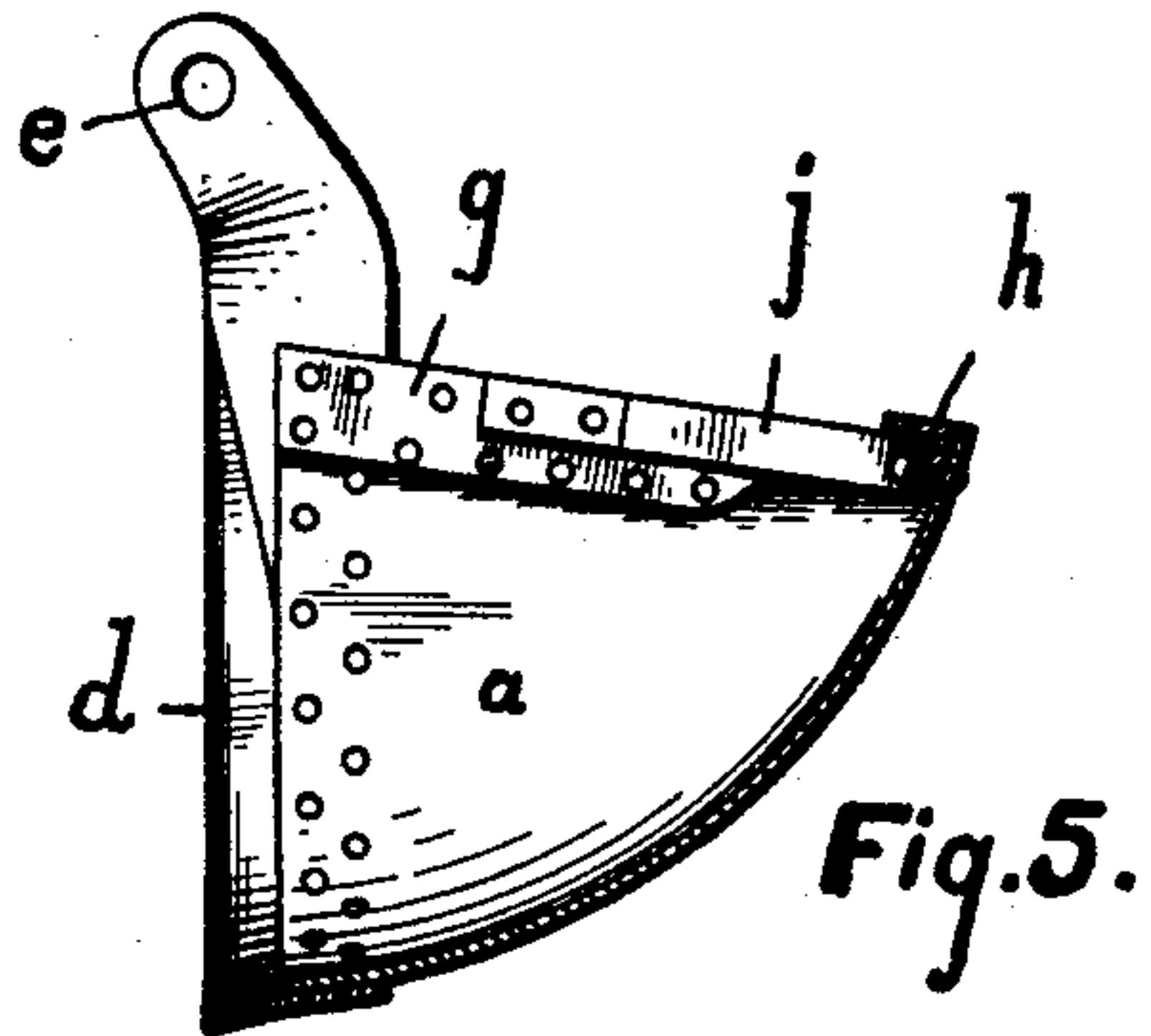
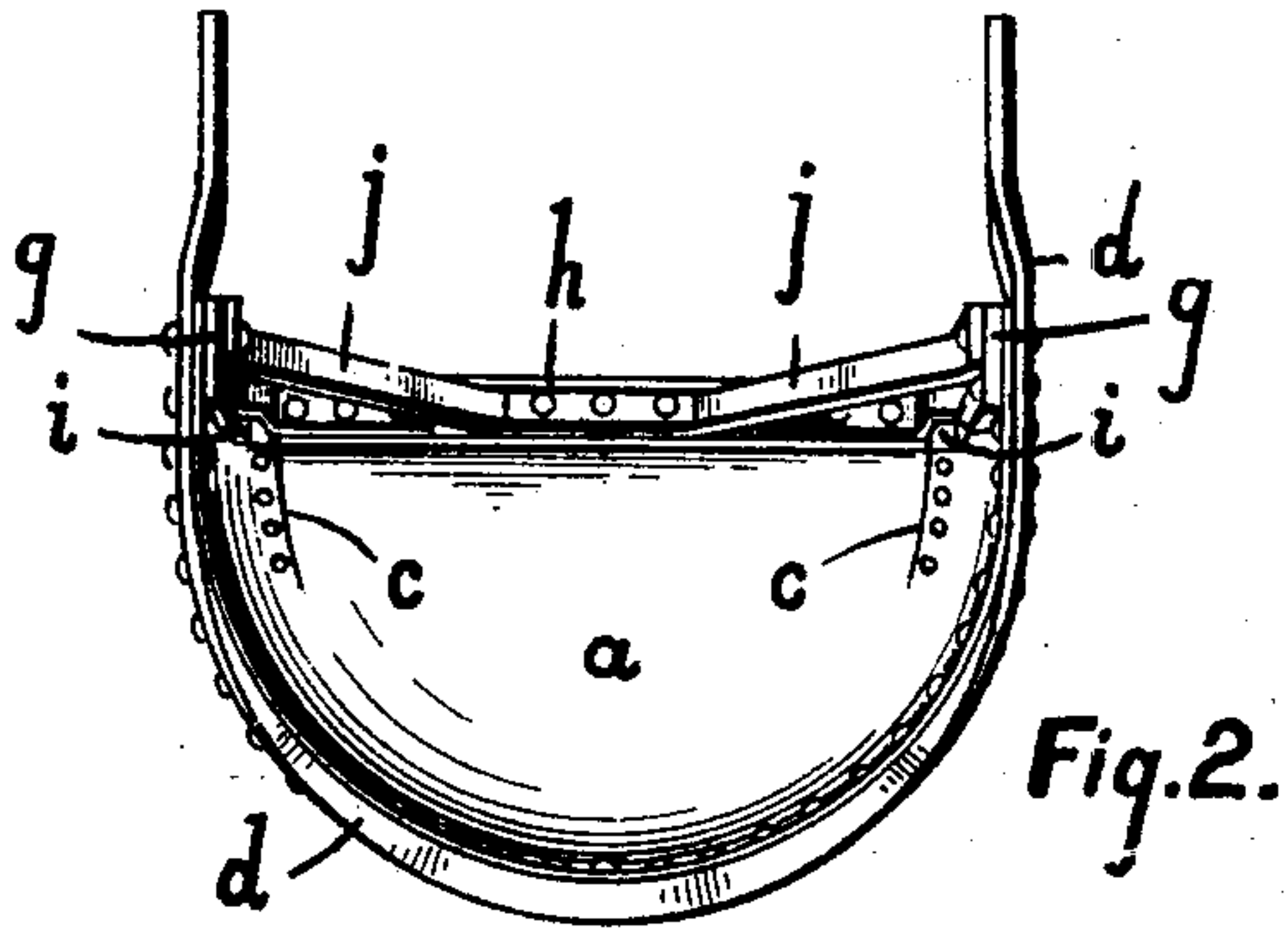
No. 771,440.

PATENTED OCT. 4, 1904.

A. McKAY & M. MOSS.  
CLAM SHELL HOISTING BUCKET.

APPLICATION FILED JAN. 19, 1904.

NO MODEL.



Witnesses.

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# UNITED STATES PATENT OFFICE.

ALEXANDER McKAY AND MICHAEL MOSS, OF MONTREAL, CANADA; SAID  
MOSS ASSIGNOR TO SAID McKAY.

## CLAM-SHELL HOISTING-BUCKET.

SPECIFICATION forming part of Letters Patent No. 771,440, dated October 4, 1904.

Application filed January 19, 1904. Serial No. 189,697. (No model.)

*To all whom it may concern:*

Be it known that we, ALEXANDER McKAY and MICHAEL MOSS, subjects of the King of Great Britain, residing at Montreal, in the district of Montreal, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Clam-Shell Hoisting-Buckets, of which the following is a specification.

Our invention relates to improvements in clam-shell hoisting-buckets; and the object of the invention is to lessen the labor in the production of the buckets, and thereby cheapen the cost and at the same time provide a bucket which shall be durable and particularly serviceable in its self-filling properties; and it consists, essentially, of two segments, each formed of a single sheet of metal, and straps secured to the segments and forming lips at the meeting edges and a lifting-shaft suitably attached, the various parts being arranged and constructed in detail as hereinafter more particularly described.

Figure 1 is a perspective view of the bucket as it appears in its finished state. Fig. 2 is a view of a segment looking into it from the meeting edge. Fig. 3 is a detail of a sheet of metal before being formed into a segment. Fig. 4 is a plan view of a segment. Fig. 5 is a sectional view through A B in Fig. 4.

Like letters of reference indicate corresponding parts in each figure.

*a* designates the segments of the bucket, each formed from a sheet of metal having V-shaped openings *b* previous to rolling into shape, as shown in Fig. 3. The edges of the V-shaped openings *b* after the sheet of metal is formed into shape overlap and are securely riveted together at *c*.

*d* represents straps securely attached to the segments *a* at their meeting edges to form lips and extend upwardly beyond the segments, having at their extreme upper ends the orifices *e*. One of the straps *d* at each side where it extends above the segment is bent in and both bent over to bring the orifices *e* in alignment.

*f* is the lifting-shaft, extending at each

end through the orifices *e* and secured by nuts or cotter-pins. The segments *a* are thus suspended from the shaft *f* and swing freely thereon.

*g* and *h* are reinforcing-bars of metal for the sides and ends of the segments *a* and are securely riveted thereto at the upper edges. The side bars *g* are also riveted to the straps *d* at one end and at the other split. One part thus split is bent outwardly to form the slot *i* and extends farther and is turned parallel to the end bars *h*, to which they are securely attached.

*j* represents braces from the side bars *g* to the end bars *h*.

The operation of the clam-shell bucket in hoisting is well known, and it will not be necessary in explaining the merits of this invention to describe the same.

The most salient feature in our invention is the manufacture of a segment of the bucket out of one sheet of metal in the manner described, as we thus eliminate the usual seams and in place thereof have a short seam at each upper corner, which does not come in contact with the stuff to be raised when the bucket is sent down with great force.

The manufacture is made much simpler by using the single sheet and saves considerable time besides producing a much-desired shape—that is to say, the sheet of metal is so formed that the contour centrally and longitudinally will describe an arc, while the meeting edge of each segment up to within a short distance of the top describes a semicircle. These peculiarities in the shape of our bucket-segments constitute essentials in such devices by reason of the rough usage incident to the dropping of the segments from a height for filling purposes. The shape also is accountable for much better filling properties, as the lips delving into the coal, the arc-shaped contours both laterally and longitudinally, more easily pass through the coal and are liable to take in a much greater load, for if properly swung from a center eccentric to the longitudinal arcs the lips will dig deep and bring



forth a heaping bucketful, mainly because the action of filling is quicker. In other words, the segments close deeper in the coal.

Another feature in our invention which has many advantages is the bringing of the lips, or "straps," as they are herein described, upwardly beyond the top edges of the segments and swinging the segments directly therefrom on the lifting-shaft.

It will be seen that the straps form a direct lift from the center of the bucket when loaded and will tend much to reduce the wear and tear on the reinforcing bars or frame of the device.

The splitting of the side bars to form the slot *z* is merely a convenience in construction which will economize in time and material, as such slots are now made, as far as we are aware, by adding another piece of metal.

What we claim as our invention is—

1. In a clam-shell hoisting-bucket, a segment comprising a sheet of metal with end corner-slits, such segment having substantially right-angular flanges at the slits to which the edges of the end are riveted, and provided with a reinforcing end bar suitably secured to the top of the end, as and for the purpose specified.

2. In a clam-shell hoisting-bucket or the like, a segment comprising a sheet of metal with corner-slits having inturned flanges against which the edges of the end are se-

cured, reinforcing edge strips and braces extending between the upper edge strips, as and for the purpose specified.

3. In a clam-shell hoisting-bucket, a pair of segments each comprising a single piece of metal, and having short seams at each upper corner, a pair of straps forming lips at each meeting edge and extending upwardly above the segments, and a lifting-shaft passing through the upper extensions of said straps and supporting said segments, as and for the purpose specified.

4. In a clam-shell hoisting-bucket, a pair of segments each comprising a single piece of metal, a plurality of reinforcing-bars secured toward the upper edge of each segment, having the two reinforcing side bars in each segment split for a portion of their length to form slots, straps securely attached to the segments at the meeting edges and forming lips and having upper extensions beyond the segments, and a lifting-shaft passing through the upper extensions of said straps, as and for the purpose specified.

Signed at Montreal, in the district of Montreal, in the Province of Quebec, Canada, this 15th day of January, 1904.

ALEXANDER McKAY.  
MICHAEL MOSS.

Witnesses:

J. E. L. BLACKMORE,  
R. T. TROTTER.