

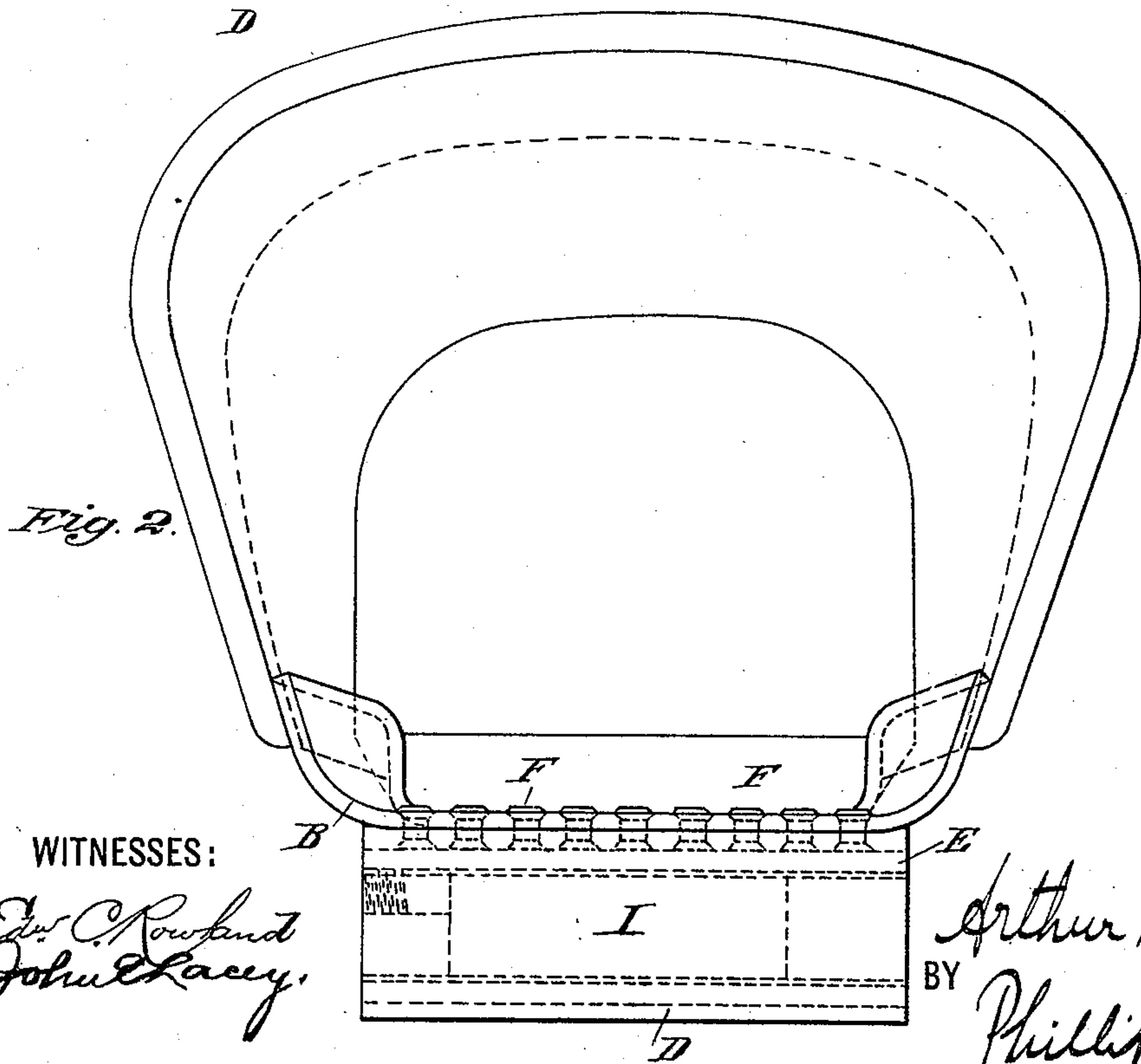
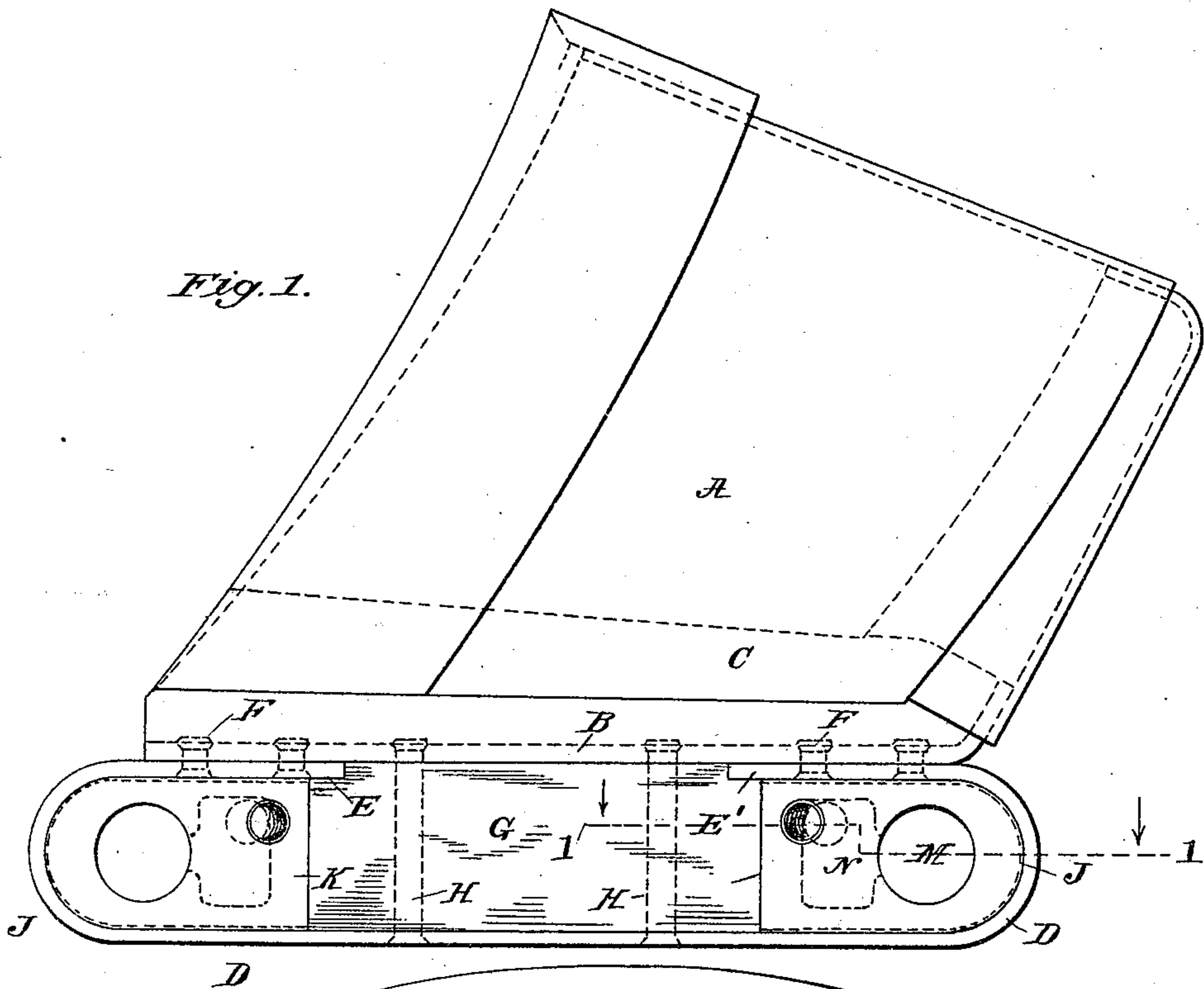
(No Model.)

2 Sheets—Sheet 1.

A. W. ROBINSON.  
DREDGE BUCKET.

No. 519,551.

Patented May 8, 1894.



WITNESSES:

*Edw. C. Rowland*  
*John Lacey*

INVENTOR

*Arthur W. Robinson*  
BY *Phillips Hobolt*  
ATTORNEY

(No Model.)

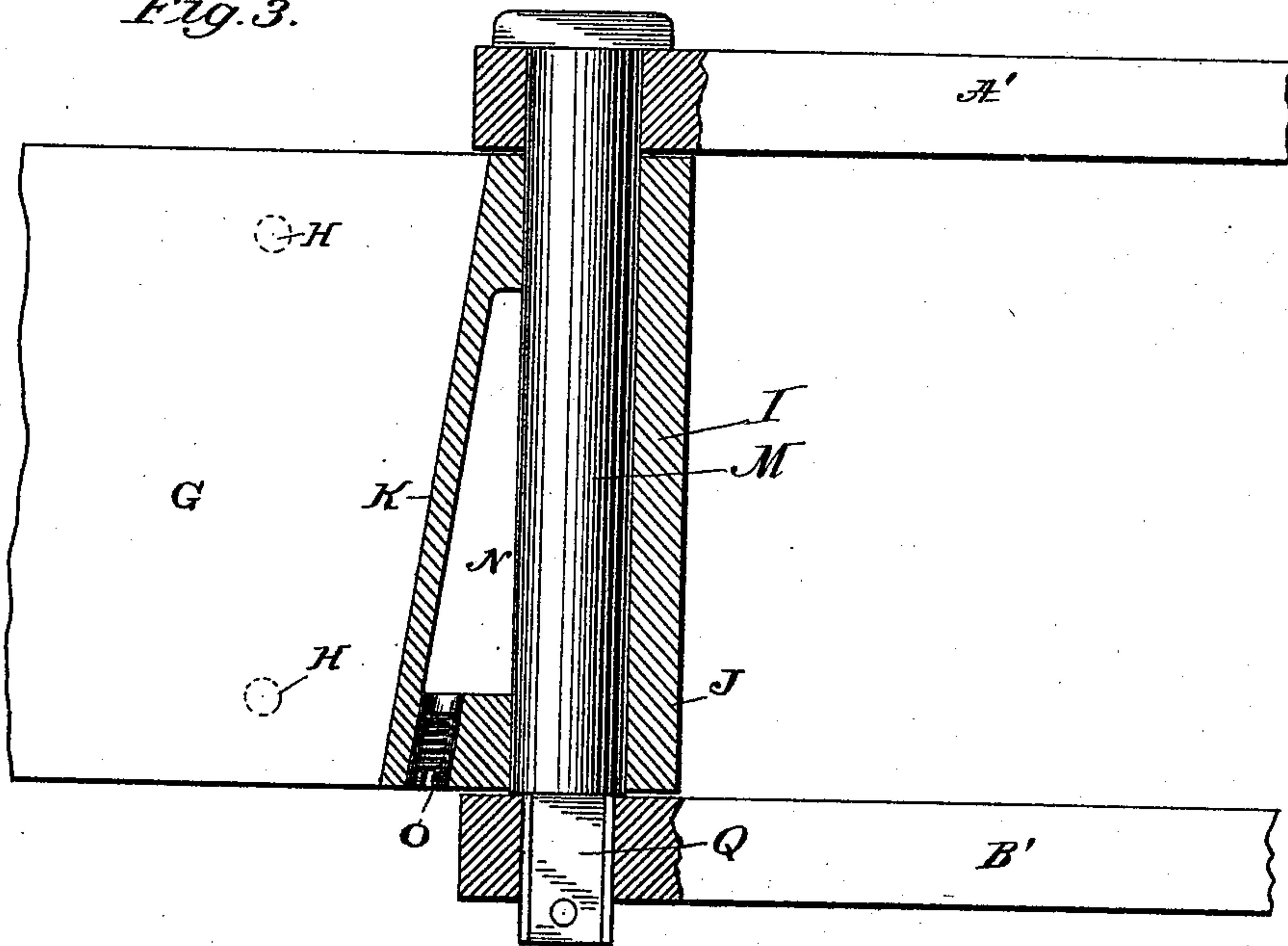
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A. W. ROBINSON.  
DREDGE BUCKET.

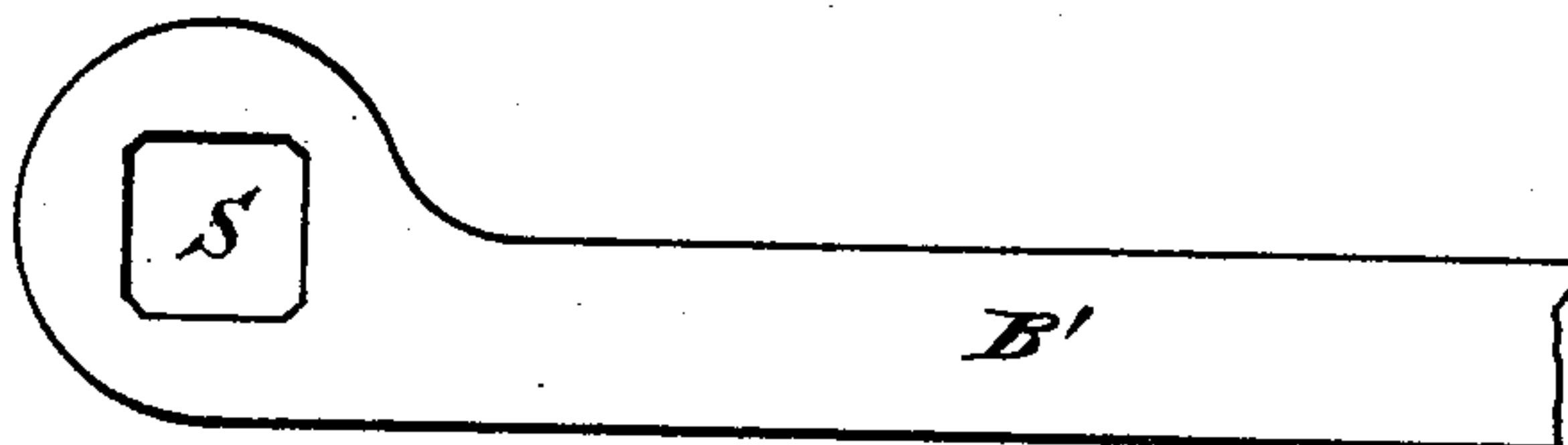
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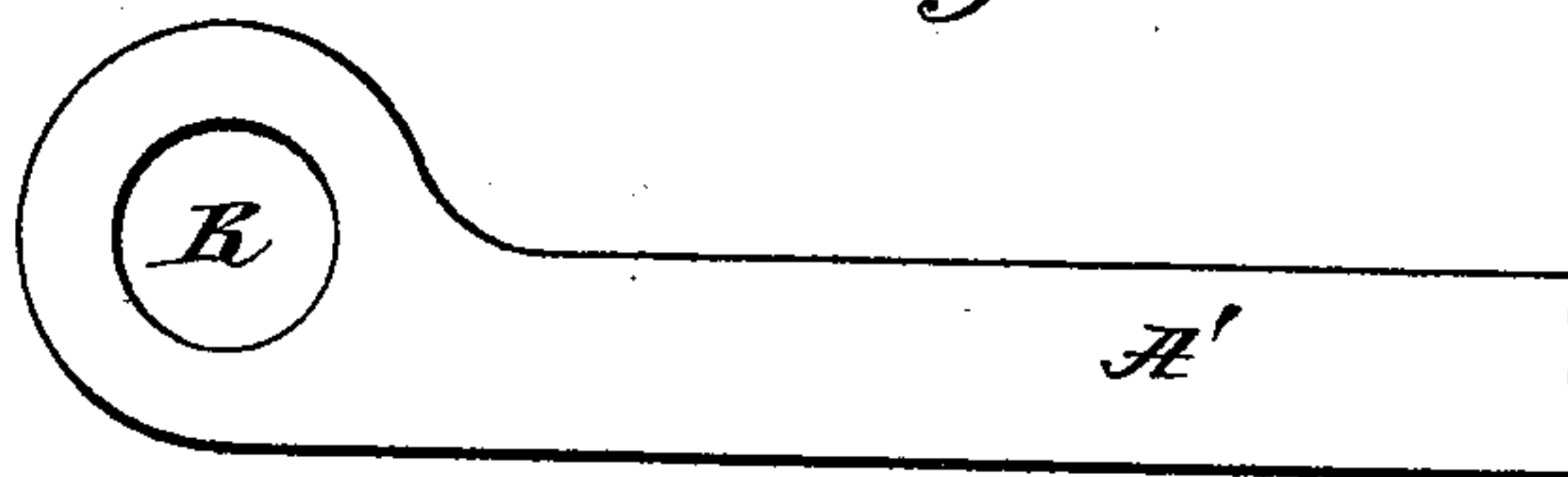
*Fig. 3.*



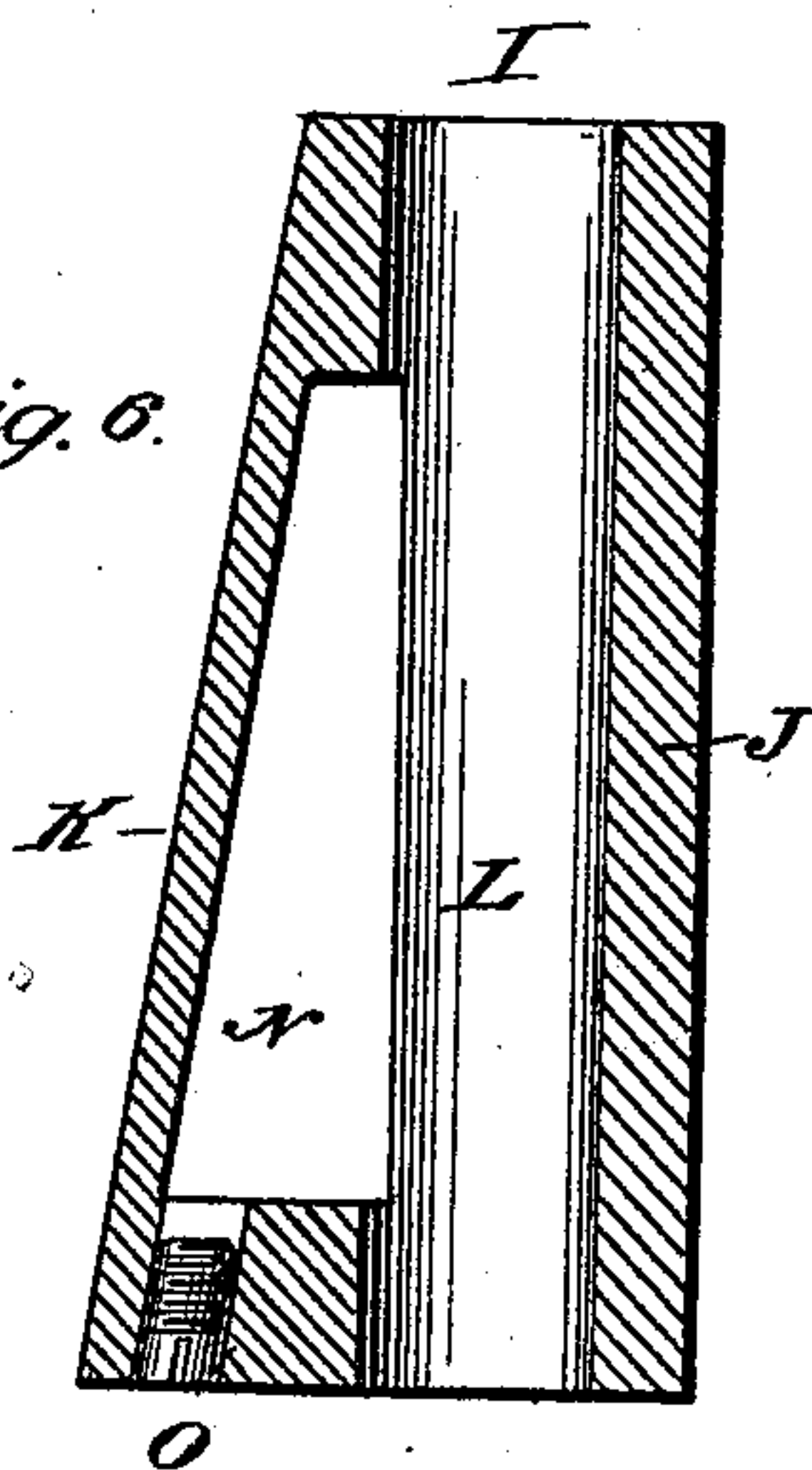
*Fig. 4.*



*Fig.5.*



*Fig. 6.*



**WITNESSES:**

Witnesses:  
Edward C. Rutland.  
John Lacey.

**INVENTOR**

INVENTOR  
Arthur W Robinson  
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ATTORNEY

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# UNITED STATES PATENT OFFICE.

ARTHUR W. ROBINSON, OF MILWAUKEE, WISCONSIN.

## DREDGE-BUCKET.

SPECIFICATION forming part of Letters Patent No. 519,551, dated May 8, 1894.

Application filed November 23, 1893. Serial No. 491,754. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR W. ROBINSON, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Dredge-Buckets, of which the following is a specification.

The object of my invention is to increase the strength, reduce the cost and simplify the construction of the buckets; and as resulting benefits, I secure increased durability and great ease and quickness in making repairs. Also the parts which are especially liable to wear are so constructed, that they are inexpensive and are combined with the other parts in such manner that they can be easily and quickly replaced when worn out or broken, without disorganizing the machine.

In the drawings hereof: Figure 1, illustrates a side elevation of one of the buckets, embodying the invention. Fig. 2, illustrates a view of the bucket, as shown in Fig. 1, seen from the rear as indicated by the arrow. Fig. 3, illustrates a plan view in section, on the line 1, 1 of Fig. 1, looking down. Figs. 4 and 5, illustrate elevations of the links which connect the several buckets together. Fig. 6, illustrates a central sectional view of the bushing for the link pins.

A is the bucket. B is the back plate thereof. It consists of a single heavy sheet of steel or iron, the edges, C, C, of which are bent over the corners of the bucket, and lap upon and are riveted to its sides all around.

D is a band of steel or iron, which is of the same breadth as the back of the bucket, the ends E, E' of this band are looped or bent backwardly upon themselves and are bolted to the back plate B of the bucket by bolts F, F, &c. These bolts extend clear across the bent over ends or loops of the band of steel; thus it is firmly fastened to the back of the bucket, and forms with it, a continuous flattened ring.

G is a block of hard wood or equivalent material, which is inserted in the said flattened ring, midway of its ends, and is permanently held in position by bolts H.

I, I are bearing boxes, within which the link pins work, they are constructed as shown in Fig. 6, and are each a single casting, one

side, J, is rounded in vertical plane to conform to the curved contour of the ends of the looped plate D on the back of the buckets, and the other side or end K, is made tapering, so as to reduce the weight of the parts; the end of the wooden block G is correspondingly tapered to secure the proper engagement of the surfaces. The upper and under surfaces of these bearing boxes are flat to conform to the shape of the flattened ring. L is a hole bored through the block, which conforms to the size of the link pin M.

N is a chamber within the box, provided with an opening which may be closed by a screw plug O. This chamber opens into the link pin opening L. The lubricating material is placed in the chamber N, on the removal of the screw plug O. The link pins are cylindrical throughout, except at the end Q, which is squared and the links A' and B', which connect the buckets together, are made as shown in Figs. 4 and 5: half of them have round holes, R, which conform to the cylindrical part of the link pins, and the other half have square holes S to conform to the squared ends of the link pins. The object of this is to prevent the pins from turning in the side links which have a narrow surface, and cause them to turn in the bearing boxes I, I, which have a wide surface.

The operation is obvious. The buckets are not made separate and distinct from the chain which carries them, but on the contrary, half of the chain is composed of the flattened rings made on the backs of the buckets. Also the construction of these flattened links is very simple and strong, and the only parts which are subjected to wear are the bearing boxes, and they are not only of the most simple construction, being mere blocks of cast iron with the pin hole bored out, but also they require no means to hold them in place and are inserted and removed when worn or broken very easily and quickly, by merely taking off the pair of links, which engage with that special box. Furthermore, the bearing surface for the pins is continuous, and the lubricating chamber opens onto the pin throughout practically its entire bearing arms.

It will be obvious to those who are familiar with this art, that modifications may be made



in the details of construction of the parts and still the essentials of the invention be employed. I therefore do not limit myself to such details.

5 I claim—

1. A dredge bucket, having a looped band fastened to its back and bearing boxes for the link pins placed within the said looped band, substantially as set forth.
- 10 2. A dredge bucket having a looped band fastened to its back, a block located centrally within the looped band and bearing boxes for the link pins placed between the said block and the ends of the band, substantially as set  
15 forth.
3. A dredge bucket having a looped band as wide as the back of the bucket fastened to the back thereof, a block located centrally within the looped band and bearing boxes, as  
20 long as the band is wide, placed between the said block and the ends of the band, substantially as set forth.
4. A dredge bucket having a looped band fastened to its back, bearing boxes for the  
25 link pins placed at the ends of the looped band and within the same, and means to hold the said boxes at the ends of the band, substantially as set forth.

5. A dredge bucket having a looped band fastened to its back, bearing boxes for the link pins placed at the ends of the looped band and within the same, said boxes each having a hole for the link pin, and a chamber for the lubricating material, and means to separate the bearing boxes and hold them at the ends of the looped band, substantially as set forth. 30 35

6. The combination of a dredge bucket having a looped band fastened to its back, bearing boxes for the link pins placed at the ends of the looped band and within the same, means to hold the boxes at the ends of the looped band, a link pin, one end whereof is squared and a pair of links for each bucket, one of them having round opening for engagement with the pins, and the other having squared holes to conform to the squared end of the pin, substantially as set forth. 40 45

Signed at Milwaukee, in the county of Milwaukee and State of Wisconsin, this 8th day of November, A. D. 1893. 50

ARTHUR W. ROBINSON.

Witnesses:

JOHN C. WILLIAMS,  
J. G. DAVIES.