J. B. CURTIS.

DREDGING-BUCKET.

No. 188,105. Patented March 6, 1877.

Fig. 1.

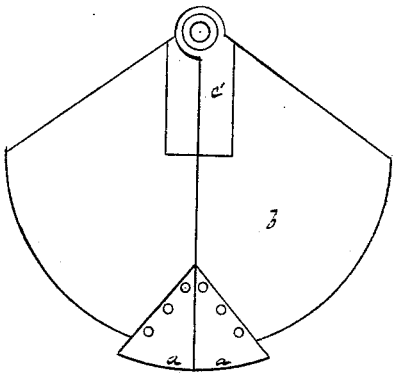


Fig. 2.

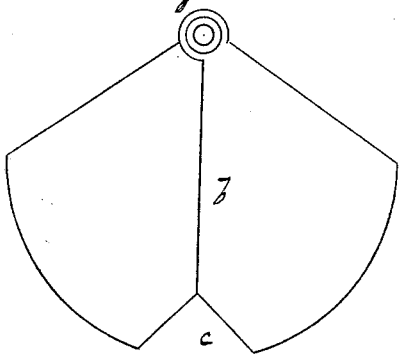
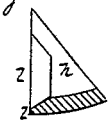


Fig. 3.



Witnesses:
T. T. Frow
John F. McEntyre.

Inventor
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per Smith & Bird, atty's

UNITED STATES PATENT OFFICE.

JOHN B. CURTIS, OF PORTLAND, MAINE.

IMPROVEMENT IN DREDGING-BUCKETS.

Specification forming part of Letters Patent No. **188,105**, dated March 6, 1877; application filed October 31, 1876.

To all whom it may concern:

Be it known that I, JOHN B. CURTIS, of Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Buckets for Dredging-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an end view of my improved bucket; Fig. 2, an end view of the shell before the attachment of the lip, and Fig. 3 a section of the lip.

My invention relates to an improvement in the buckets of dredging-machines. It has heretofore been difficult to provide buckets which should be sufficiently light and capable of penetrating the material to be operated upon, and at the same time possess the requisite strength.

The shell of buckets has ordinarily been made of metal from one-half to five-eighths of an inch in thickness, the exterior of the inner or cutting edge being surrounded by an iron strap, greatly increasing the weight of the bucket, and making the cutting-edge two or more inches in thickness.

To obviate these defects is the purpose of my invention. The bucket is constructed of two parts—the shell and the lip. The shell is constructed of the ordinary thickness and form, except that the lower part, on either side, is removed by a diagonal cut, as seen at *c*, Fig. 2. The lip or piece *a*, (see Fig. 1,) with its ears *h*, (see Fig. 3,) should be made of cast-iron or steel an inch or more in thickness. The interior of the lip or the ear *h* should both be hammered or cut to an edge, as seen at *l*, Fig. 3. The piece *a* is attached to the outside of the shell by means of bolts through the outer edge of the lip and ears, as seen in Fig. 1.

The advantage of my invention will be readily perceived. By this means the bucket has an edge capable of penetrating material by the least possible application of power, while the thickness of the lip and its plan and mode of attachment give to the bucket the greatest strength, compatible with lightness, at the point where the bucket, when open, is subjected to the greatest strain.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, in a dredge-bucket, of the shell *b* and the triangular detachable cutting piece or lip *a*, provided with ears *h*, constructed substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of October, 1876.

JOHN B. CURTIS.

Witnesses:

GEO. E. BIRD,

MANASSEH SMITH.