To all whom it may concern:

Be it known that I, Robert W. Seyms, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Dredge-Bucket Lips, of which the following is a specification.

This invention is directed to a cockle shell lip for dredge buckets characterized by a construction which, without sacrificing any strength will reduce the power necessary to operate the bucket.

In dreges, particularly of the endless elevator type where the drive is at the upper tumbler and the digging at or near the lower tumbler, considerable power is necessary to force the buckets into and through the surface, and the power required is largely dependent upon the form and character of the bucket lip. Naturally such lips are rapidly worn and in the present accepted type the lips are generally removable to permit convenient renewal.

The present invention is designed to provide a lip for dredge buckets which in the cutting edge and substantially throughout the height of the lip is formed in alternately and relatively thick and thin portions, or substantially a corrugated edge, which by reason of the rounded effect in both the operative plane, and in the plane transverse thereto, is more readily forced into and through the surface material, and hence the digging operation requires less power. As this corrugated effect extends throughout the operative height of the lip beyond the bucket proper, the wearing down of the cutting edge incident to use simply maintains or constantly renewes the corrugated cutting edge, and hence the lip may be said to be substantially self sharpening.

In the drawings:

Fig. 1 is a perspective of the improved lip.
Fig. 2 is a front elevation of the same.
Fig. 3 is a transverse section of the same.

This improved lip, which is preferably constructed of manganese or other alloy steel is made up, as usual of an operative or digging section 1 and a connecting section 2, and is shaped as shown to provide for fitting the edge of the bucket. The connecting section 2, as well as the ends 3 of the lip are formed with openings 4, whereby the lip as a whole may be removably secured to the bucket in the usual manner.

The present invention is particularly concerned with the operative section 1 of the lip, which is plain on the outer surface and arranged at the appropriate angle usual in lips of this type. The cutting edge 5 of the lip is formed substantially corrugated at 6 in a plane at approximately a slightly obtuse angle to the outer surface of the section 1, and the inner surface of said section is formed with a corrugated surface 7, the corrugations of which extend transverse this face and merge into the corrugations 8 of the cutting edge. The corrugations 7 are of gradually decreased depth from the cutting edge of the lip and are coincident with the corrugations 8 of the cutting edge that is the thickened or raised portions of the corrugations 7 merge into the thickened or raised portions of the corrugations 6, and likewise the thin portions of both corrugations are similarly arranged.

In the use of the lip the operative section is, as is usual in dredging buckets worn away, and this section by this invention is made up of alternate thick and thin parts in that operative section. Naturally the thin portions will wear faster than the thickened portions, and this tends to maintain the corrugated edge as the cutting edge throughout the life of the lip. The cutting edge due to its corrugated formation is obviously more easily forced into and through the material being dredged, and hence less power is required to operate buckets provided with this type of lip than with a straight edge lip or other digging form.

Having described my invention, I claim:

1. A dredge bucket lip having a cutting edge with alternate thick and thin portions formed as corrugations, some of which vanish in the body of the lip.

2. A dredge bucket lip having a cutting edge formed of alternate thick and thin portions, the body of the lip inwardly of the cutting edge being formed in the upper surface with corrugations corresponding to and aligned with the alternate thick and thin portions of the cutting edge, said corrugations being of gradually decreasing depth from the cutting edge.

3. A self-sharpening lip for dredge buckets, consisting of an alloy steel casting hav-
ing a cutting edge of cockleshell form defined as alternate thick and thin sections some of which vanish in the body of the lip.

4. A self-sharpening cutting lip for dredge buckets, consisting of an alloy steel casting having a scalloped and beveled cutting edge, the scallops being co-extensive with alternate thick and thin sections of the body of the lip.

5. A self-sharpening cutting lip for dredge buckets, consisting of an alloy steel casting having a scalloped cutting edge with integral alternate thick and thin sections defined as corrugations in the upper surface of the lip.

In testimony whereof I affix my signature.

ROBERT W. SEYMS.