

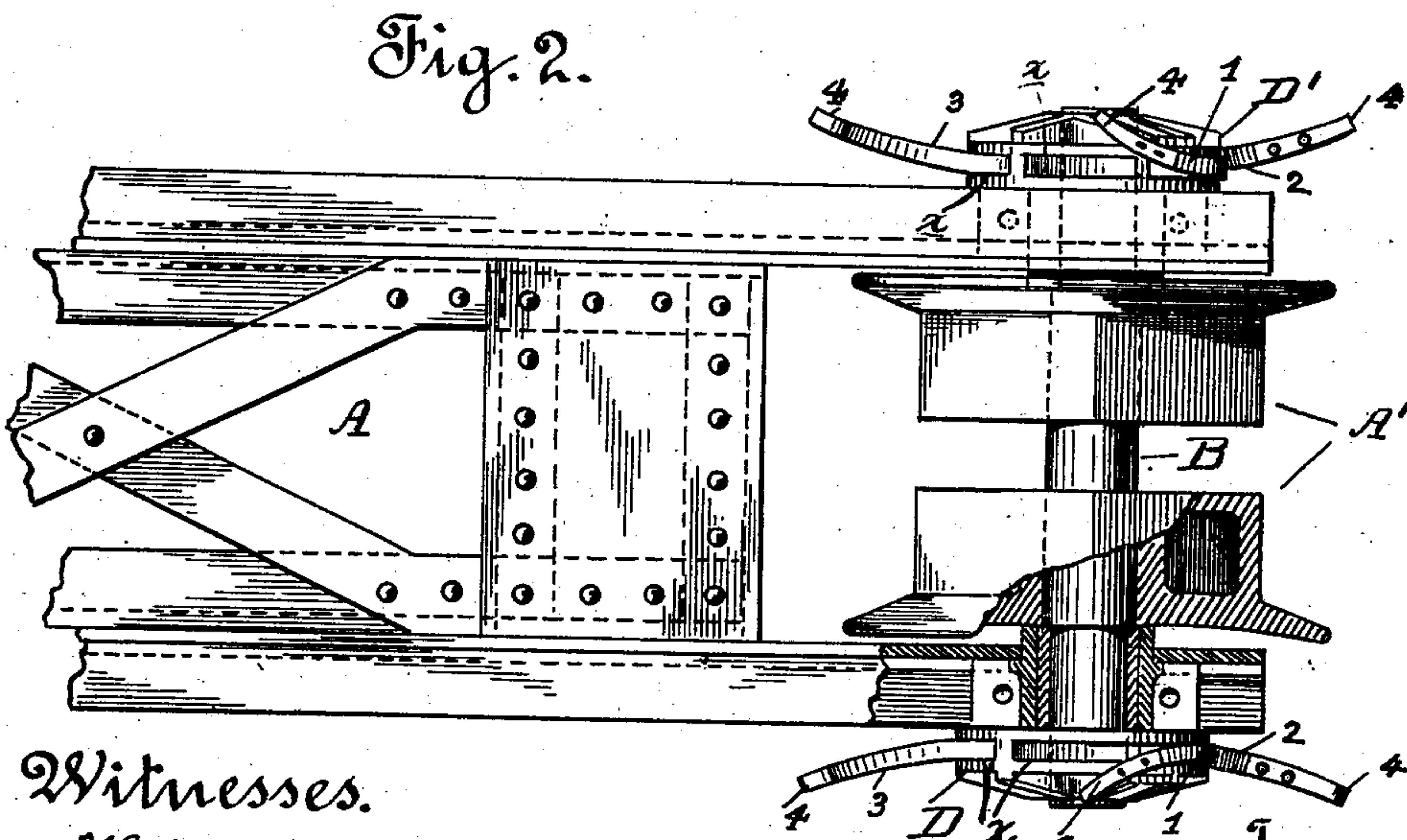
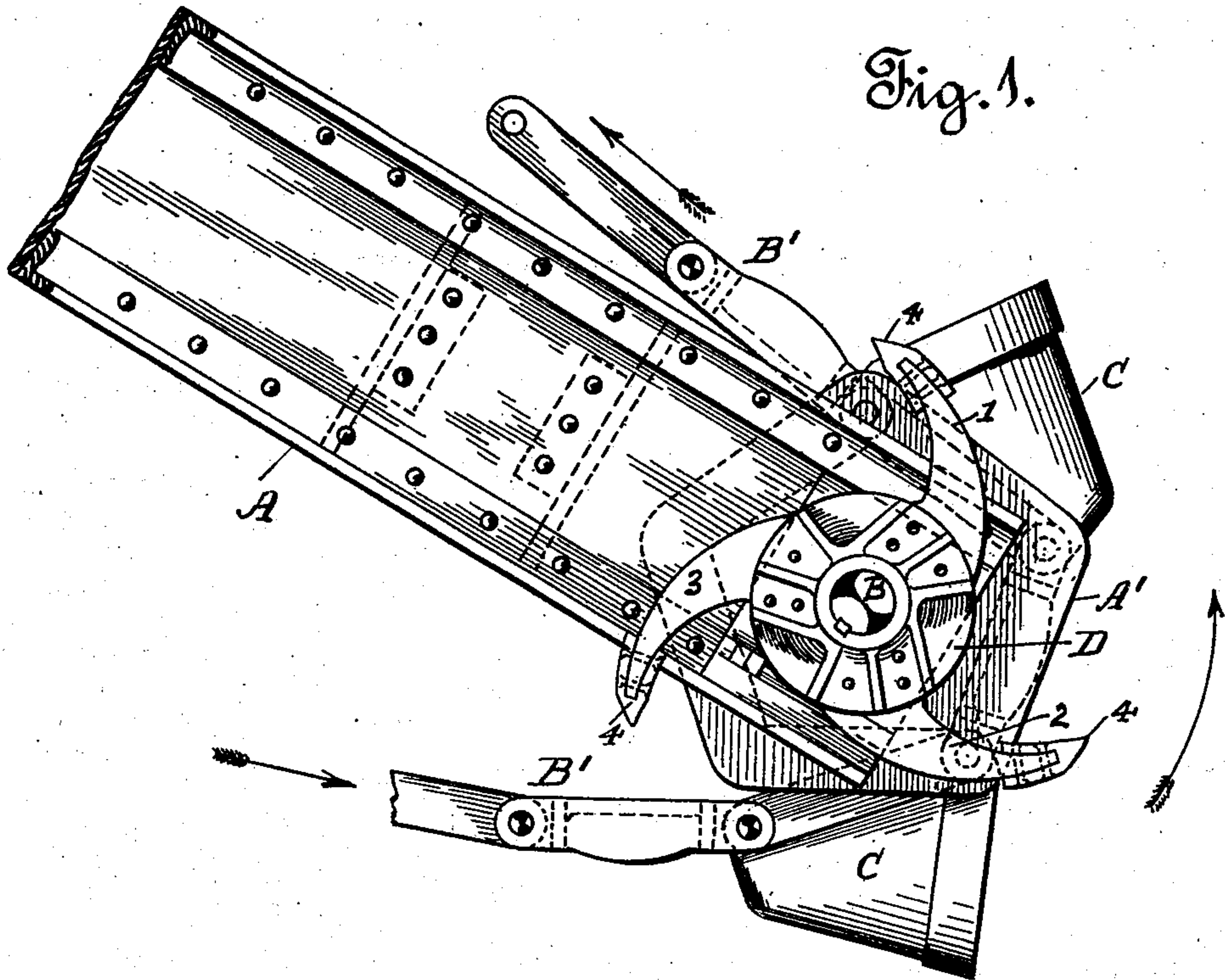
No. 696,078.

Patented Mar. 25, 1902.

R. H. POSTLETHWAITE.  
AUXILIARY CUTTER FOR GOLD DREDGERS.

(Application filed Aug. 7, 1901.)

(No Model.)



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## AUXILIARY CUTTER FOR GOLD-DREDGERS.

SPECIFICATION forming part of Letters Patent No. 696,078, dated March 25, 1902.

Application filed August 7, 1901. Serial No. 71,195. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT H. POSTLETHWAITE, a citizen of Great Britain, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Auxiliary Cutters for Gold-Dredgers; and I do hereby declare the following to be a full, clear, and exact description of the same.

The invention relates to that class or type of gold-dredging apparatus provided with a swinging ladder over which works an endless or chain-bucket excavator; and the object of the invention is to provide means to aid the main cutters or cutting-buckets to remove a portion of the side wall of the embankment during the lateral movement of the ladder, thus creating a clearance for the ladder and permit its side movement to place the cutting-buckets in line with the face of the embankment or material to be removed. Ordinarily it is required during the side or lateral movement of the ladder that sufficient pressure be exerted to force the side thereof into the embankment a sufficient depth to place the cutting edge of the bucket in line with the face thereof. This subjects the ladder to a severe strain and oftentimes weakens the same. It is this excessive strain to the ladder which the present invention is mainly designed to obviate and by so doing increase the efficiency of the dredger.

To comprehend the invention, reference should be had to the accompanying drawings, wherein—

Figure 1 is a side view disclosing the lower portion of the swinging ladder, the tumbler working therein, bucket-carrier working thereover, and the auxiliary cutters secured to the tumbler-shaft beyond the sides of the swinging ladder; and Fig. 2 is a plan view of the mechanism disclosed by Fig. 1 of the drawings, the endless carrier being removed.

In the drawings the letter A is used to indicate the swinging ladder, which usually works within a well in the dredge boat, float, or platform. (Not shown.) At the bottom or lower end of said ladder works, between the side pieces thereof, the tumbler A', which is mounted upon the shaft B, working in bear-

ings of the ladder. Over the tumbler A' works the endless carrier B', to which is attached the cutting-buckets C. These buckets not only act as cutters for the material to be worked, but elevate and deposit the same to suitable means for treating the material. The buckets C cut only in a direct line with the working face thereof. Hence whenever the boat, float, or platform is swung to one side to change the cut of the buckets considerable strain is placed upon the swinging ladder. This is due to the fact that sufficient power is required to force the sides of the ladder into the embankment to be worked in order to give clearance for the cutting-bucket. The lateral strain to which the ladder is subjected during the side movement of the dredge not only weakens the swinging ladder, but delays the work of entering new ground during the working of the dredger. The tumbler-shaft B is extended a short distance beyond the sides of the ladder, and said shaft has secured thereto the disks D D'. Each disk has a series of pockets *x* formed in its periphery, and in these pockets are riveted or otherwise rigidly secured the teeth 1 2 3, each tooth being provided with a removable steel cutting-point 4. By thus making the cutting-points separate from the teeth new ones may be readily supplied in case of one becoming broken or damaged and necessity of throwing away the entire tooth obviated. Each cutting-tooth is arranged at an outward inclination, so as to permit of the teeth penetrating the soil of the side embankment somewhat in advance of the ends of the tumbler-shaft carrying the main cutters. The cutters are driven in the present case by the movement of the tumbler, which has a step rotation imparted thereto by the travel of the endless carrier thereover.

It will be understood that the auxiliary cutters are not designed to act with the cutting-buckets in their work of cutting and removing the cut material, but simply as an aid thereto in preparing the way for the cutting-buckets entering a new cut with the least resistance as to side advance or swing of the vertically-movable swinging ladder. A clearance is thus made for the lateral movement

or swing of the ladder, and the work of removing the excavated material thus expedited to such extent.

Having thus described the invention, what  
5 is claimed as new, and desired to be protected by Letters Patent, is—

1. In combination substantially as described, a rotary tumbler, a shaft therefor, a disk secured to the outer end of said shaft  
10 and provided with pockets around its periphery, and laterally-curved cutting-teeth riveted in said pockets, substantially as described.

2. In combination substantially as described, a rotary shaft, oppositely-disposed  
15 disks secured thereto and provided with pockets

in their peripheries, and cutting-teeth rigidly secured, one in each pocket, substantially as described.

3. In combination substantially as described, a rotary tumbler, a shaft therefor, disks D secured to the outer ends of the shaft, laterally-curved cutting-teeth secured to each disk, and removable cutting-points 4 at the  
outer ends of said curved teeth, substantially  
as described. 25

In witness whereof I have hereunto set my hand.

ROBERT H. POSTLETHWAITE.

Witnesses:

N. A. ACKER,

WALTER F. VANE.