

(No Model.)

W. R. JENKINS, Jr.
RAKE FOR ORE WASHERS.

No. 271,856.

Patented Feb. 6, 1883.

Fig. 1.

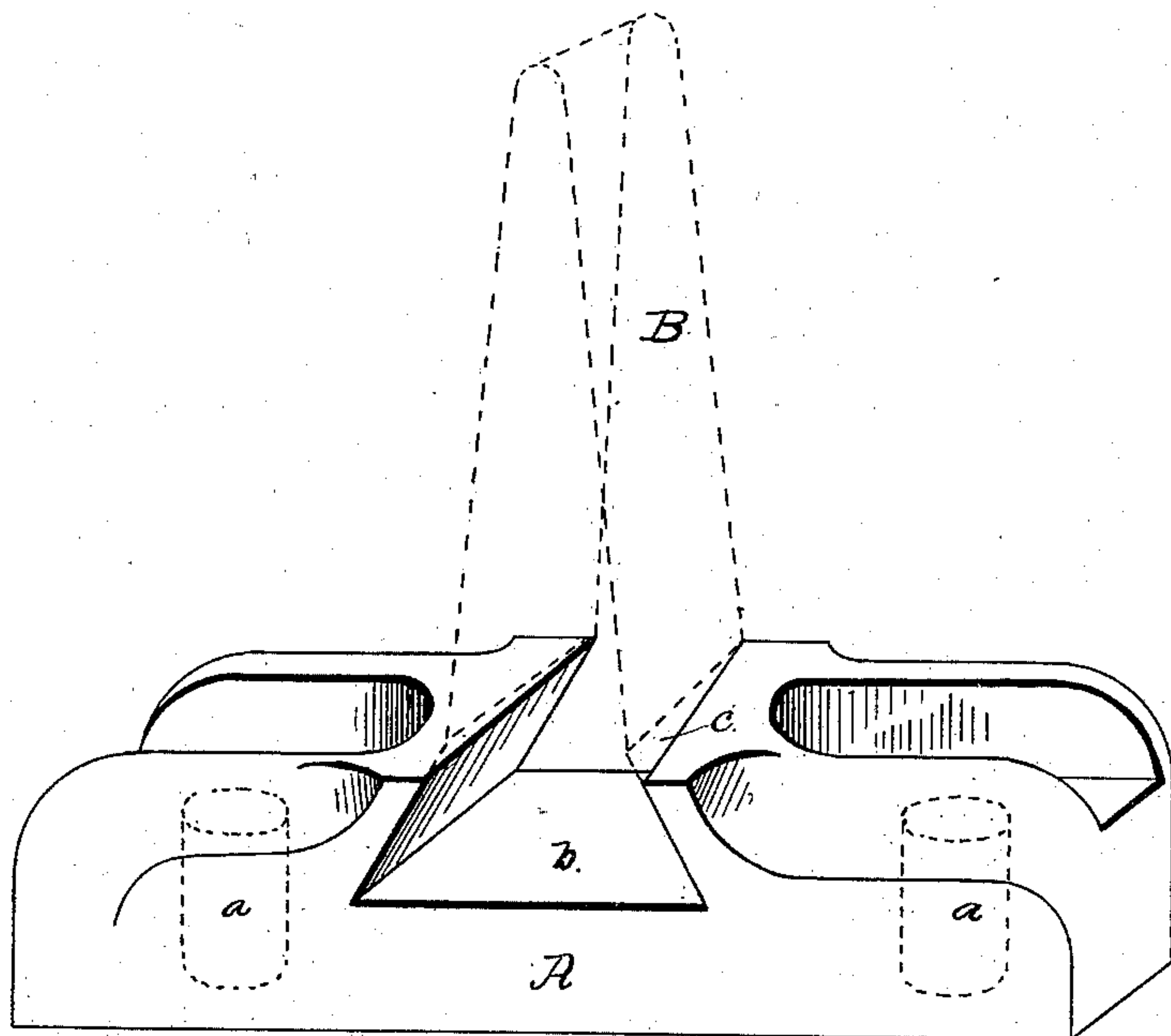
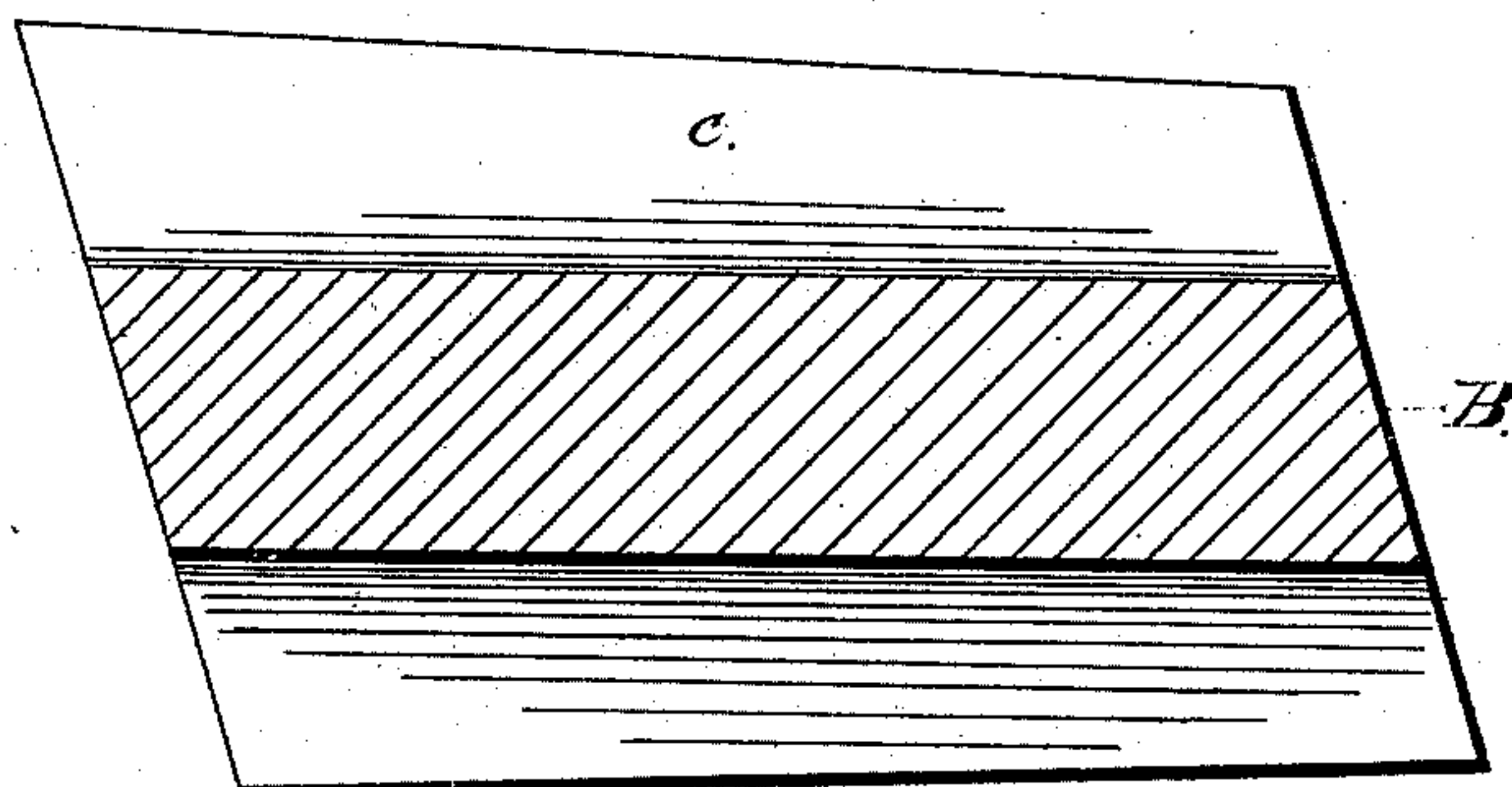


Fig. 2.



Attest.
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Atty.

UNITED STATES PATENT OFFICE.

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RAKE FOR ORE-WASHERS.

SPECIFICATION forming part of Letters Patent No. 271,856, dated February 6, 1883.

Application filed November 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. JENKINS, Jr., of Bellefonte, in the county of Centre and State of Pennsylvania, have invented a new and useful Improvement in Rakes for Ore-Washers; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in beaters or rakes for ore-washing machines. As is well known, these rakes are secured spirally on a cylinder which revolves in a semicircular trough filled with water, the rakes separating the dirt and ore and forcing them along to a place of discharge; or said rakes are in some cases attached in a similar manner to a shaft which revolves in a long box filled with water, the material to be washed being dumped in at one end and stirred and screwed along by the rakes, the clay and lighter material being carried off by the water and the ore discharged from the opposite end of the box.

It will not be necessary to refer to or to illustrate any of the above-named parts, excepting the rakes proper, inasmuch as no invention is claimed except as to said rakes, and as the construction of the remaining parts is well known.

In the construction of these rakes heretofore they have either been formed entirely of one piece or have consisted of a base and blade made separately, but secured together in a way that has in all cases proved complicated, expensive, and undesirable. The blades of these rakes, being at all time subjected to a great wear, are frequently broken and ruined, and when such a blade is formed in one piece with the base it becomes necessary to renew the entire rake, which results in a great waste of material. Another disadvantage in rakes formed entirely in one piece exists in the fact that the threads of the holes made in the shaft or cylinder, and into which are passed the screws for attaching the rakes thereto, become worn by the frequent renewal of the rakes, and in a short time it becomes impossible to attach said rakes to said shaft or cylinder.

The object of my invention is to construct these rakes in such a manner that when the blade becomes worn it can be replaced by a

new one without removing the base thereof from the cylinder or shaft to which it is secured; and my object is further to provide such means for securing the blade and base of the rake together that it will be unnecessary to employ any nails, bolts, or similar means to accomplish that end.

To the accomplishment of the above my invention consists in the rake formed of two separate parts—viz., the blade and base—said blade being provided on each side, at its lower end, with an angular tapering enlargement, the same forming a tapering dovetail tenon, which is of a suitable size to fit closely in a tapering dovetail seat cut diagonally across the face of the base.

Frequent reference will be made to the accompanying drawings, which form part of this specification, and in which—

Figure 1 is a view in perspective of the base of a rake, the blade being shown in dotted lines; and Fig. 2 a top plan view of the blade.

Like letters refer to corresponding parts in both views.

A represents the base, and B the blade of my improved rake, the parts being so constructed that they present, when secured together, substantially the same appearance as those now in common use, wherein the base and blade are formed of one piece. The base A is provided at suitable points, as shown, with ordinary holes, *a a*, through which screws are passed to fasten it upon the cylinder or shaft to which it is to be fastened. Diagonally across the center of the base A is cut a dovetail seat, *b*, which tapers slightly from front to rear, taking the position shown in drawings. This tapering dovetail seat *b* is of sufficient depth, width, and length to accommodate a dovetail tenon formed on the blade B, as will now be described. This blade B, as also is the base A, hereinbefore described, is constructed of any suitable material, and as regards its general form is similar to those in common use. It is provided on each side at its lower end with a tapering angular enlargement, *c*, the two, when taken together, forming a tapering dovetail tenon. These enlargements *c*, with which the blade is provided on its lower end, may either be formed on said blade in the course of its manufacture, or they may consist of separate strips or pieces secured

thereto in any suitable manner. The blade being constructed as above described, it is secured to the base by passing the tapering dovetail tenon into the tapering dovetail seat 5 of the base. The parts being thus secured together, the whole is secured to its cylinder or shaft in the usual way, the revolution of said shaft or cylinder serving at all times to tighten the blade in its seat, the tapering tenon with 10 which the blade is provided being driven tightly into the tapering seat by centrifugal force, thus rendering the use of any additional fastening devices unnecessary.

I am aware that rakes or beaters for ore- 15 washing machines have heretofore been con-

structed in two pieces, and therefore I do not claim that feature, broadly; but

What I do claim, and that for which I desire to secure Letters Patent, is—

The base A, provided with the tapering 20 dovetail seat *b*, in combination with the blade B, provided with a tapering dovetail tenon, substantially as described and shown.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM R. JENKINS, JR.

Witnesses:

F. W. HALE,

J. L. MONTGOMERY.