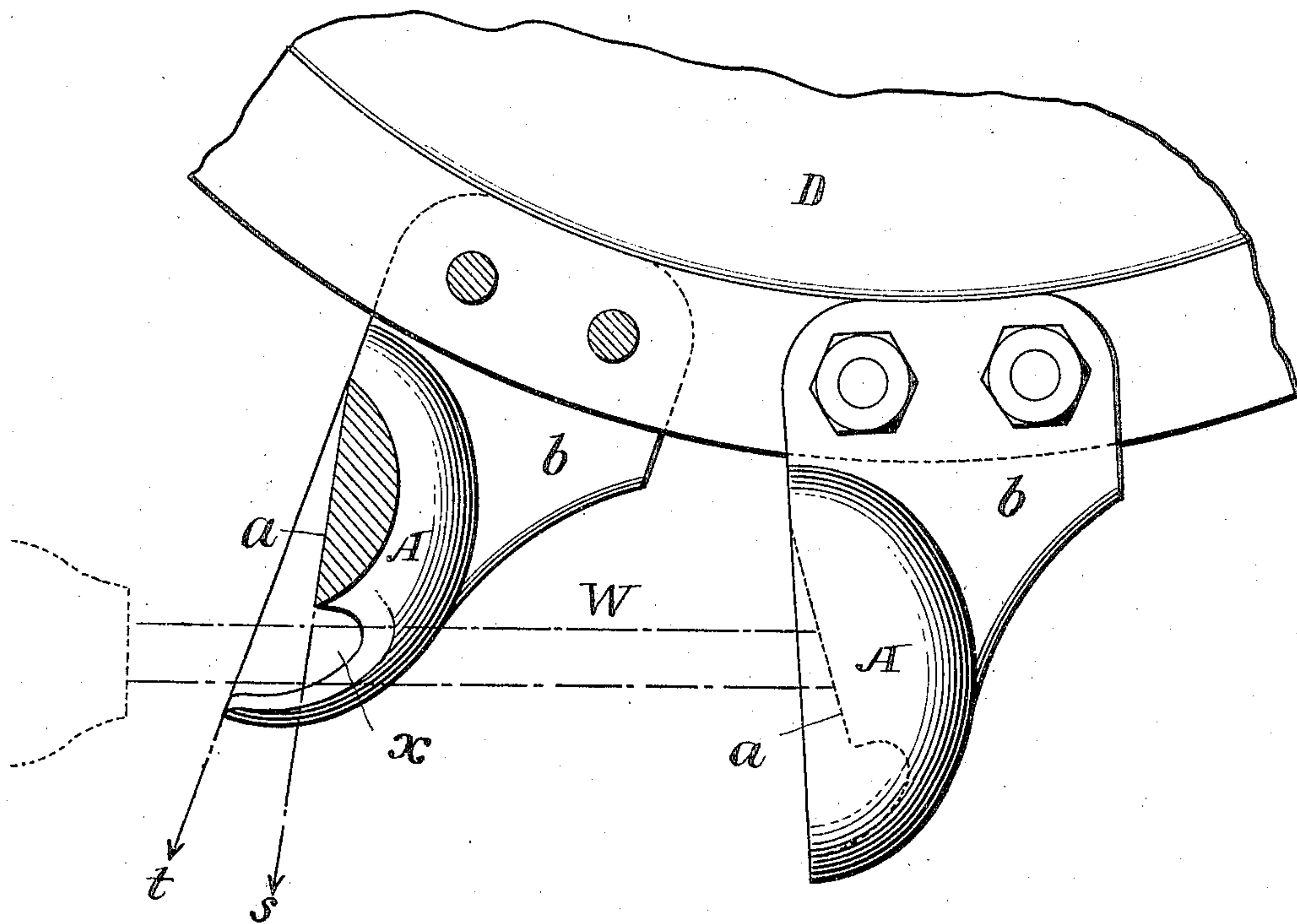


No. 875,161.

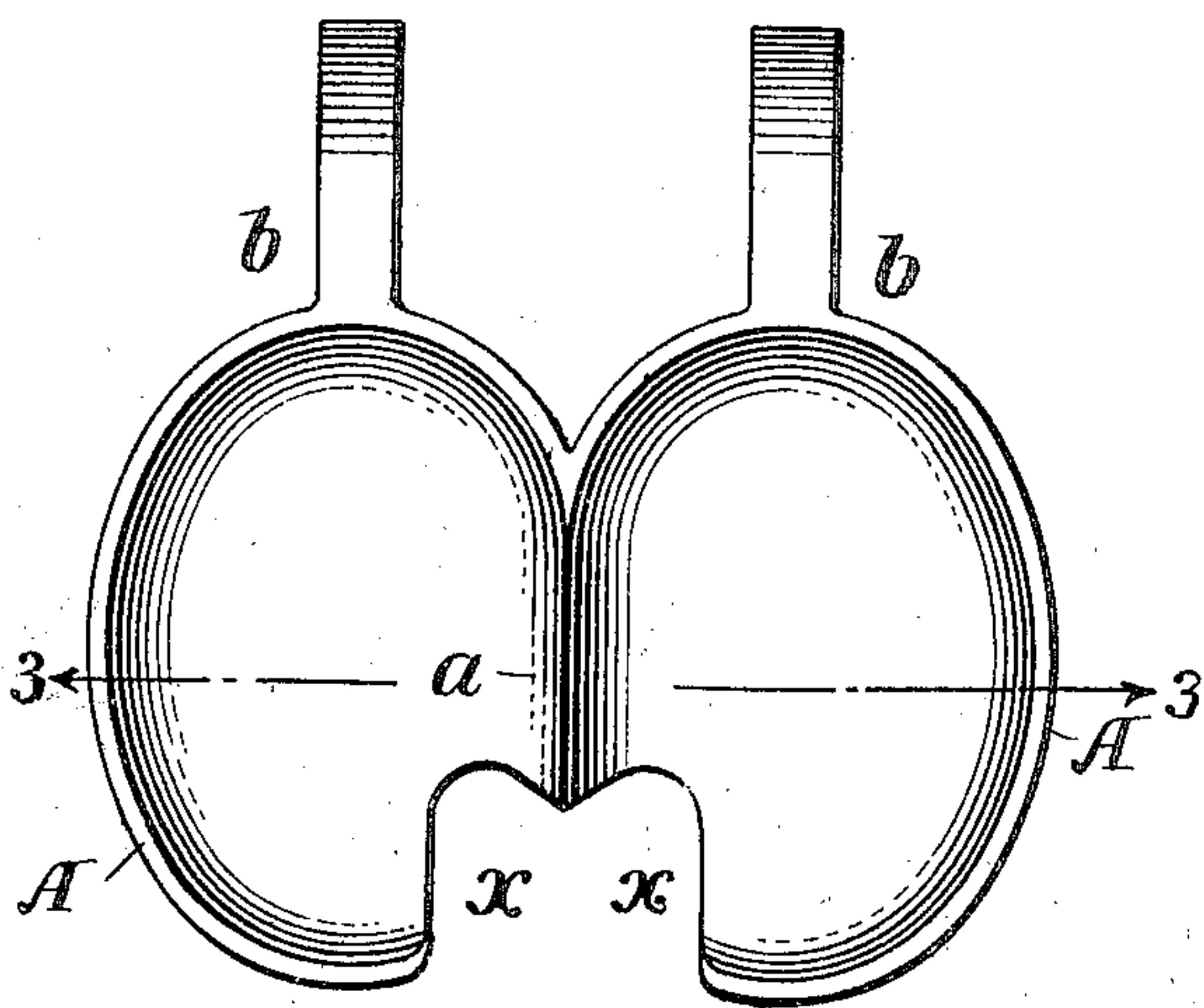
PATENTED DEC. 31, 1907.

W. A. DOBLE.  
BUCKET FOR IMPACT WHEELS.  
APPLICATION FILED MAR. 2, 1907.

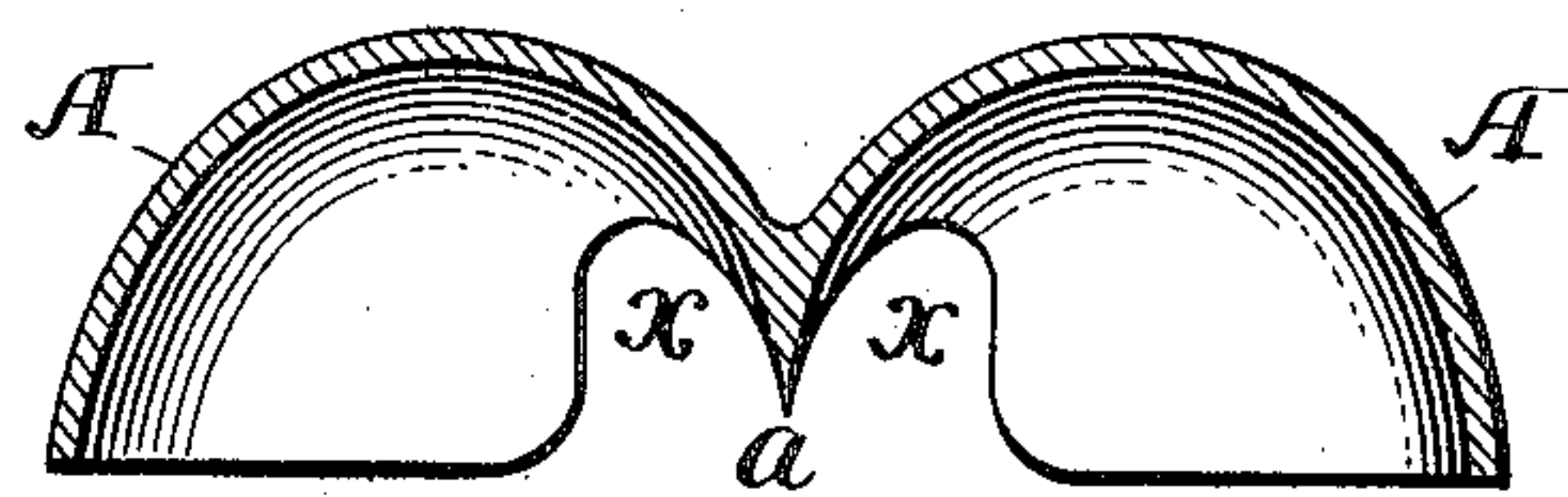
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



W. A. Doble Inventor

By *Arthur, Freeman & Watson*

Attorneys

Witnesses  
*J. P. Hinkel*  
*J. J. McCarthy*



# UNITED STATES PATENT OFFICE.

WILLIAM A. DOBLE, OF SAN FRANCISCO, CALIFORNIA.

## BUCKET FOR IMPACT-WHEELS.

No. 875,161.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed March 2, 1907. Serial No. 360,168.

*To all whom it may concern:*

Be it known that I, WILLIAM A. DOBLE, a citizen of the United States, and resident of San Francisco, San Francisco county State of California, have invented certain new and useful Improvements in Buckets for Impact-Wheels, of which the following is a specification.

The buckets of impact wheels in some instances have twin pockets, arranged side by side, each pocket being approximately semi-spherical and as upon the rotation of the wheel the outer lip or end of the bucket enters the jet, the tendency of the latter is first to be dispersed or broken by said end and then striking the lower curved inner face of the bucket to be deflected upward and back against the rear of the next following bucket, the reaction of this point being backward. To overcome the objections to this form of bucket, I have so constructed the bucket that the jet will not strike the same until the bucket is in a position for the jet to meet a dividing ridge near the center of the buckets, as fully set forth hereinafter and as illustrated in the accompanying drawing, in which,

Figure 1 illustrates part of the wheel of an impact motor showing two buckets one in section; Fig. 2 is a face view of one of the buckets; Fig. 3 a cross section on the line 3—3 of Fig. 2.

The disk D of the wheel is constructed to support the buckets each of which consists of a shell A having twin pockets divided by an intermediate rib *a* having a sharpened edge, and each bucket is cut away at the outer end so as to form at the inner side a recess *x*, the recess *x*, *x*, thus formed being intermediate the two buckets and the rib *a* extending to the said recess and its edge being inclined backward in the direction of rotation of the buckets, in other words, lying upon a plane *s* which is at an angle to the plane *t* of the edge of the bucket.

By reference to Fig. 1, it will be seen with a bucket of the character described the jet W will not make contact with the center rib of the bucket until the outer end or lip of the latter has passed downward below the jet and the latter will first strike the sharp divided rib or ribs *a* at a point near the center of the bucket so that there will be no tendency

of the jet to be deflected upward and against the back of the following bucket, but the discharge will be at the sides of the bucket and near the center. Further, it will be seen that by the arrangement described, the jet will continue to act upon the center of each bucket after the lower edge of the following bucket has passed below the jet, so that the jet instead of being met by the outer lip or edge of each bucket and being divided and dispersed, retains its solid form until it is brought to act effectively upon the bucket near the center thereof. It will further be seen that owing to this effect the disturbances which would be set up in the jet by the entrance lip being carried into the jet as usual are avoided. Owing further to the edge of the rib *a* being retracted or inclined in the rotation of the bucket, it is brought into the jet more nearly at right angles than if the edge were upon the line *t* and the jet is not improperly deflected radially inward as would otherwise be the case and the discharge from the bucket is almost tangential to the pitch diameter of the wheel, thereby securing a maximum turning effect.

By the use of buckets of the character described, we have found that the dispersion and improper direction of the jet is reduced to such an extent that a much smaller number of buckets may be employed upon a wheel of a given diameter to secure a given result than have heretofore been required and therefore the loss of energy resulting from the entrance of the successive buckets into the jet is proportionally reduced.

Without limiting myself to the precise construction of buckets shown I claim as my invention,

A bucket for impact wheels consisting of a shell having side pockets and an intermediate rib the edge of which is inclined backward on a line at an angle to the plane of the edge of the shell, and with a recess *x*, *x*, formed by cutting away the outer portion of the rib and adjacent portions of the shell, as set forth.

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

WILLIAM A. DOBLE.

Witnesses:

J. C. LUTGEN,  
H. L. SIMON.