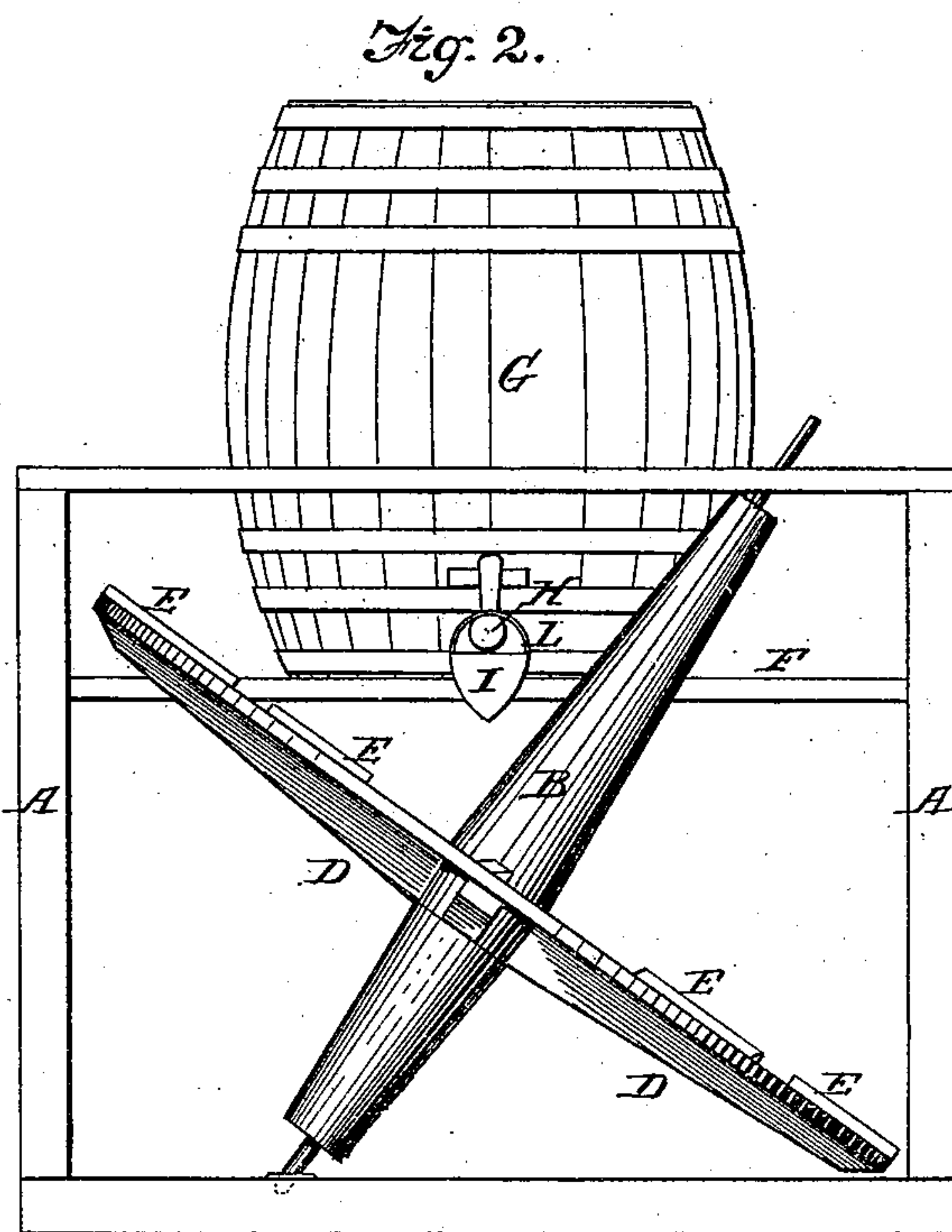
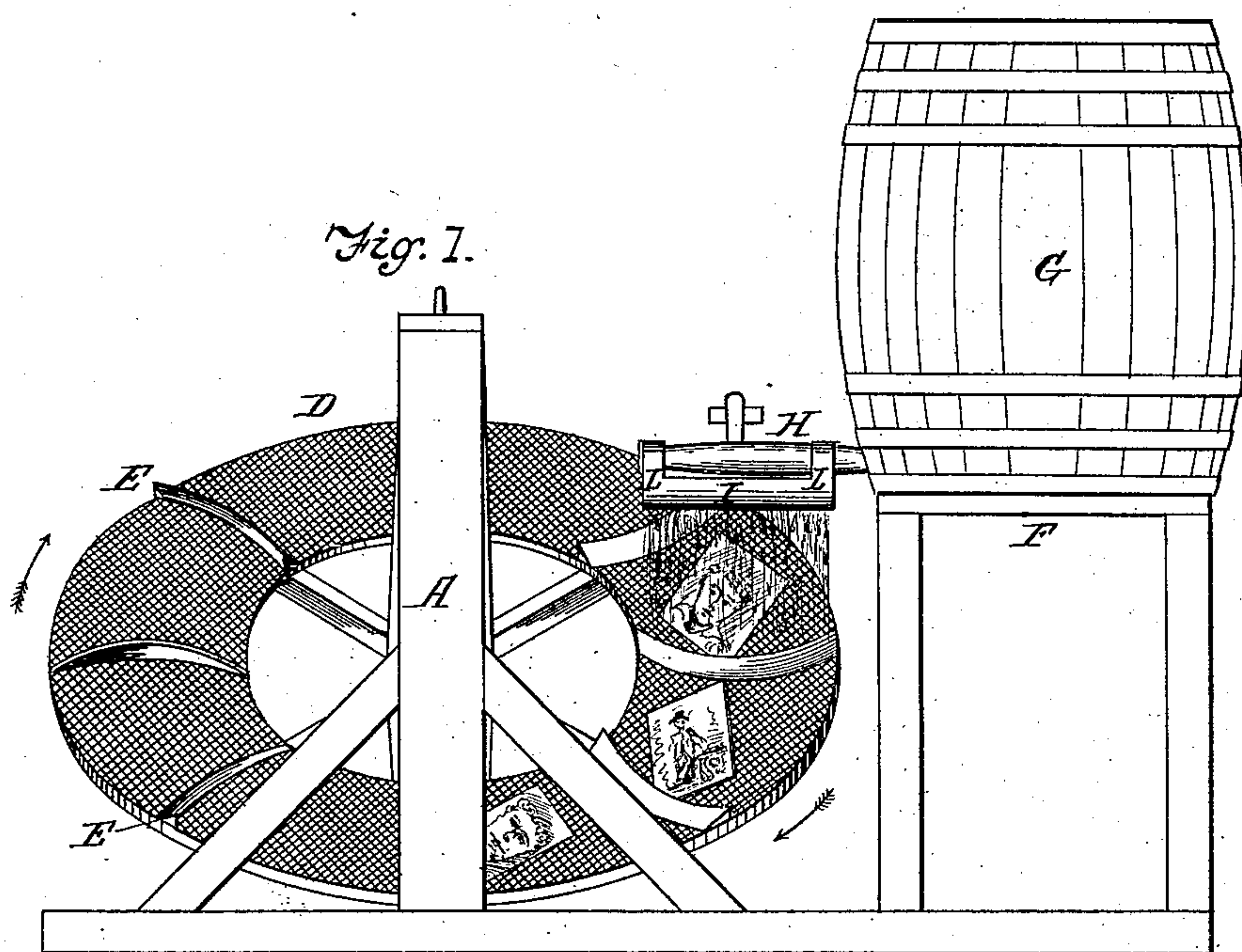


N. J. MILLER.

MACHINE FOR WASHING PHOTOGRAPHS.

No. 187,163.

Patented Feb. 6, 1877.



Witnesses:  
West Wagner.  
J. L. Coomes

Inventor:  
Noah J. Miller.  
By James L. Norris



# UNITED STATES PATENT OFFICE

NOAH J. MILLER, OF LADONIA, TEXAS.

## IMPROVEMENT IN MACHINES FOR WASHING PHOTOGRAPHS.

Specification forming part of Letters Patent No. **187,163**, dated February 6, 1877; application filed December 5, 1876.

*To all whom it may concern:*

Be it known that I, NOAH J. MILLER, of Ladonia, in the county of Fannin and State of Texas, have invented certain new and useful Improvements in Photographic Picture Washer, of which the following is a specification:

This invention relates to certain improvements in apparatus for washing photographic pictures, its object being to bring such pictures successively under a continuous stream of water, in order to remove the double hyposulphite of silver and soda resulting from the fixing operation from the pictures. This salt is comparatively insoluble in water, and on this account it is very difficult to remove it from the picture after fixing by the ordinary method of washing, and many attempts have been made to obviate this objection. Among others, an apparatus has been constructed consisting of an overshot water-wheel, upon the periphery of which, between the buckets, the pictures are placed, so as to come successively under the stream of water by which the wheel is turned. It is evident, however, that such apparatus, on account of the curvature of its periphery, can only be employed for paper or other flexible pictures, and cannot be used for washing pictures produced upon metallic or other rigid plates.

My invention is designed to obviate this objection; and consists in a circular or annular wheel mounted upon an inclined shaft, and provided with segmental buckets upon its upper flat face, the pictures being placed upon said face between the buckets, and a stream of water being allowed to fall upon said face of the wheel from a perforated distributing-trough attached to the cock or faucet of a tank or other water supply.

In the drawing, Figure 1 represents a side elevation of my improved photographic washer, and Fig. 2 a front elevation of the same.

In the drawing, the letter A represents a frame-work of wood or other suitable material, within which is journaled an inclined shaft, B, carrying a disk or annular wheel, D, to the upperface of which is secured, at proper intervals, a series of curved buckets, E. The

frame A is provided at one side with a table, F, upon which is mounted a tank, G, provided with a faucet or cock, H, extending over one side of the inclined disk or wheel. Said disk is provided with a detachable V-shaped trough, I, provided at its bottom with a series of discharge-apertures, said trough being secured by metallic straps or hooks L. The spaces between the brackets may be provided with a covering of knitted fabric, to afford a foraminous support for the pictures, which will be found desirable when washing paper pictures, as it will allow the water to pass through the body of the pictures and more thoroughly wash them.

The operation of my invention is as follows: The pictures being placed upon the face of the wheel, between the buckets, and the water allowed to fall upon the same, the wheel will be put in motion, the pictures will be submitted to successive washings until the hyposulphite is entirely removed.

It will be seen that as the surface of the wheel is perfectly flat, pictures on rigid metallic plates, as well as upon paper, can be thoroughly washed, enabling the hyposulphite of soda to be successfully employed for fixing, instead of the cyanide of potassium usually employed for fixing such pictures, on account of the difficulty of removing the hyposulphite, and the loss of detail in such pictures consequent upon the use of the cyanide will thereby be avoided.

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

An apparatus for washing photographic pictures, consisting of a disk or annular wheel mounted upon an inclined shaft and provided with a series of curved buckets, in combination with a perforated distributing-trough secured to the cock or faucet of a tank or other water-supply, the whole adapted to operate substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

NOAH J. MILLER.

Witnesses:

CHAS. D. GRACE,  
J. M. BIGGERSTAFF.