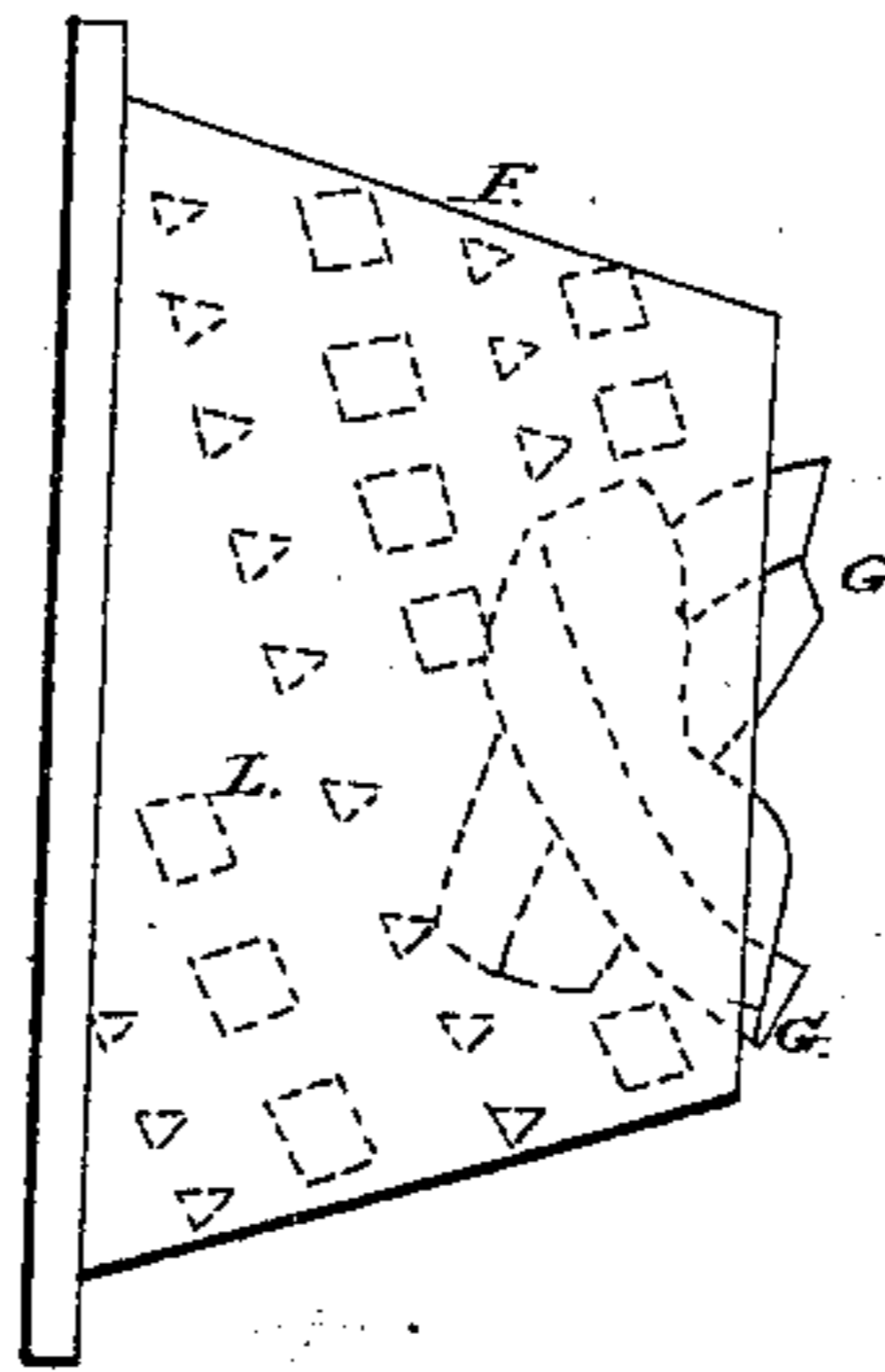
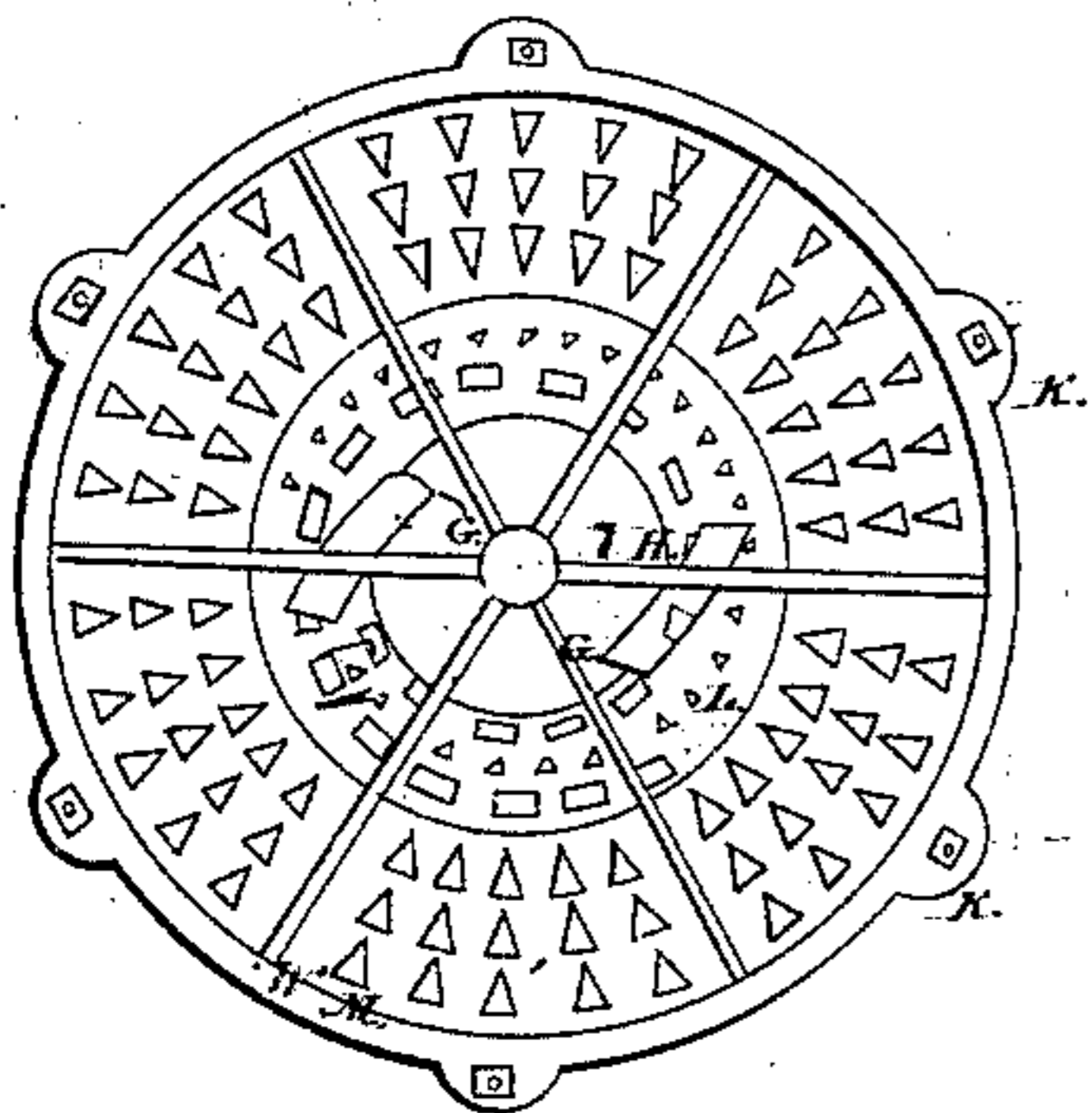
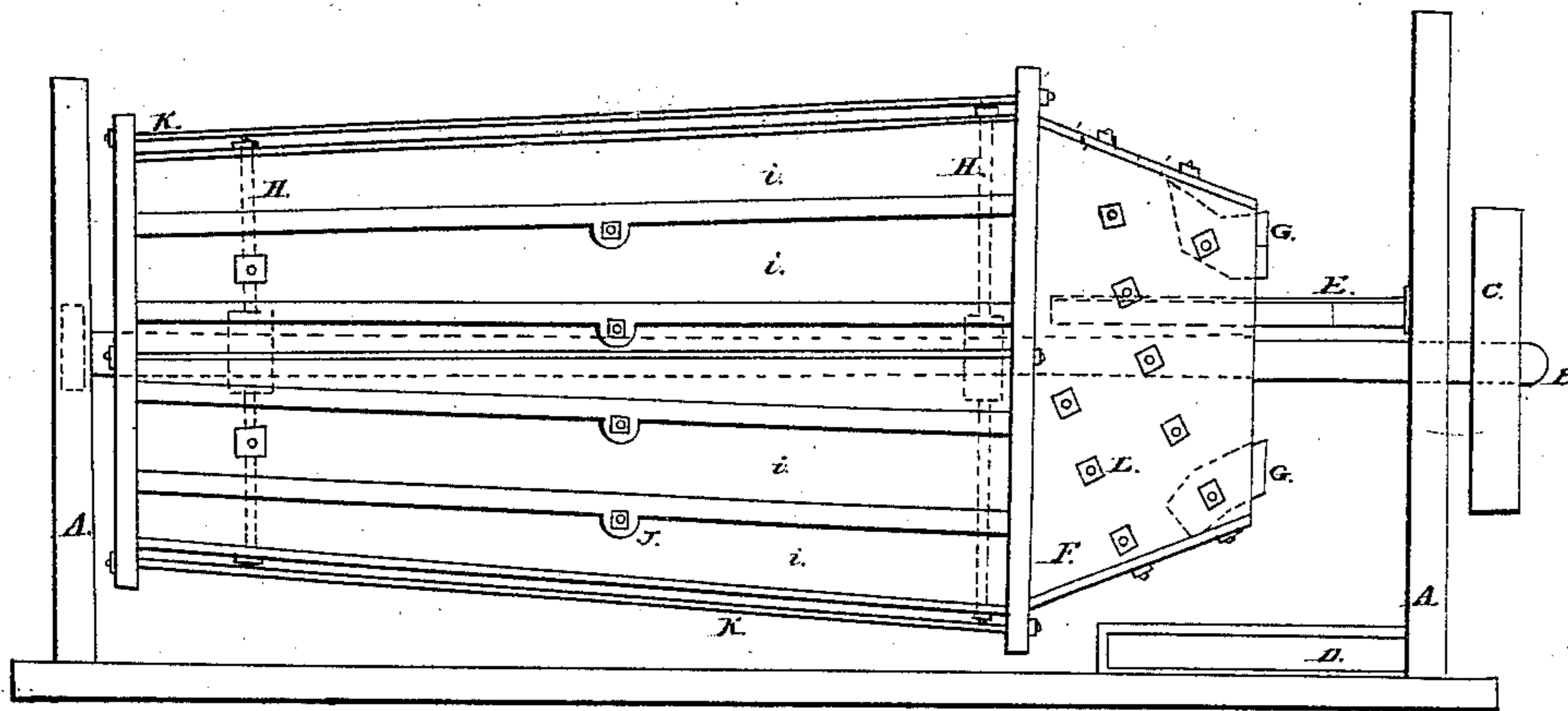


No. 30,086.

PATENTED SEPT. 18, 1860.

B. O'BRYAN.  
ORE WASHER.



Witnesses:  
John Miller  
Henry S. Muffin

Inventor:  
Bernard O'Bryan

# UNITED STATES PATENT OFFICE.

BEARNARD O'BRYAN, OF LANCASTER, PENNSYLVANIA.

ORE-WASHER.

Specification of Letters Patent No. 30,086, dated September 18, 1860.

*To all whom it may concern:*

Be it known that I, BEARNARD O'BRYAN, of the city of Lancaster, county of Lancaster, and State of Pennsylvania, have invented  
5 new and useful Improvements in Ore Washers and Cleaners; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the let-  
10 ters of reference marked thereon, making a part of this specification.

The nature of my invention consists in having cast iron plates with inside pins cast solid, and angular shaped shovels at the  
15 outer end of cylinder to discharge the ore, the cylinder being double cone shape.

To enable others to make and use my invention I will proceed to describe its construction and operation.

20 A represents the upright frame which supports the cylinder; B the horizontal shaft; C the band pulley or driving wheel on the end of shaft; D the box which receives the cleaned ore after it has passed through the  
25 cylinder; E the trough which conducts the water into the cylinder; F the cone shape frustum of the cylinder which empties the ore, the cylinder being double cone shaped, so as to retain the water in the center, and  
30 wash the ore better and with greater facility, as it passes out through the frustum.

G are two angular shaped cast iron

shovels or lifters, which discharge the ore when cleaned. These shovels G have raised sides or flanges, which by their angular  
35 shape, catch the ore and force it outward, with facility, regularity and rapidity.

H are the arms attached to the shaft B which support the cast iron plates I which form the body of the cylinder. These plates  
40 I are fitted closely together and nuted fast to the arms H, around the cylinder, and are held and bound also by the horizontal rods K, extending the whole length of the plates. These plates have projecting angular shaped  
45 pins M on the inside throughout the cylinder, and are cast solid with the plates, to stir and shake the ore thoroughly.

L are shovels in the frustum, set in spiral form, to conduct the ore to the large shovels  
50 G and discharge it.

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

The construction and arrangement of the double cone shaped cylinder formed of cast  
55 iron plates united as described, and furnished with solid pins and angular shovels on the inside, for agitating and advancing the ore to the discharging point, as herein represented.

BEARNARD O'BRYAN.

Witnesses:

I. FRANKLIN REIGART,  
SAMUEL S. STRACHAN.