

W. W. INGRAHAM.  
Grain-Cleaners and Scourers.

No. 153,169.

Patented July 21, 1874.

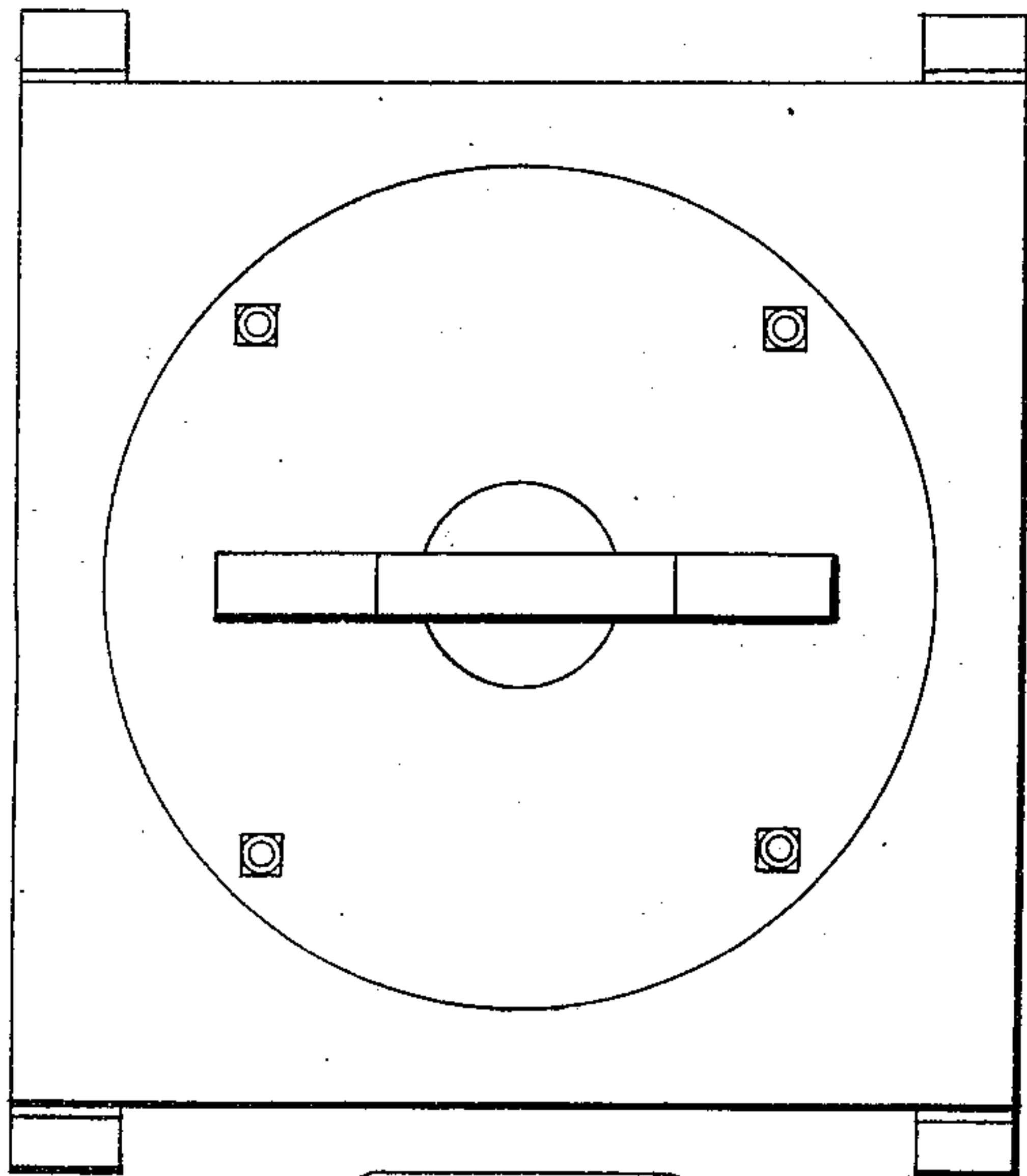


Fig. 1.

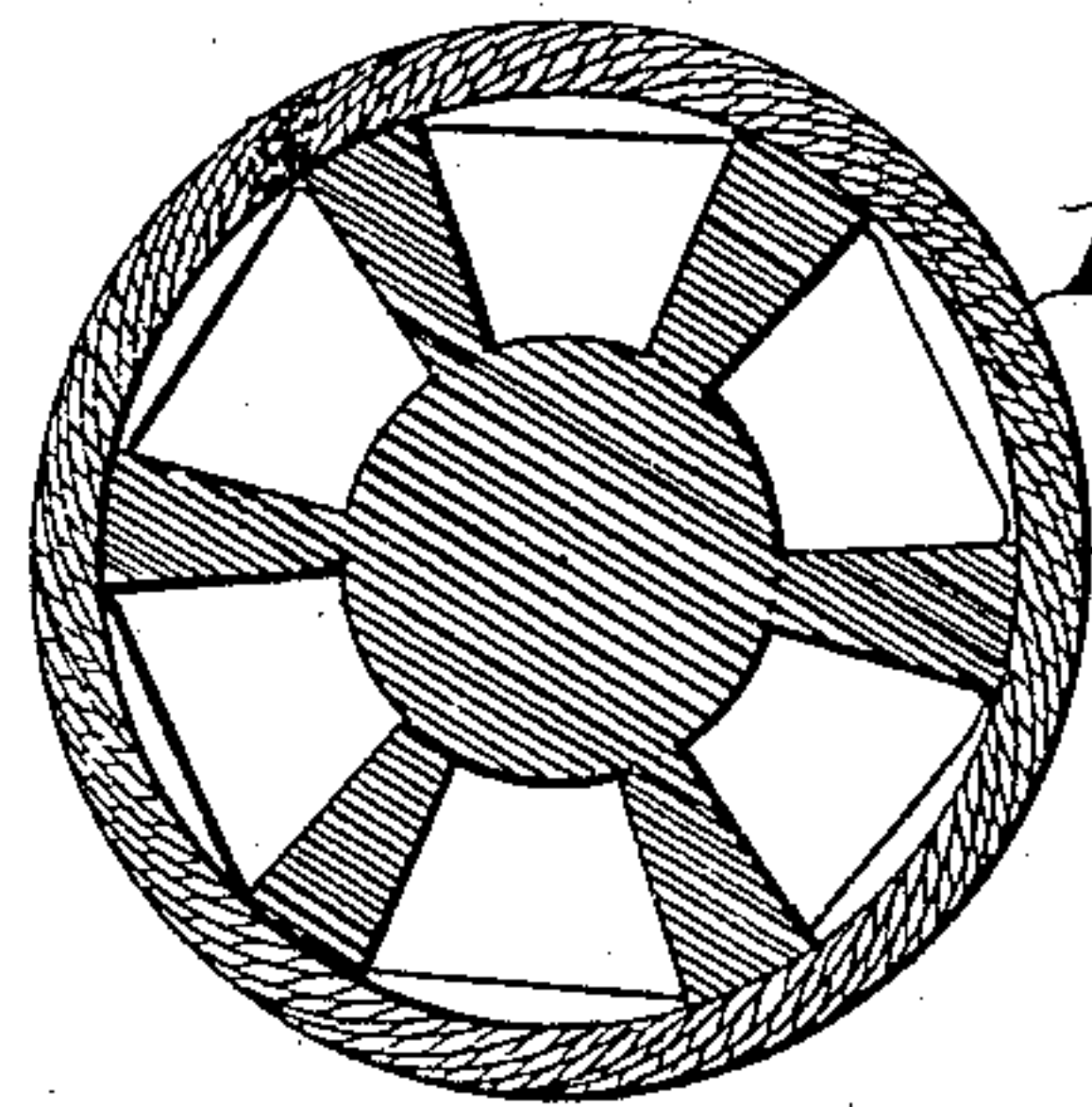


Fig. 4.

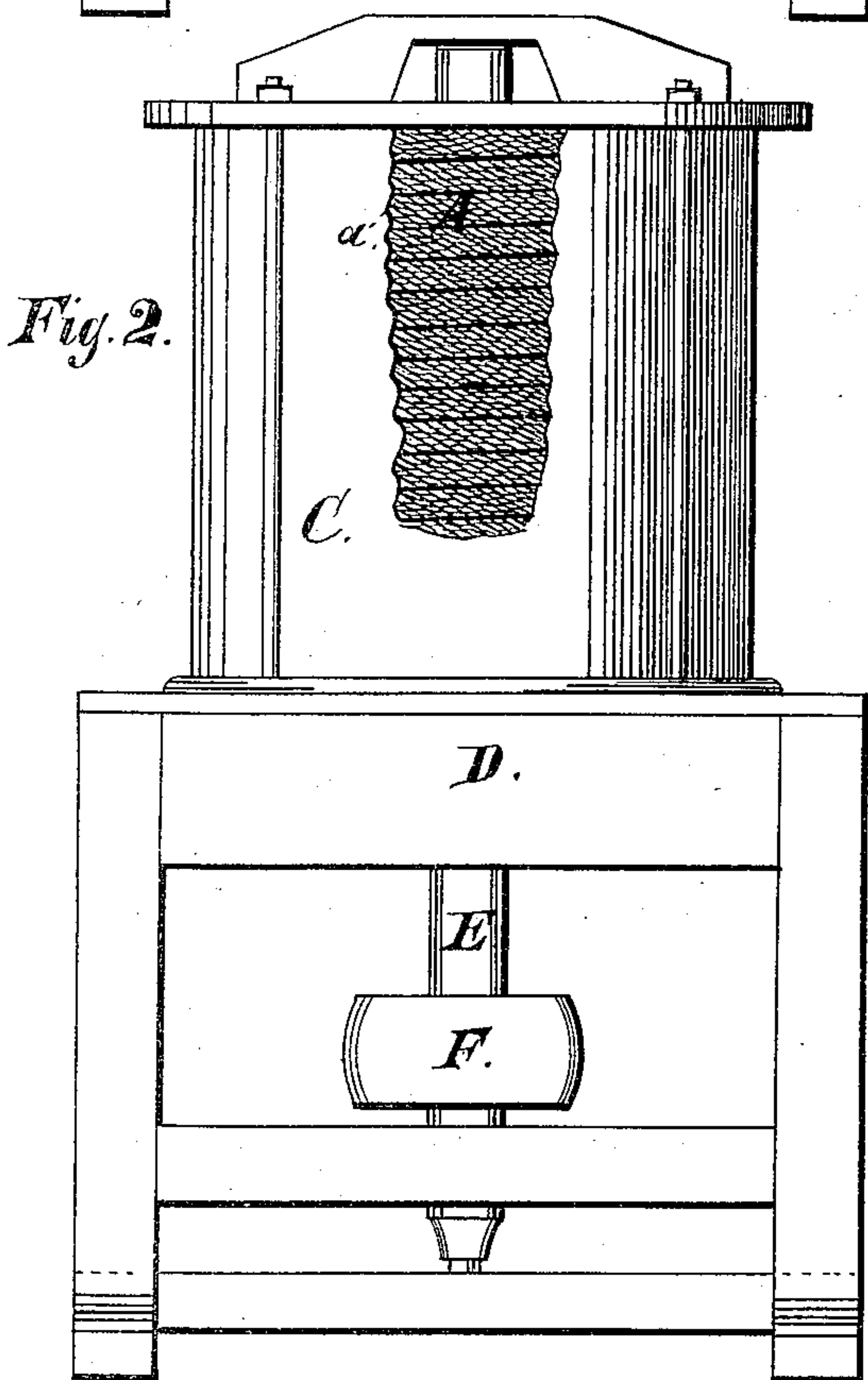


Fig. 2.

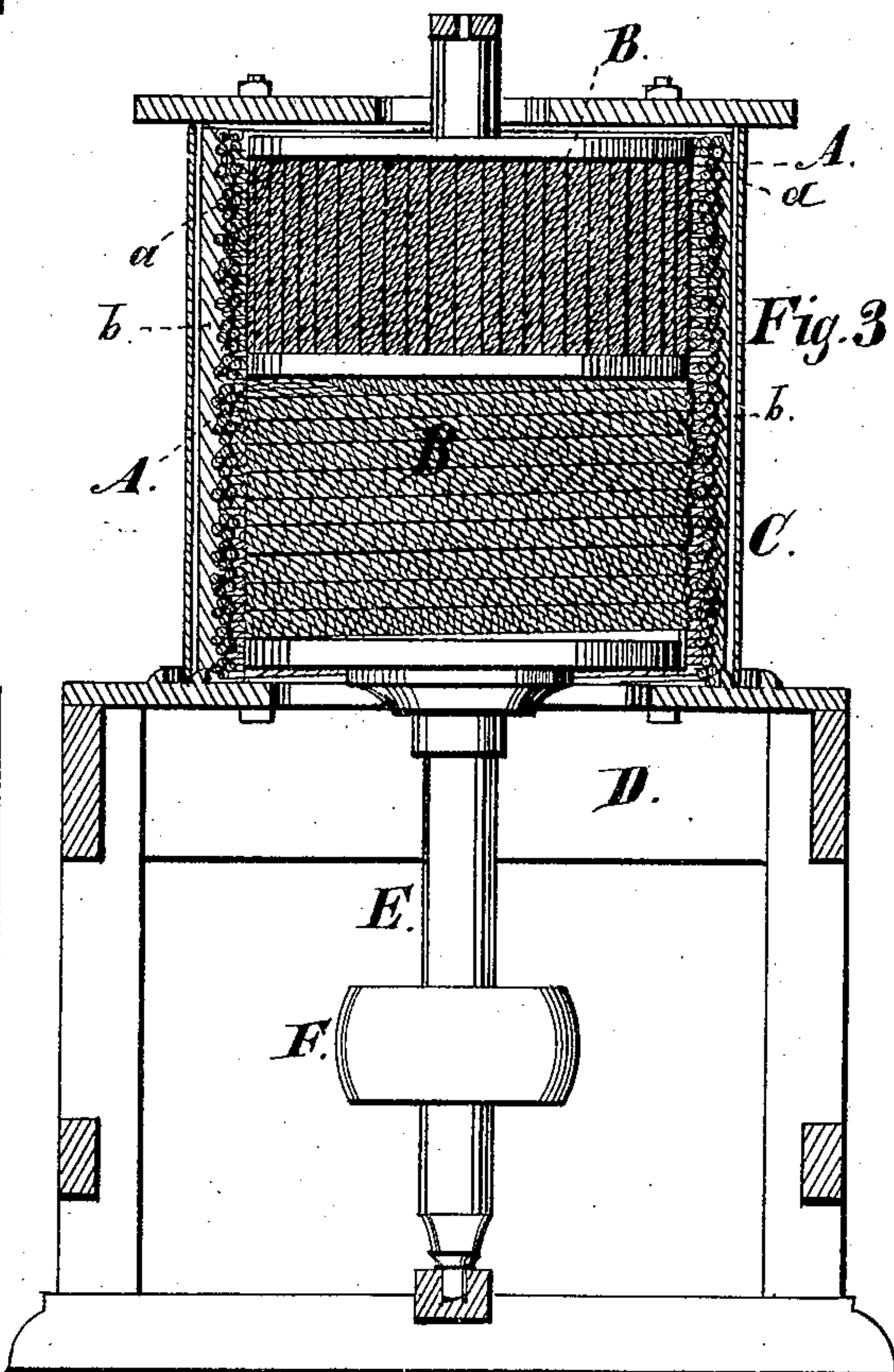


Fig. 3.

Witnesses:  
Hemrich & Lums.  
H. Whitney.

Inventor:  
W. W. Ingraham  
by Coburn & Munday Attys

# UNITED STATES PATENT OFFICE.

WILLIAM W. INGRAHAM, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN GRAIN CLEANERS AND SCOURERS.

Specification forming part of Letters Patent No. **153,169**, dated July 21, 1874; application filed December 23, 1873.

*To all whom it may concern:*

Be it known that I, WILLIAM W. INGRAHAM, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Grain Smutters and Scourers, of which the following is a specification:

This invention relates to a novel casing and cylinder for grain smutters and scourers, which shall be easily made, and exceedingly durable and efficient; and the invention consists in making the outer casing or concave of a coil of wire cable, secured together by some proper means, so that it shall preserve its shape. Such a concave presents a surface full of minute interstices and projections, formed by the wires twisted upon each other, and is, moreover, pervious to the air, which can pass freely through the coil. This surface I have found to be peculiarly adapted to the scouring of grain, and exceedingly durable, improving, in fact, with wear, because the roughness of the surface is increased after the ends of the worn wires project as they are worn in twain, all of which will be more fully hereinafter specified.

In the accompanying drawing, which forms a part of this specification, Figure 1 represents a top or plan view of the machine. Fig. 2 is a front elevation of the same, with a portion of the exterior jacket removed to show the outside of the coil of cable forming the exterior stationary concave cylinder. Fig. 3 is a vertical central section of Fig. 2 on the line *x x*, and Fig. 4 is a horizontal section of the interior cylinder.

Like letters of reference made use of in the several figures indicate like parts wherever used.

In the said drawing, A represents the exte-

rior stationary concave cylinder, formed of a single coil of wire rope consisting of several strands, *a*, formed of several wires to the strand. This coil of rope is supported and held in shape by vertical bars *b*, soldered to the exterior. B is the interior convex cylinder, formed of a coil or of vertical layers of wire rope, as may be desired. This interior cylinder revolves within the exterior one, and the grain is fed between the two and acted upon by the opposed wire-rope surfaces. The two cylinders are surrounded exteriorly by a casing or jacket, C, and mounted in a framework, D. The shaft and pulley E F serve to rotate the inner cylinder.

To this apparatus may be fitted a fan and the other appliances of a smutter and scourer. (Not shown in the drawings.)

Instead of using wire cable wound spirally in a coil, twisted iron rods may be employed; or a single iron rod, twisted as some lightning-rods are twisted, may be substituted, and wound spirally around, to form either or both of the cylinders. I deem this substitution of a twisted rod or rods an equivalent to the cable, as it may be coiled in the same form, and until it is worn down smooth would present a similar surface. I prefer to use the wire cable, however, and recommend that as the best.

Having thus fully described the construction and operation of my invention, I claim—

The surface for scouring grain consisting of layers of wire rope, substantially as specified.

W. W. INGRAHAM.

Witnesses:

JOHN W. MUNDAY,  
HEINRICH F. BRUNS.