

(No Model.)

J. MCGILL.
GRAIN SCOURER.

No. 333,420.

Patented Dec. 29, 1885.

Fig. 1.

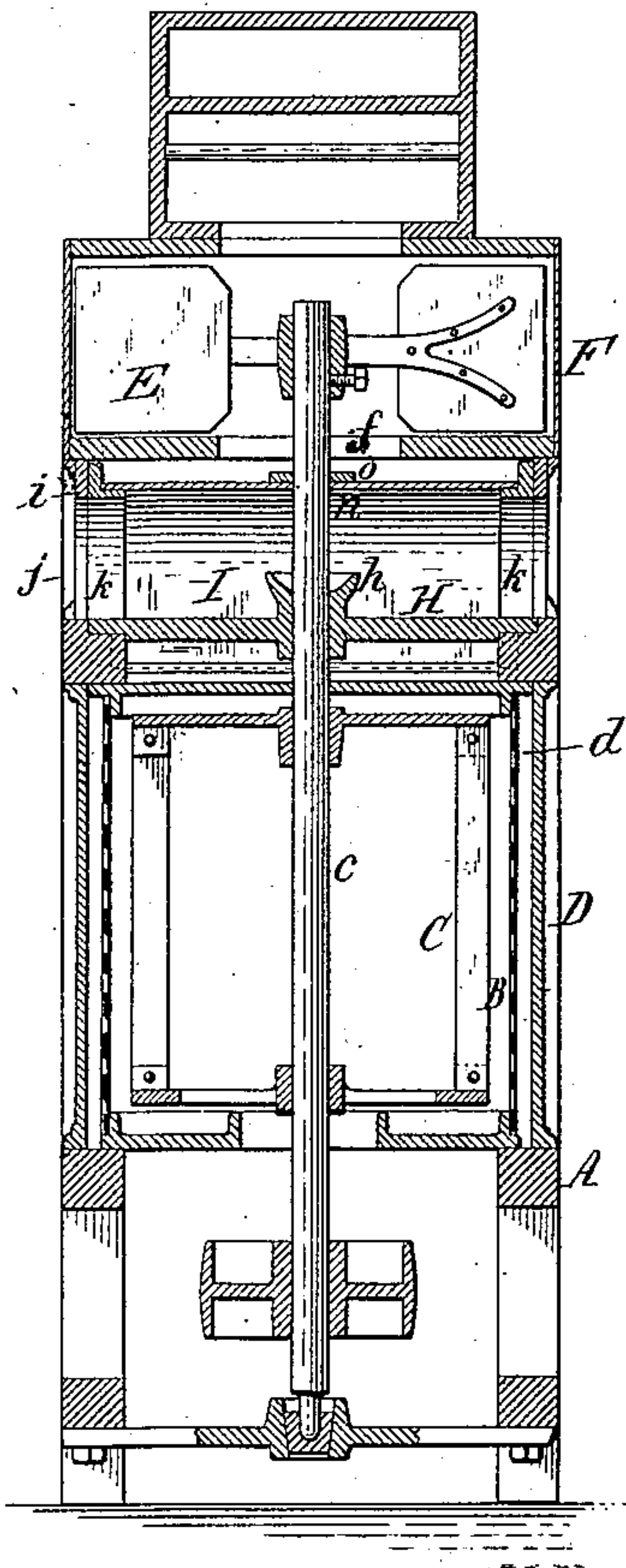


Fig. 2.

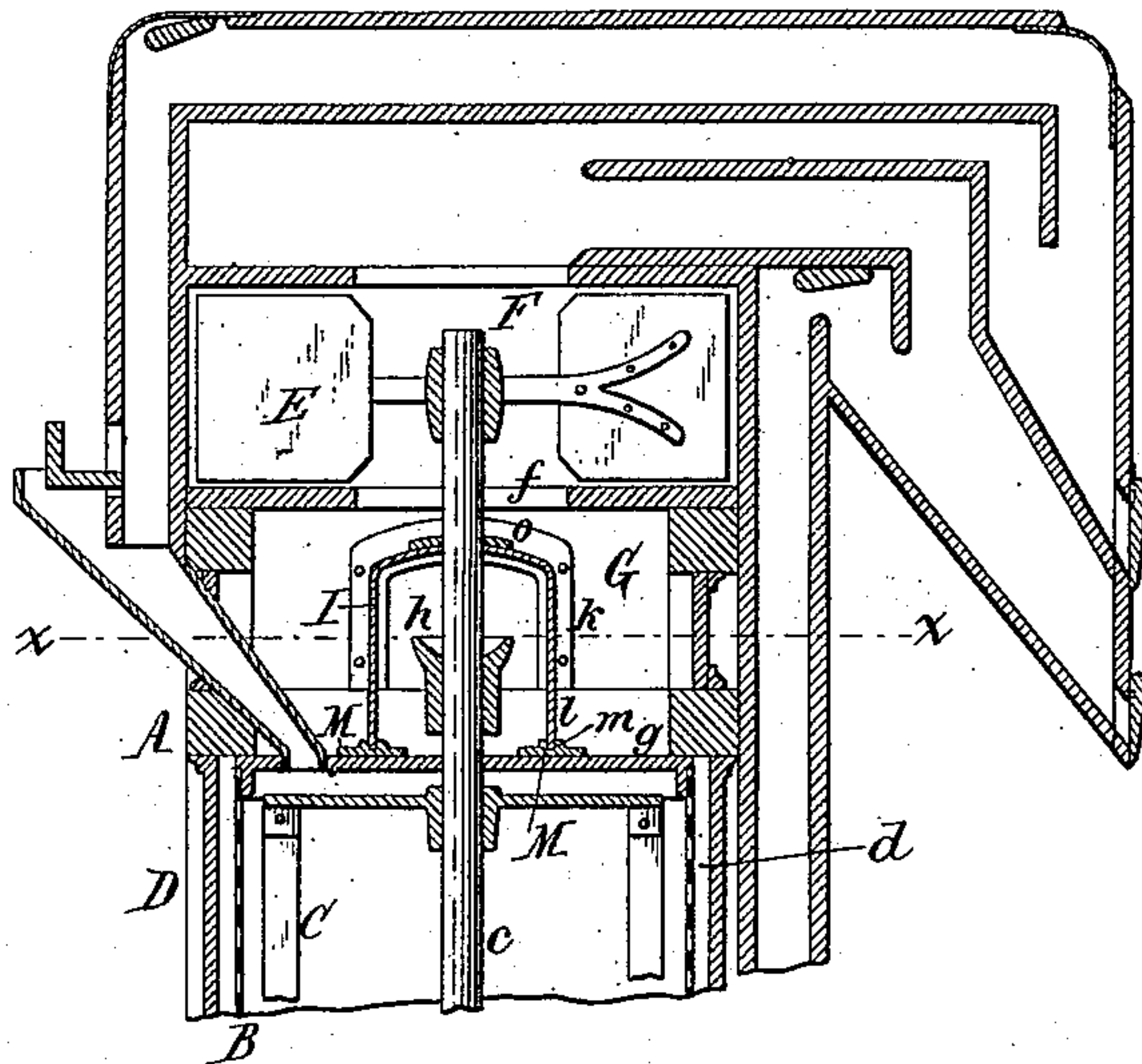


Fig. 3.

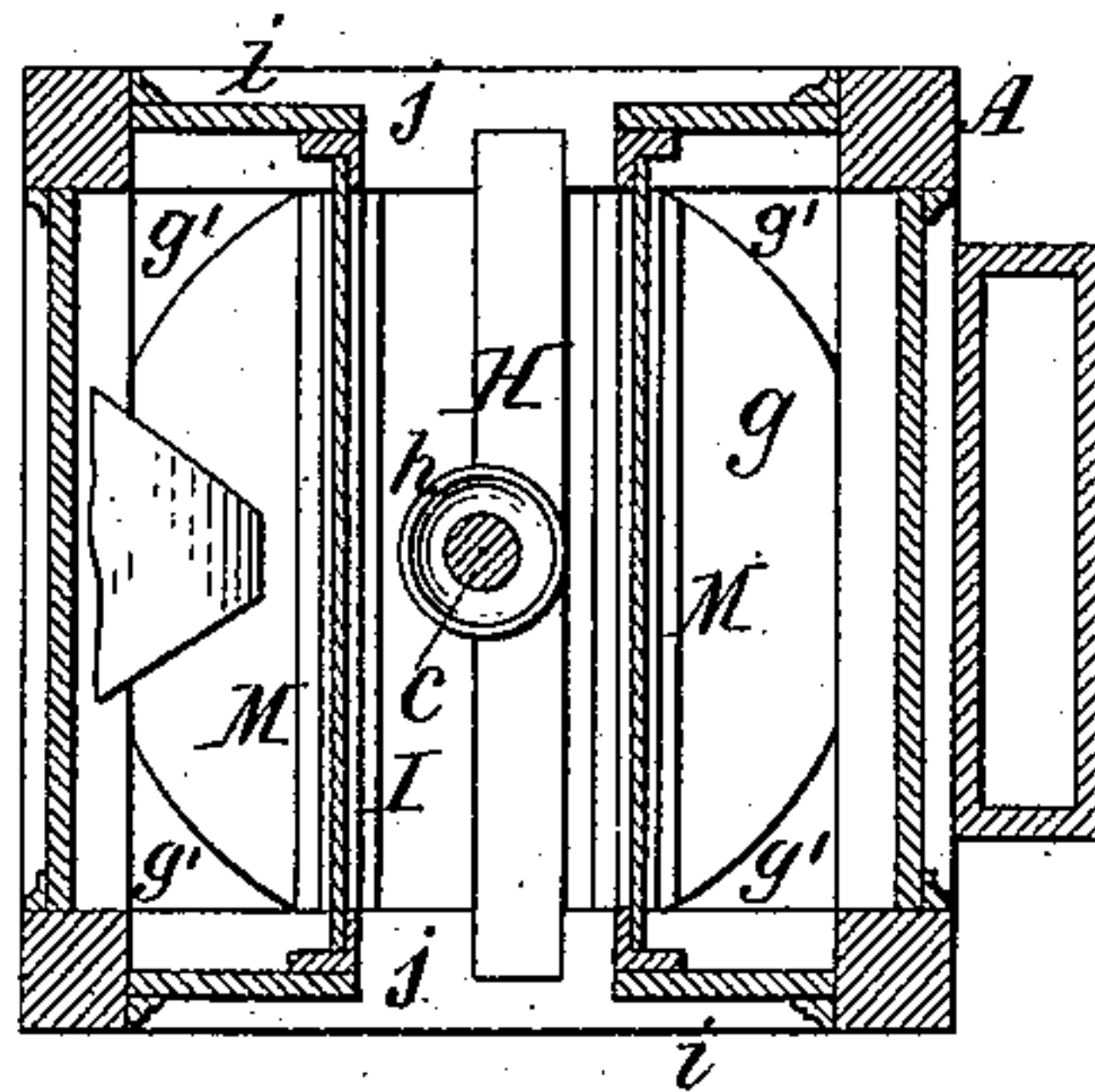


Fig. 4.

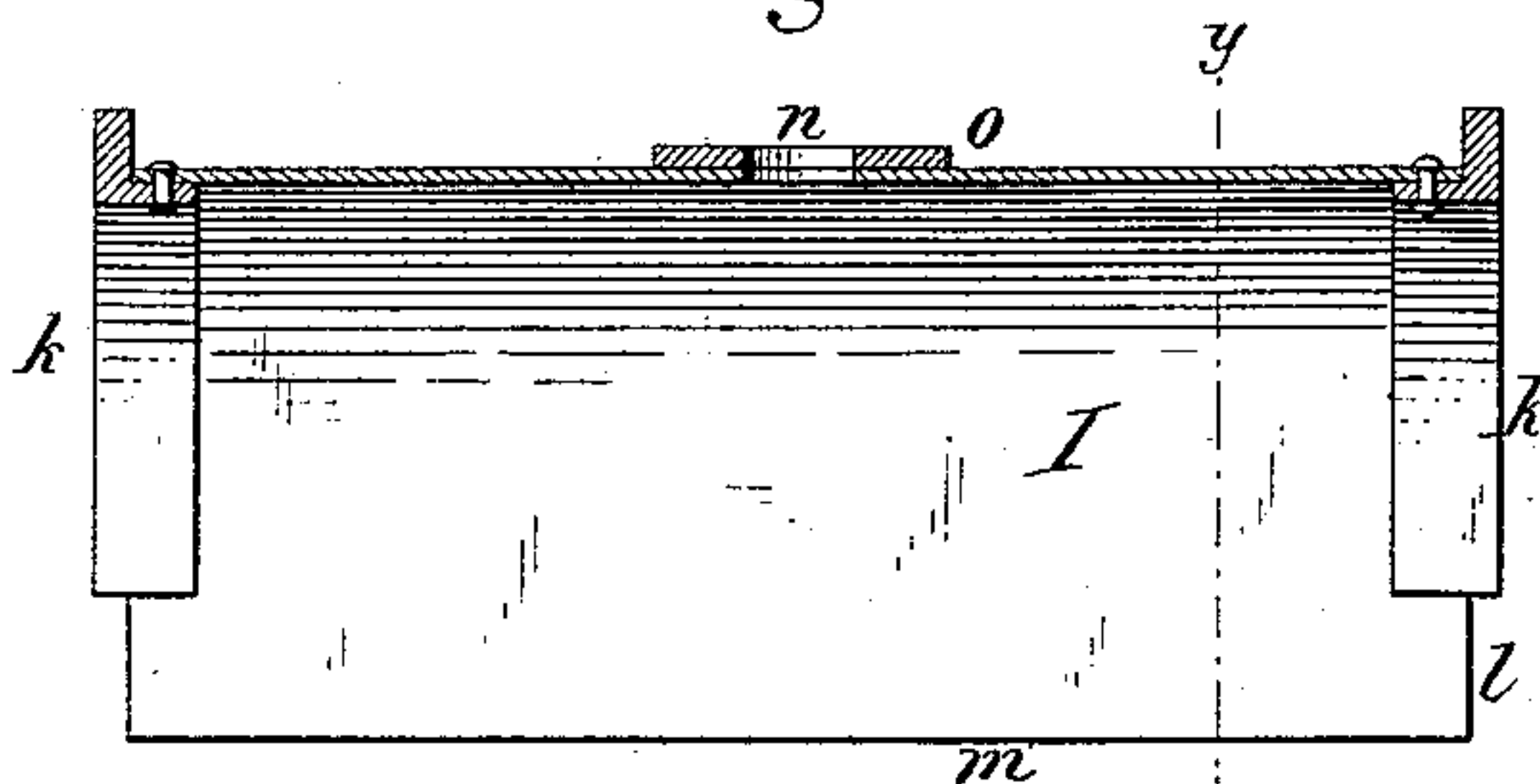
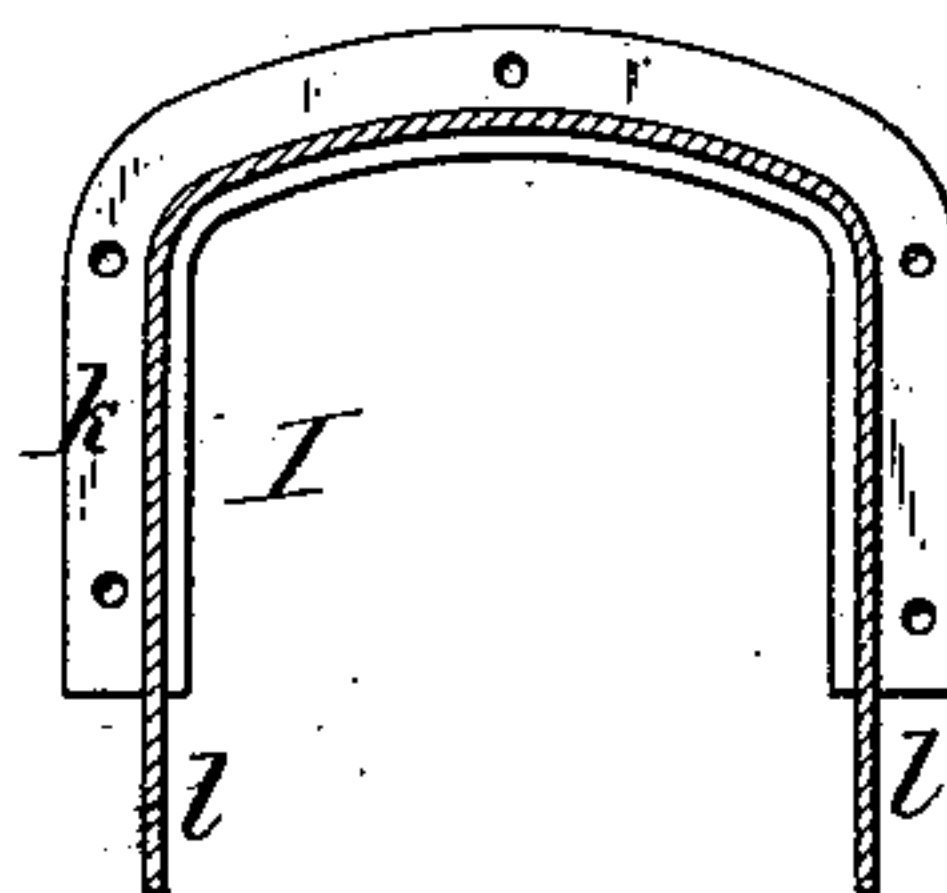


Fig. 5.



Chas. Buchheit.
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UNITED STATES PATENT OFFICE.

JAMES MCGILL, OF LOCKPORT, NEW YORK, ASSIGNOR TO THE RICHMOND MANUFACTURING COMPANY, OF SAME PLACE.

GRAIN-SCOURER.

SPECIFICATION forming part of Letters Patent No. 333,420, dated December 29, 1885.

Application filed September 1, 1885. Serial No. 175,946. (No model.)

To all whom it may concern:

Be it known that I, JAMES MCGILL, of the city of Lockport, in the county of Niagara and State of New York, have invented a new and
5 useful Improvement in Grain-Scourers, of which the following is a specification.

This invention relates to an improvement in that class of grain-scourers which are provided with a suction-fan which creates an air-
10 current in the machine, whereby the light impurities which have been detached from the grain are separated therefrom and removed, and more particularly to a machine of this kind in which the air-current passes from the
15 scouring-case to the eye of the fan by a wind trunk or passage located between the scouring-case and the fan. The spindle upon which the beaters, brushes, or other scouring devices and the fan-blades are mounted also passes
20 through this air trunk or passage and is supported in a bearing which is located within said air trunk or passage. This arrangement of said bearing not only renders it difficult to examine and properly lubricate the same, but it
25 also involves the danger of fire or explosion, as the dust particles carried by said air-current come in contact with said bearing and are liable to become ignited when said bearing becomes heated from lack of oil or other
30 causes.

The object of my invention is to overcome this difficulty by protecting said bearing against contact with the dust-laden air-current; and my invention consists to that end
35 of the improvements which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of a grain scourer and separator provided with my improvement.
40 Fig. 2 is a vertical section of the upper portion of the machine at right angles to Fig. 1. Fig. 3 is a horizontal section in line *x x*, Fig. 2. Fig. 4 is a longitudinal cross-section of the protecting-hood on an enlarged scale. Fig. 5
45 is a cross-section of the same in line *y y*, Fig. 4.

Like letters of reference refer to like parts in the several figures.

A represents the stationary frame of the machine; B, the perforated scouring-case, and

C the beaters, brushes, or other scouring devices arranged within the scouring-case and mounted on the vertical spindle *c*.

D is the tight case inclosing the perforated scouring-case, and *d* is the ascending air-passage between the scouring-case B and the in-
55 closing-case D.

E represents the fan-blades secured to the upper portion of the spindle *c*, and F represents the fan-case inclosing said blades.

f represents the eye formed in the bottom
60 of the fan-case.

G represents the air-passage leading from the upper end of the passage *d* to the eye *f*, and formed by inclosing the space between the top plate, *g*, of the scouring-case and the
65 bottom of the fan-case. The plate *g* is circular in form and leaves openings *g'* in the corners of the machine, through which the ascending air-current passes from the passage *d* into the air-passage G.
70

h represents the bearing which supports the spindle *c* between the scouring-case and the fan. The bearing *h* is formed on or secured to a horizontal bridge-tree, H, which is attached to the upper portion of the frame A.
75

I represents a hood or cover, which covers the bridge-tree H and bearing *h* and extends horizontally through the air-passage G and rests on the top plate, *g*, of the scouring-case. The hood I excludes the dust-laden air-current rising through said passage from the bearing *h*. This hood is of inverted-trough shape and open at both ends, where it is secured to the outer walls, *i*, of the air-passage G. The walls *i* are provided with openings *j*
85 in line with the hood, whereby access can be had to the bearing *h* from either end of the hood for examining and lubricating the bearing. The hood is preferably constructed of sheet-iron, and provided at both ends with
90 cast flanges *k*, by which it is secured to the walls *i* of the air-passage G. The lower vertical edges, *l*, of the hood I enter vertical slits in the adjacent cross-pieces of the frame A, and the lower horizontal edges, *m*, of the hood
95 I enter horizontal grooves formed in cross-pieces M, resting on the top plate, *g*, of the scouring-case, whereby practically-tight joints

are formed along the lower edges of the hood. The spindle *c* passes through an opening, *n*, in the top of the hood, which is preferably provided with a washer, *o*, of rubber or other
 5 suitable material, forming a tight joint around the spindle. The dust-laden air-current passes from the passage *d* through the passage *G*, around the hood *I*, and into the lower eye, *f*, of the fan. The hood *I* prevents this air-cur-
 10 rent from coming in contact with the bearing *h*, and as the hood is open at both ends the bearing is rendered easily accessible at all times.

I claim as my invention—

15 1. In a grain-separator, the combination, with the fan and the air-passage through which the dust-laden air passes to the fan, of the spindle on which the fan is mounted, a bearing supporting said spindle, and a hood or
 20 cover which covers the bearing in said air-passage and opens outside of the same, whereby said bearing is protected from the dust-laden air-current and rendered accessible from

the outside without removing the hood, substantially as set forth. 25

2. The combination, with the scouring mechanism, the fan, and the spindle whereby said parts are driven, of an air-passage, *G*, leading from the scouring mechanism to the fan, a
 30 hood, *I*, open at its ends and extending through said air-passage, and a bearing, *h*, supporting said spindle underneath the hood *I*, substantially as set forth.

3. The combination, with the scouring-case having a top plate, *g*, a fan having an eye, *f*,
 35 a connecting air-passage, *G*, and a spindle, *c*, of the bearing *h*, the hood *I*, covering the bearing and extending through the passage *G*, and grooved cross-pieces *M*, receiving the lower edges of the hood, substantially as set forth. 40

Witness my hand this 22d day of August, 1885.

JAMES MCGILL.

Witnesses:

WILLIAM RICHMOND,
 WILLIAM McLEAN.