

(No Model.)

3 Sheets—Sheet 1.

A. SEIBERT.
GRAIN SCOURER.

No. 248,060.

Patented Oct. 11, 1881.

Fig. 1.

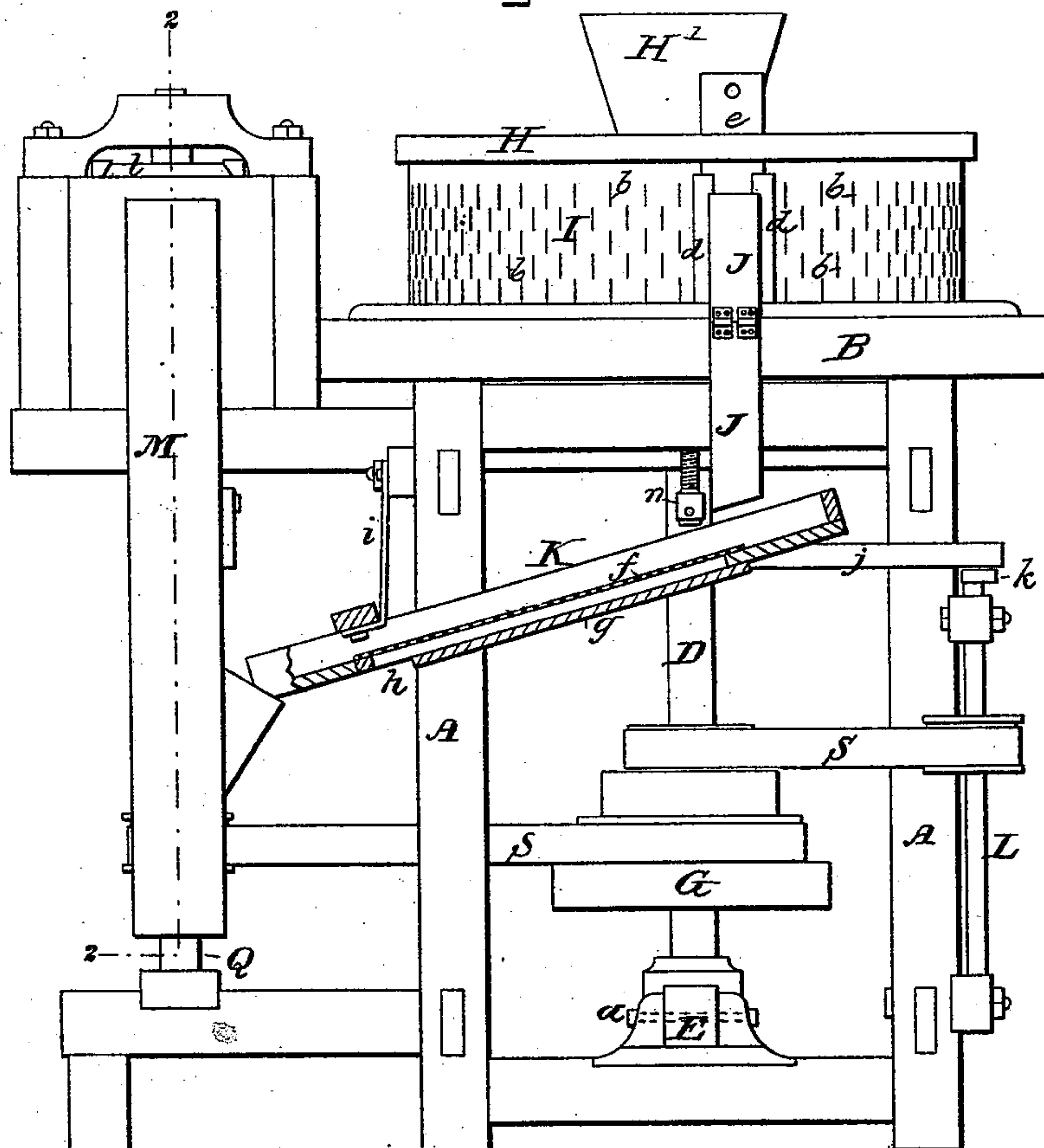
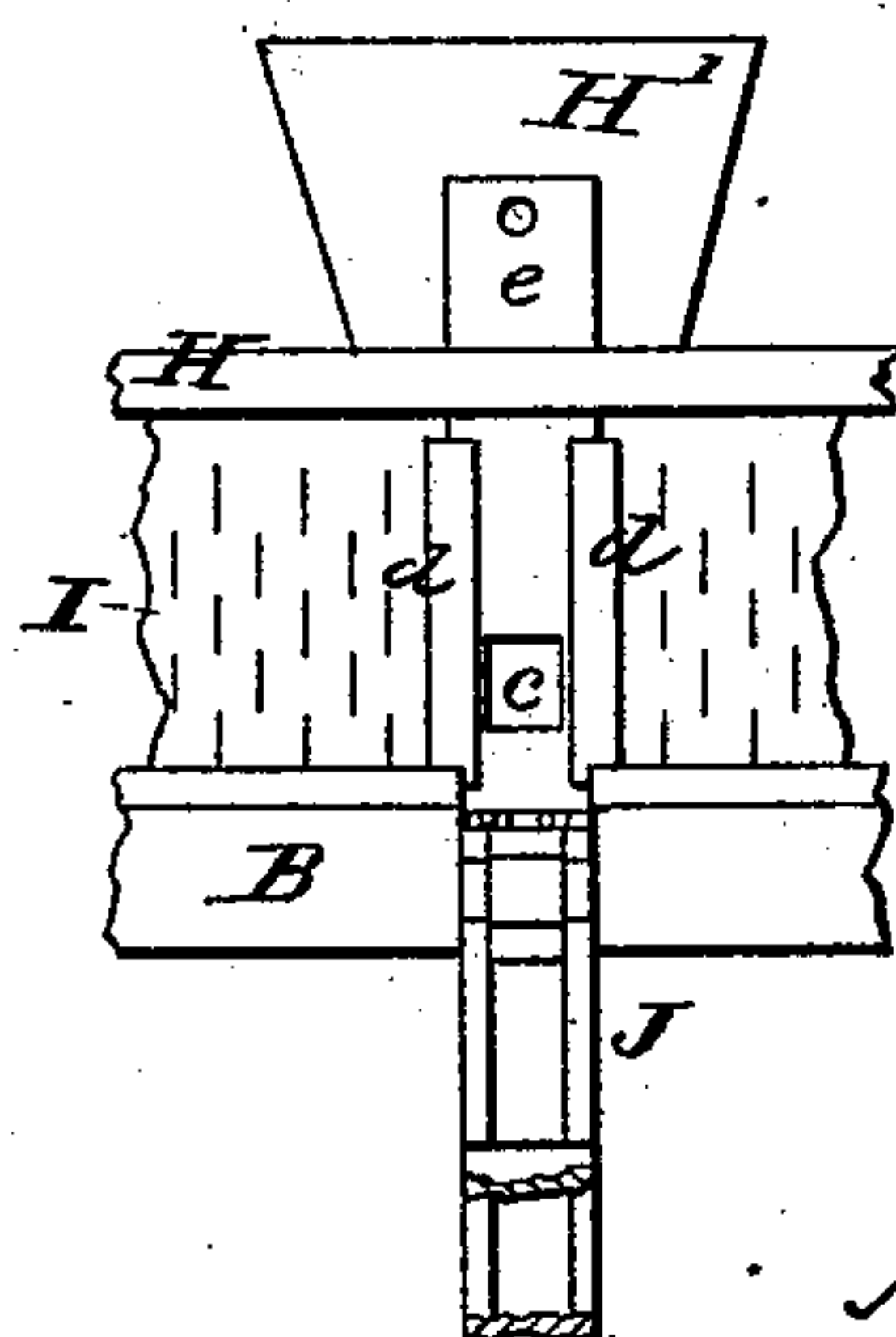


Fig. 5.



WITNESSES:

E. B. Bolton

Geo. C. Davenport

INVENTOR:

Antony Seibert

By his Attorneys,

Burke, Fraser & Hornum

(No Model.)

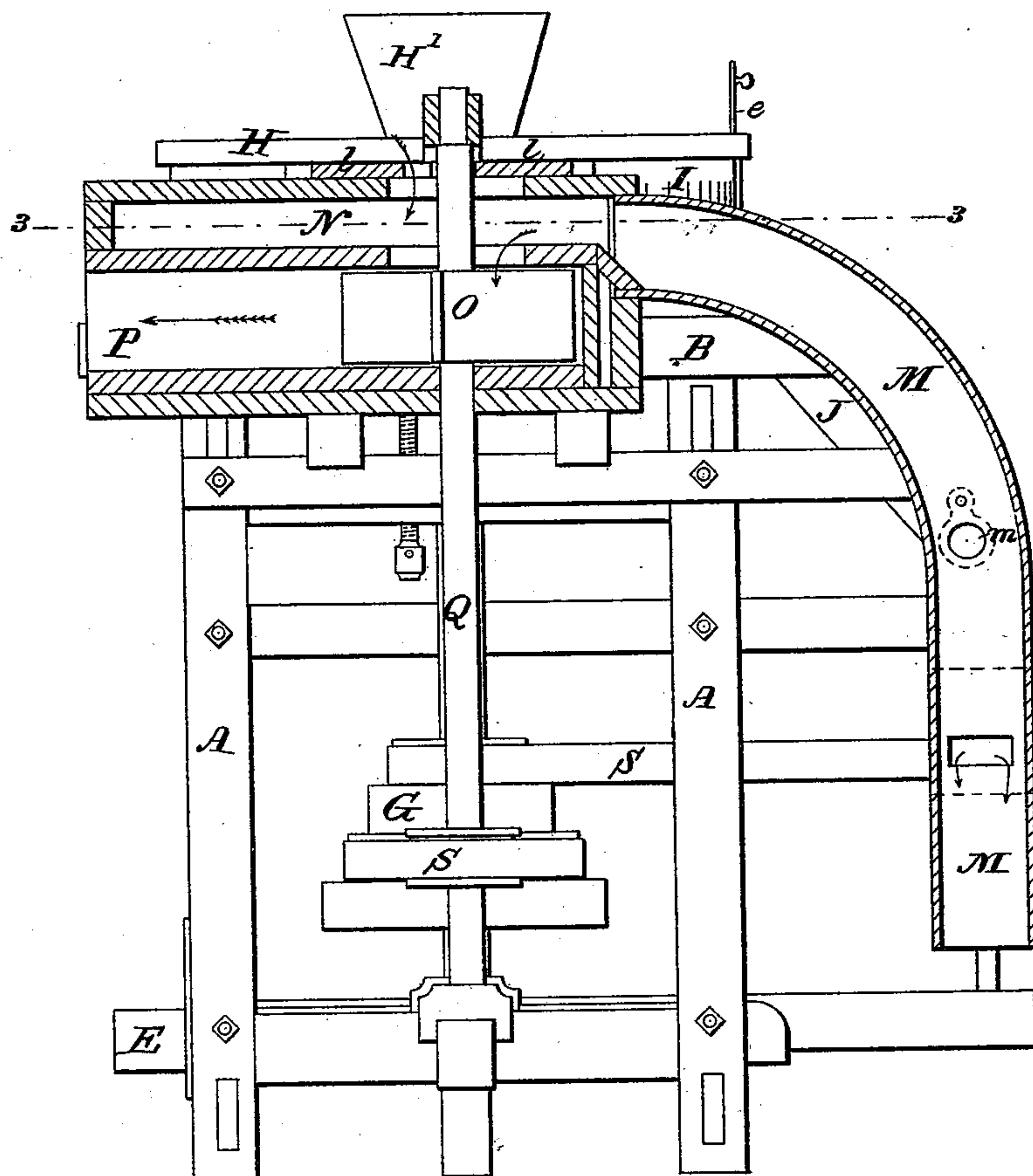
3 Sheets—Sheet 2.

A. SEIBERT.
GRAIN SCOURER.

No. 248,060.

Patented Oct. 11, 1881.

Fig. 2.



WITNESSES:

E. B. Bolton

Geo. Bainson.

INVENTOR:

Antony Seibert

By his Attorneys,

Burke, Fraser & Connett

(No Model.)

3 Sheets—Sheet 3.

A. SEIBERT.
GRAIN SCOURER.

No. 248,060.

Patented Oct. 11, 1881.

Fig. 3.

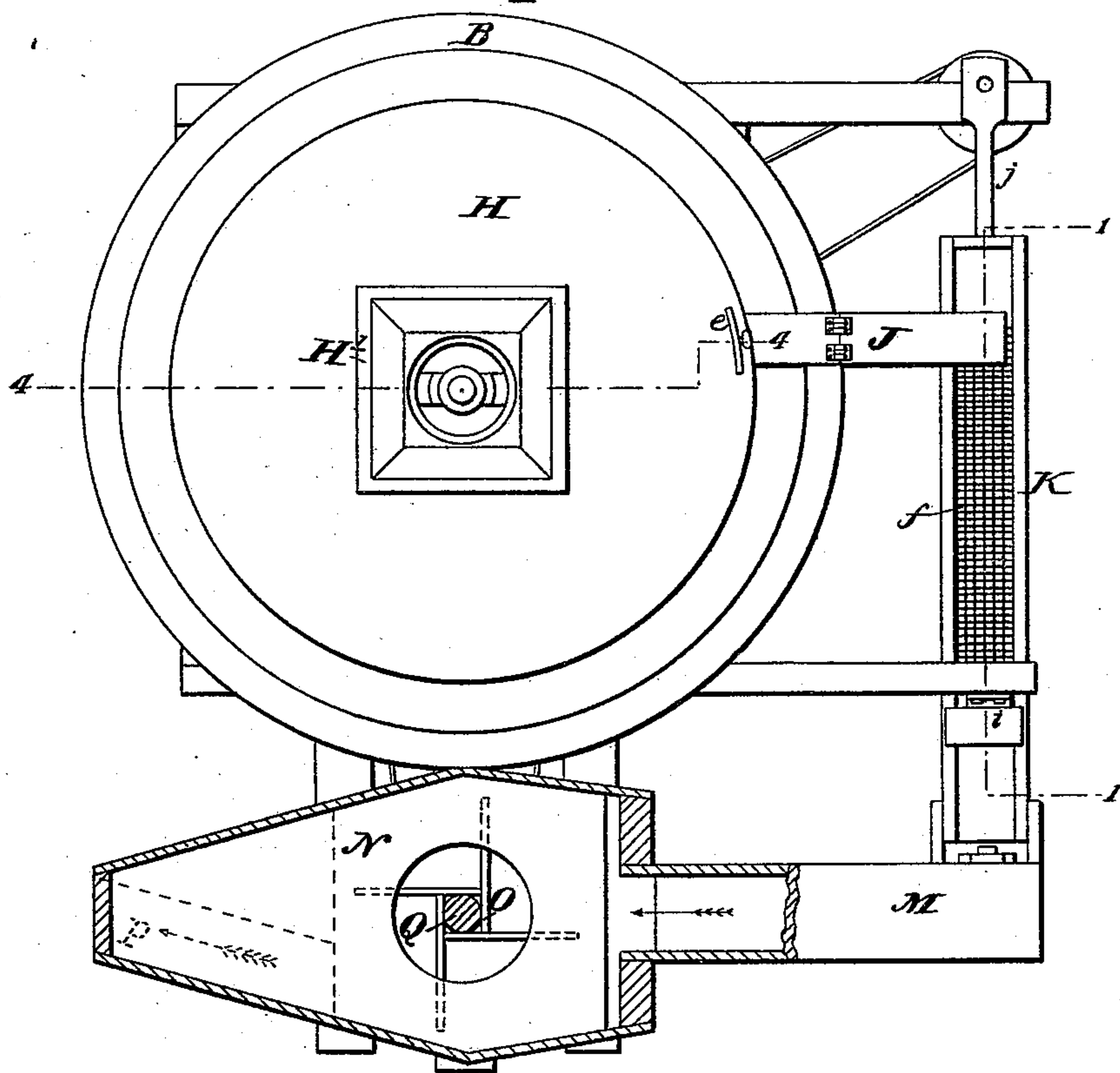
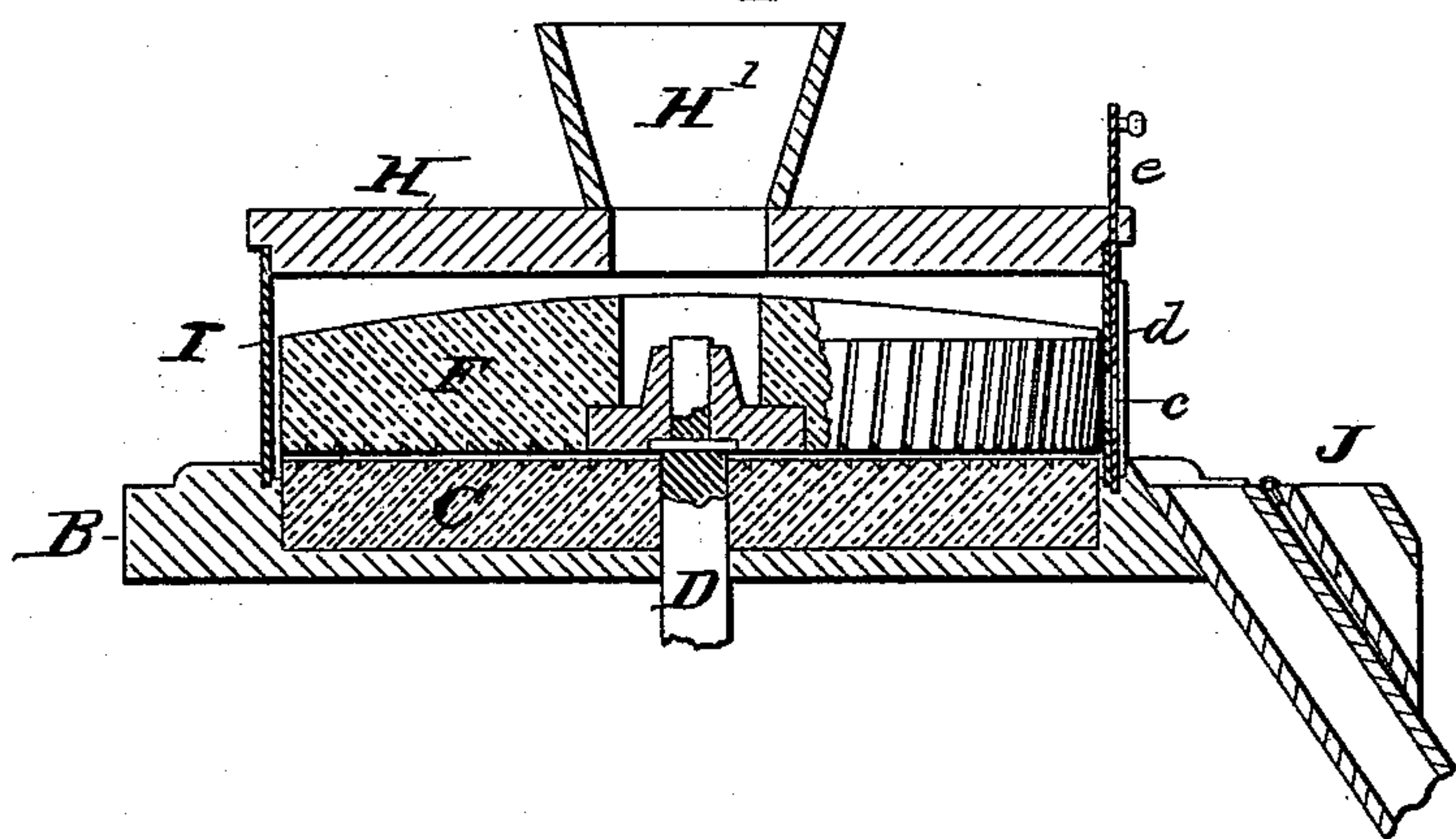


Fig. 4.



INVENTOR:

WITNESSES:

E. B. Bolton

Geo. Bainton.

Antony Leibert

By his Attorneys,

Burke, Fraser & Monnet.

UNITED STATES PATENT OFFICE.

ANTONY SEIBERT, OF FREMONT CENTRE, ASSIGNOR TO JACOB MARK, OF
NEW YORK, N. Y.

GRAIN-SCOURER.

SPECIFICATION forming part of Letters Patent No. 248,060, dated October 11, 1881.

Application filed April 22, 1881. (No model.)

To all whom it may concern:

Be it known that I, ANTONY SEIBERT, a citizen of the United States, residing at Fremont Centre, Sullivan county, New York, have
5 invented certain Improvements in Grain-Scourers, of which the following is a specification.

This invention relates to machines for removing the smut and tips of the grains and the chaff and light foreign particles therefrom,
10 so as to fit it for being ground into flour. It may also be employed for hulling the grain—that is to say, removing the bran—as in what is known as “pearl barley;” but the main purpose is to scour the grain and fit it for grinding.
15 The novel features of the invention will be set forth definitely in the claims at the close of this specification.

In the drawings which serve to illustrate my invention, Figure 1 is a side elevation of
20 the machine, a part being in section on the line 1 1 in Fig. 3. Fig. 2 is an elevation of the machine viewed at right angles to Fig. 1, a part being in section on the line 2 2 in Fig. 1. Fig. 3 is a plan of the machine, a part being
25 in section on the line 3 3 in Fig. 2. Fig. 4 is a sectional view of a part of the machine, taken on the line 4 4 in Fig. 3. Fig. 5 is a detached elevation, illustrating the adjustable outlet for the grain.

30 A represents a suitable frame-work of any kind, and B a platform thereon to support a fixed nether millstone, C. (Shown in Fig. 4.)

D is a vertical shaft, which has a bearing just below the platform B, and is stepped in a
35 lever, E, hinged at *a* to the frame. This arrangement permits the shaft D to be adjusted vertically to some extent.

On the upper end of the shaft D is mounted the “runner” or upper stone, F, and at the
40 proper point on the said shaft is keyed a cone-pulley, G, by which the shaft and runner are driven. The stone C is dressed on its upper face in the usual way, or any good way, and the runner is dressed both on its lower face
45 and on its periphery. The grooves on its periphery (see at the right in Fig. 4) are or may be cut a little inclined to the axes of rotation.

The stone F is housed in a casing composed of a disk, H, which is provided with a hopper,
50 H', to receive the grain in the usual way, and a drum, I, somewhat larger in diameter than

the runner, so as to leave an annular space around the stone of about a quarter of an inch. The exact amount of space is not important
55 so long as it does not much exceed the length of the grains being scoured. This drum is provided with a roughened or abrading surface on the inside, and I prefer to make it of sheet-iron, and to perforate it with narrow slits
60 or cuts *b*, as shown in Fig. 1, which throw up a burr on the inside, in the manner of a grater, while the slits formed are not of sufficient width to pass anything but the finest dust. Any
65 mode of roughening the inner face of the drum may, however, be employed. The runner is set into rapid rotation, and the grain to be
scoured is admitted at the hopper H'. The runner having been adjusted to the proper
70 height above the stone C by means of the lever E, the grain will not be crushed or ground in its passage from the center to the periphery of the stones, but will only have its ends clipped
off. By reason of the centrifugal force and the dressing of the stones the grain is forced out-
75 ward into the annular space between the stationary drum I and the runner F, where the final scouring takes place, partly by reason of the chafing of the grains on each other and
partly by the action of the dressing on the periphery of the runner and the roughness on the
80 inner face of the non-rotating drum.

The grain is retained in the annular space around the runner and permitted to rise to a
predetermined height therein by means of an adjustable outlet. (Best shown in Fig. 5.) An
85 opening, *c*, is made in the side of the drum I, a little above the bottom of the same, so that the grain must accumulate somewhat before it can overflow out of said opening. At the sides
90 of the opening are arranged keepers *d*, in which plays a slide, *e*, having an aperture to correspond with the aperture in the drum. By raising the slide *e* the outlet for the grain is lifted
95 and adjusted to the desired height, and the grain may thus be more or less thoroughly scoured before it escapes. Indeed, by raising the slide high enough, the aperture for the escape of the grain may be entirely closed, and
this is desirable where the scouring is to be carried far enough to remove the bran. The
100 grain and scourings pass out of the drum into a spout, J, which leads it to a spout, K. That

portion of the spout J adjacent to the drum I is hinged, so that it may be thrown back for the better adjustment of the slide *e*. This arrangement of a registered aperture capable of being adjusted independently of the outlet-spout and the hinging of the spout so that it may be turned out of the way has an important advantage over a slide having the spout fixed thereto, in that the spout is not movable up and down, and may be made to connect better and closer with the shaking-spout, and the height of the outlet may be the better adjusted.

The spout K is in the nature of a screen, a portion or all of its bottom being made of foraminous material, *f*. Below this screen is arranged a close bottom, *g*, from which the screenings fall through an opening, *h*, into a suitable receptacle. (Not shown.) The spout K is hung at one end by an elastic strip, *i*, while the other end is connected by means of a rigid connecting-rod, *j*, with a crank, *k*, on an upright shaft, L. Rotation of the shaft L imparts a shaking motion to the spout K.

It will be understood that only the heavier particles from the scourings pass through the screen *f*, the lighter passing with the grain into the suction-pipe M of an exhaust-blower. This suction-pipe depends and its lower end is open, so that the scoured grain may fall into a receptacle, or directly into conveyers leading to the grinding-mills. The upper end of the suction-pipe taps the fan-casing opening into a space, N, above the fan O. The current, as indicated by the arrows, is downward from this space into the fan-chamber, and thence out of the casing through the outlet P. The fan is mounted on a vertical shaft, Q, bearing a driving-pulley, R. The upward current of air through the suction-pipe M bears with it all the scourings, chaff, &c., with the grain, but has not force enough to lift the grain itself. Thus the most perfect separation is effected.

To regulate the force of the blast to the kind of grain being treated, (some being lighter than others,) whereby the separation is the more thoroughly effected, I employ registered openings in the fan-casing, and in the suction-pipe

also, if necessary, to diminish the force of the blast by the admission of air at points other than the pendent grain-outlet.

In Figs. 1 and 2, *l l* indicate slides arranged to close, or partly close, openings in the top of the fan-casing for the above purpose, and *m* is another slide or wicket near the lower end of the pipe M.

The shafts L and Q are or may be driven from the cone-pulley G by means of belts S S, as shown.

The construction of the slide *e* with an aperture is only a convenience. Any form of slide which will render the overflow-lip of the opening *e* adjustable vertically will serve the purpose.

Screws *n n* for leveling the nether stone, C, may be employed, and the runner may be mounted on the shaft D in a manner similar to that employed in ordinary mill-runners.

Having thus described my invention, I claim—

1. In a grain-hulling machine, the combination, with the drum I, provided with the outlet *c* and keepers *d*, of the slide *e*, arranged to play in said keepers, and having an aperture for the escape of the grain into the fixed spout J, and the said spout having the portion adjacent to the drum hinged, so as to turn back, whereby the position of the slide may be readily inspected and regulated, as set forth.

2. The combination of the drum I, stones C and F, apertured slide *e*, spout J, shaking-spout K, having a false bottom, *g*, screen *f*, and outlet *h*, the spring *i*, arm *j*, crank *k*, vertical shaft L, pendent suction-pipe M, arranged to receive air at its bottom, and connected with an exhaust-fan, O, the said fan and the fan-casing provided with registered air-inlets, all arranged substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ANTONY SEIBERT.

Witnesses:

HENRY CONNETT,
ARTHUR C. FRASER.