

(No Model.)

2 Sheets—Sheet 1.

L. S. SEEVER.

MACHINE FOR HULLING AND POLISHING RICE.

No. 277,947.

Patented May 22, 1883.

Fig. 1.

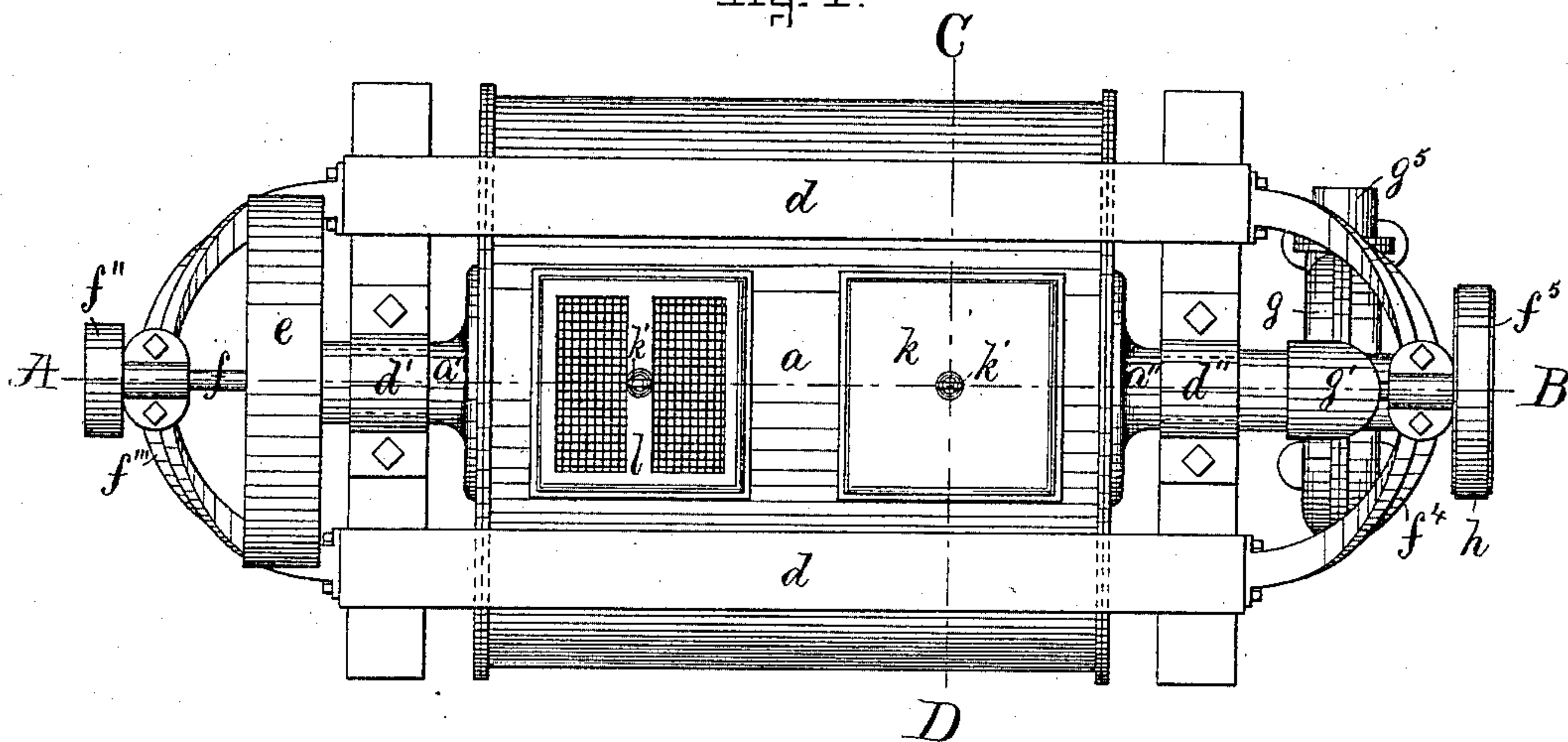
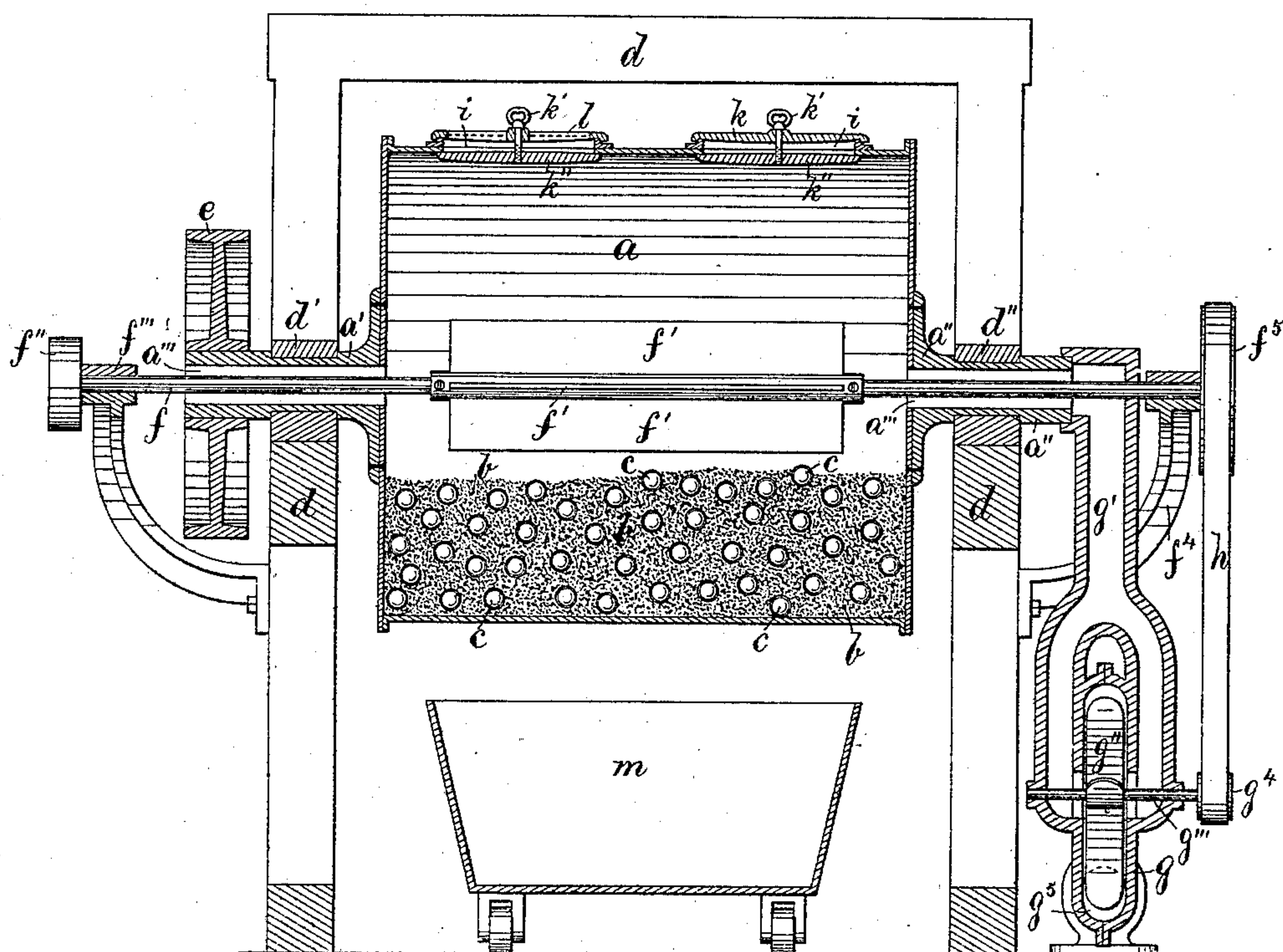


Fig. 2.



Witnesses

Henry Chadbourne.

F. Allen.

Inventor

Inventory
Latimer P. Seaver
by Alban Andrieu
his atty.

L. S. SEAVER.

MACHINE FOR HULLING AND POLISHING RICE.

No. 277,947.

Patented May 22, 1883.

Fig. 3.

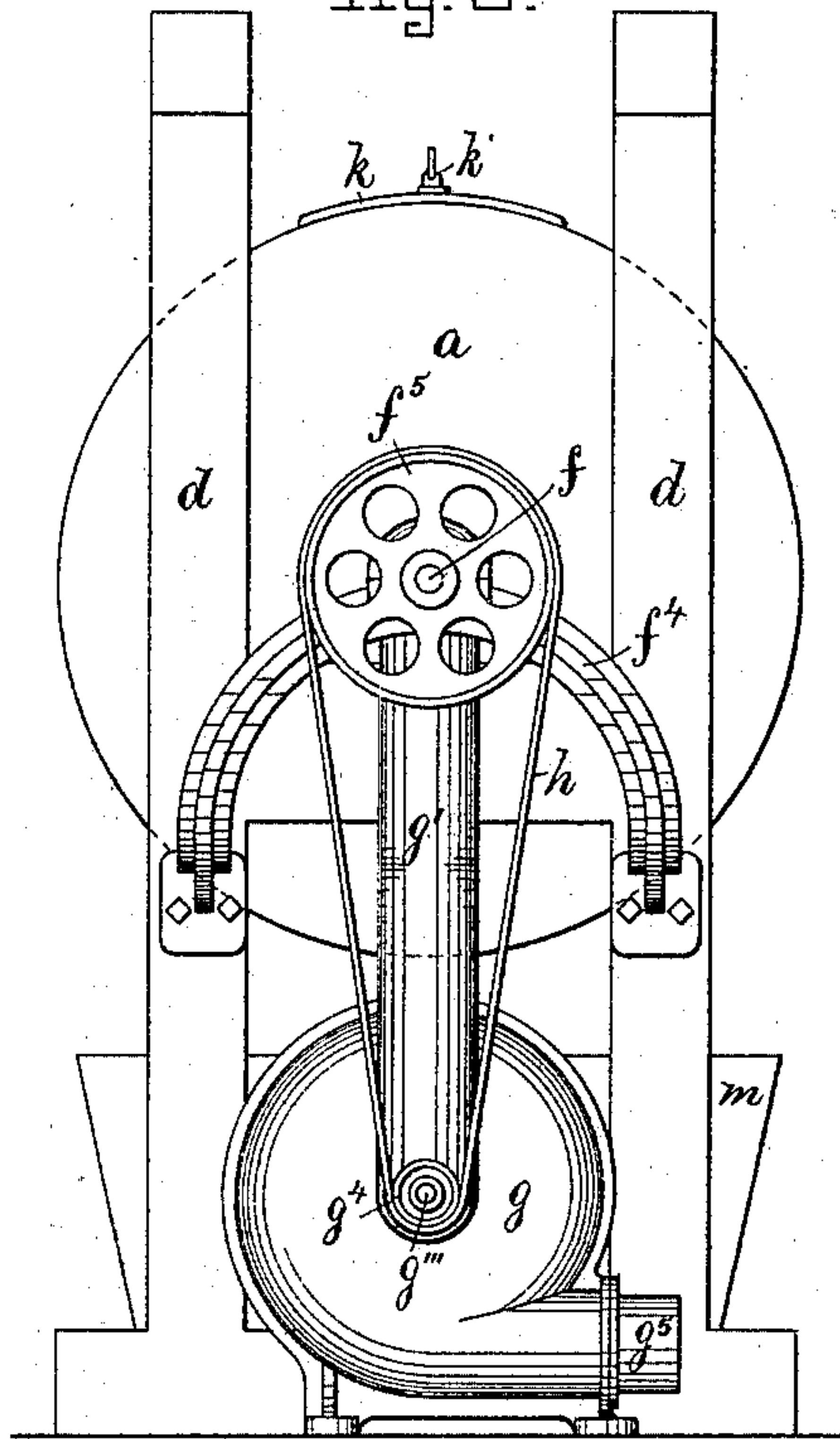
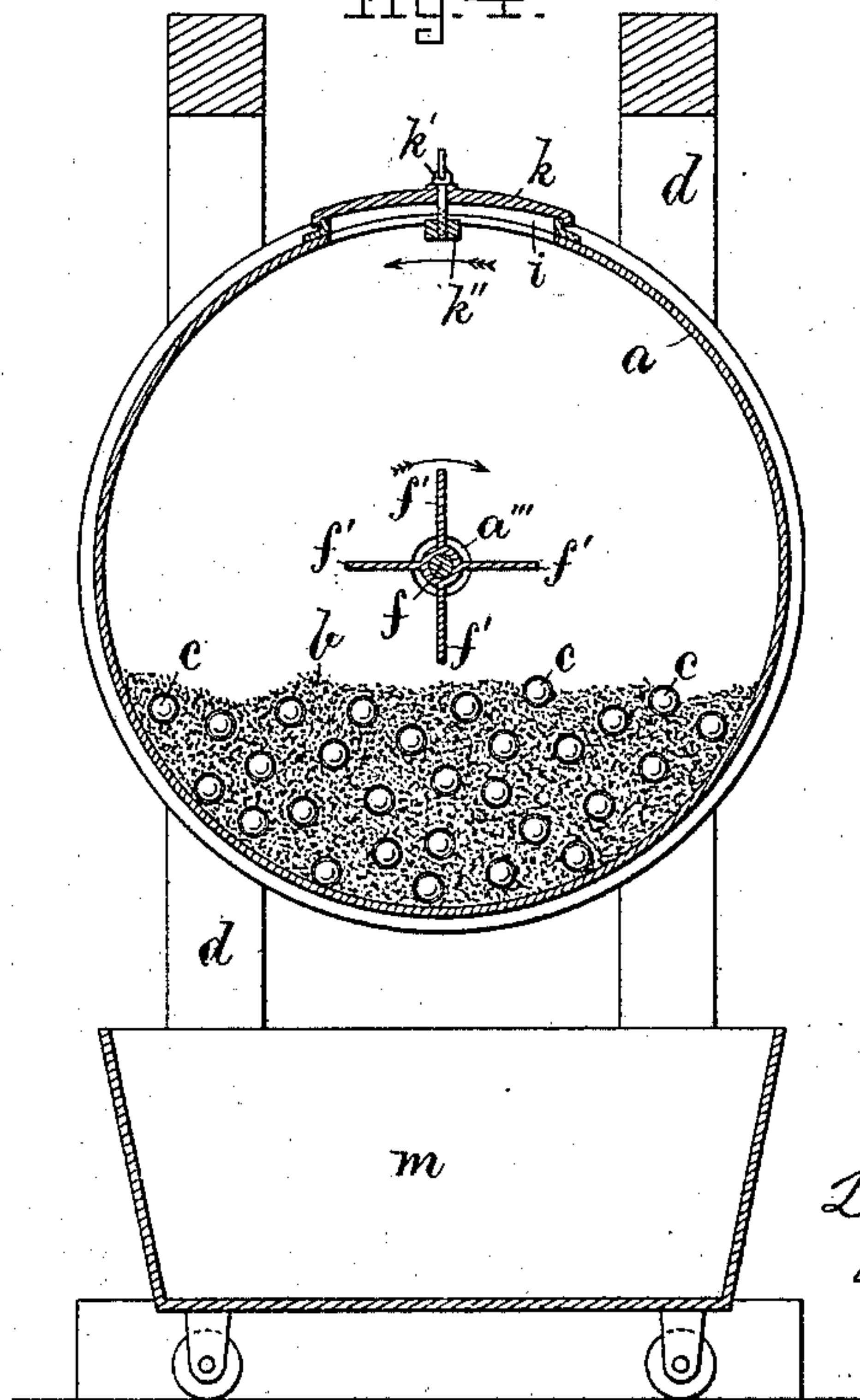


Fig. 4.



Witnesses
Henry Chadbourne.
J. Allen.

Inventor
Latimer S. Seaver.
by *Alvan Audria*
his atty

UNITED STATES PATENT OFFICE.

LATIMER S. SEAVER, OF BOSTON, MASSACHUSETTS.

MACHINE FOR HULLING AND POLISHING RICE.

SPECIFICATION forming part of Letters Patent No. 277,947, dated May 22, 1883.

Application filed December 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, LATIMER S. SEAVER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Hulling and Polishing Rice; and I do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

This invention relates to improvements in machines for hulling and polishing rice, and it is carried out as follows, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan view of the machine. Fig. 2 represents a central longitudinal section on the line A B, shown in Fig. 1. Fig. 3 represents an end view, seen from B in Fig. 1; and Fig. 4 represents a cross-section on the line C D, also shown in Fig. 1.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings, *a* represents a rotary cylinder, in which the rice *b*, that is to be hulled and polished, is placed, intermixed with a number of balls, *c c*, preferably made of wood or similar light material, so as to split and remove the hull from the rice without crushing the latter during the rotation of the cylinder *a*. The ends of said cylinder *a* are provided with hollow trunnions *a'* and *a''*, which are firmly secured by means of bolts or rivets to the respective ends of said cylinder, and in an axial line with the same. Each end of the cylinder *a* is provided with a central perforation corresponding to the central bore of the respective hollow trunnions *a'* *a''*, as shown in Fig. 2. The trunnions *a'* *a''* are supported and adapted to rotate in the respective bearings *d' d''*, secured to a suitable frame-work, *d*, as shown. The cylinder *a* is set in a rotary motion by means of power applied to the pulley or gear-wheel *e*, secured to the trunnion *a'*. Through the center of the cylinder *a* and its hollow trunnions *a'* *a''* extends the agitator-shaft *f*, in such a manner as to leave an annular space, *a'''*, between it and the interior of the respective hollow trunnions *a'* *a''*, as shown in Fig. 2. Within the cylinder *a* the agitator-shaft *f* is provided with a number of radial or curved wings, *f' f'*, as shown. The shaft *f*,

with its wings *f' f'*, is set in rotary motion by means of power applied to the pulley *f''*, secured to the outer end of said shaft *f*, which latter is supported and made to rotate in the bearings *f'''* and *f⁴*, as shown. The hollow trunnion *a''* communicates with the pipe *g'*, leading to the fan-blower or exhauster *g*, having rotary fan *g''* and shaft *g'''*, which is set in a rotary motion by means of belt or cord *h*, leading from the pulley *f⁵* on the agitator-shaft *f* to the pulley *g⁴* on the fan-shaft *g'''*, or in any other well-known or equivalent manner. The mouth or delivery pipe *g⁵* of the fan-blower or exhauster *g* is to be connected to a suitable conducting-pipe, as usual.

i i are openings for introducing the unhulled rice into the cylinder *a* and removing it after being hulled and polished. During the process of hulling and polishing the rice the openings *i i* are closed, each by means of a cover, *k*, adapted to be temporarily secured over the opening *i* by means of screw-bolt *k'* and fastening-bar *k''*, as shown on the right-hand side of Figs. 1 and 2. After the rice is hulled and polished the solid covers *k* are removed from the cylinder *a* and the perforated covers *l* secured over said openings by means of screw-bolt *k'* and fastening-bar *k''*, as shown in left-hand side of said Figs. 1 and 2.

m is a suitable box or carriage located below the cylinder *a*, into which the hulled and polished rice is deposited as it drops out from the cylinder *a* through the perforated covers *l*.

The operation of my improved rice hulling and polishing machine is as follows: The balls *c c* are placed in the cylinder *a*, and also a quantity of unhulled rice, *b*, the mixture being about large enough to fill the cylinder *a* a little less than half-full, as shown in Fig. 2. The cylinder *a* is then closed by means of solid covers *k* and set in rotary motion, as are the agitator-shaft *f* and exhaust-fan or blower *g*. The action of the balls *c c* during the rotation of the cylinder *a* causes the hulls to be split and removed from the rice, and such hulls, being much lighter than the rice, are caused to ascend into the upper half of the cylinder *a* by the action of the agitator-shaft *f* and its wings *f' f'*, and are automatically exhausted through the hollow trunnion *a''* by means of the exhaust-fan or blower *g* and conducted away from the machine to any desired place.

After the rice is all hulled and polished by the action of the balls *c c* the machine is stopped and the solid covers *k* removed and the perforated covers *l* substituted, after which the cylinder *a* is again rotated to allow the hulled and polished rice to drop out through said perforated covers *l* into the receptacle *m*. The perforations in said covers *l* are small enough to allow the rice to drop out, but prevent the balls *c c* from passing through, said balls always remaining within said cylinder *a*. When the hulled and polished rice is all removed from the cylinder *a* a new quantity is placed therein and the operation repeated, as above described. In this manner I produce a very simple and effective machine for hulling and polishing rice, and one in which the hulls are automatically separated and withdrawn

from the rice in one single machine without the need of a further operation for separating the hulls from the rice-seeds. 20

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

The herein-described machine for hulling and polishing rice, consisting of the rotary cylinder or drum *a*, balls *c c*, hollow trunnions *a' a''*, the agitator-shaft *f*, provided with wings *f' f''*, and the exhaust-fan or blower *g*, connected to one of the hollow trunnions, *a''*, as and for the purpose set forth. 25

In testimony whereof I have affixed my signature in presence of two witnesses. 30

LATIMER S. SEAVER.

Witnesses:

ALBAN ANDRÉN,
HENRY CHADBURN.