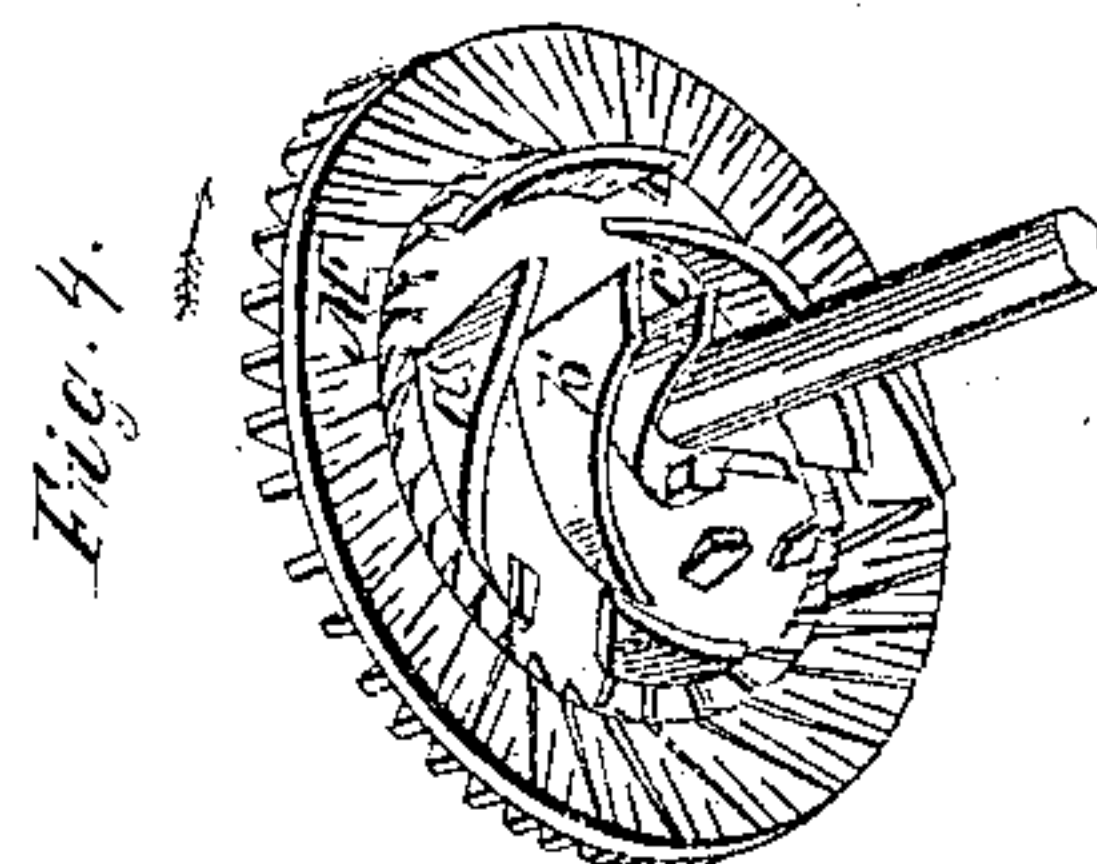
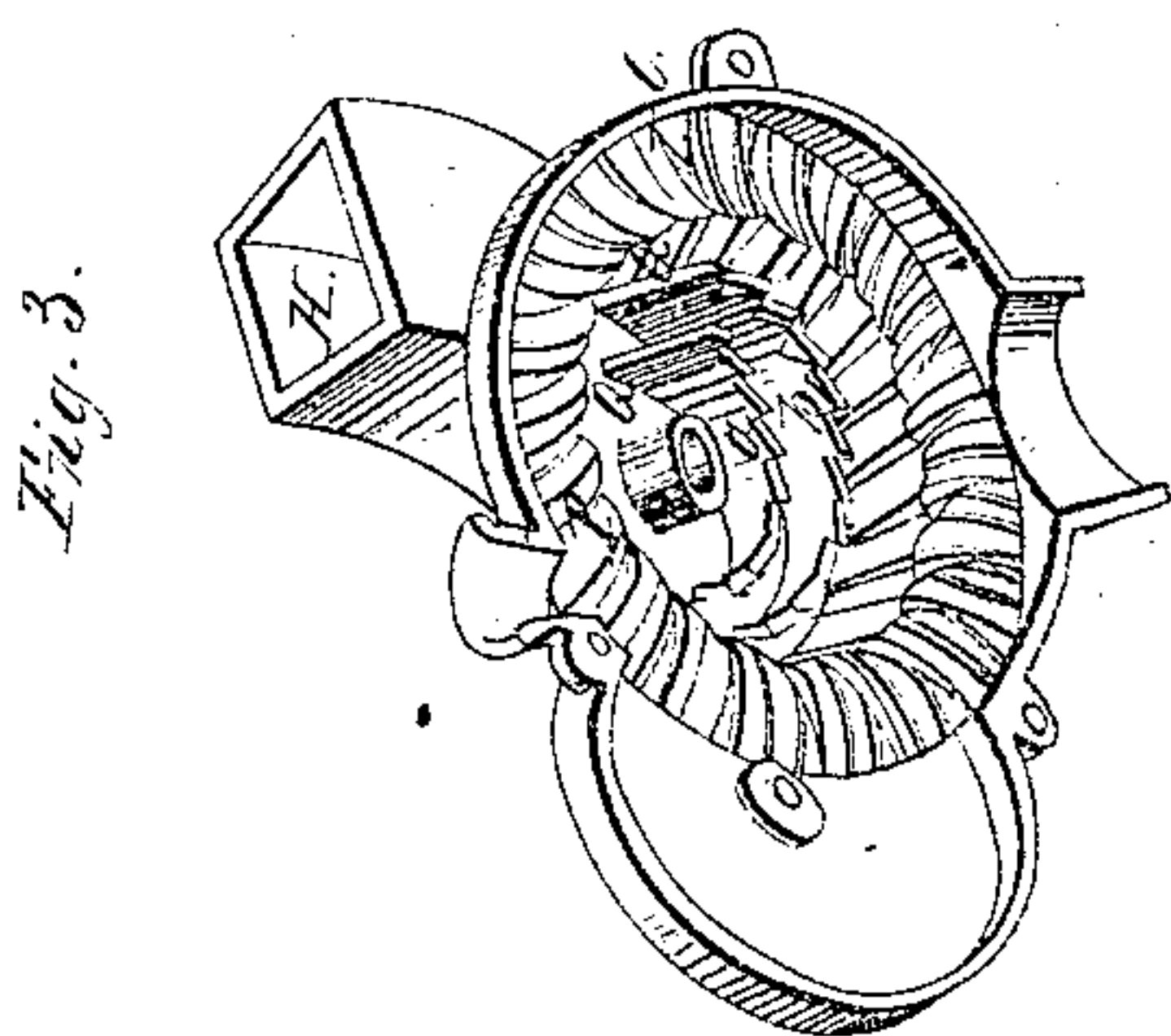
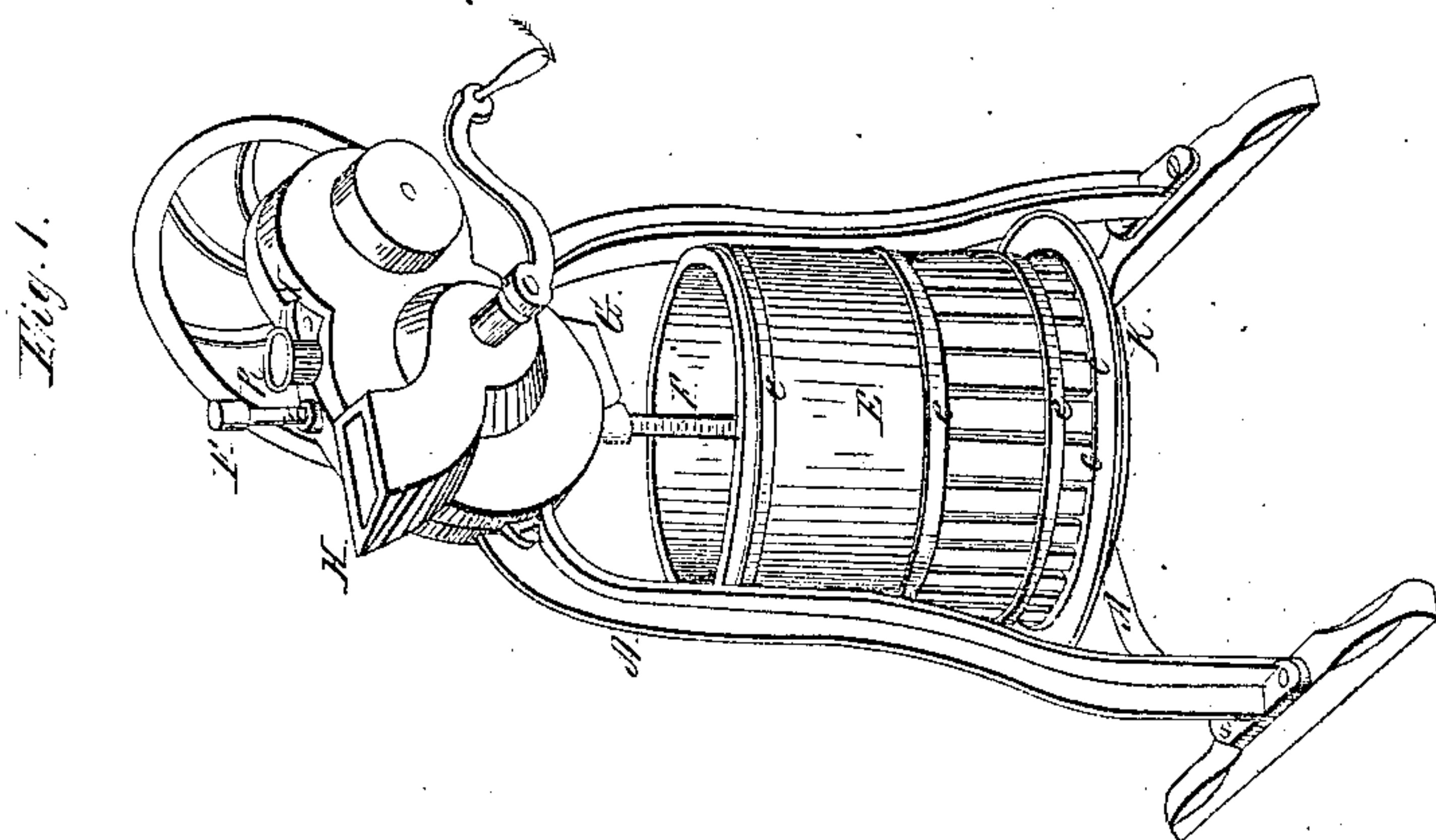
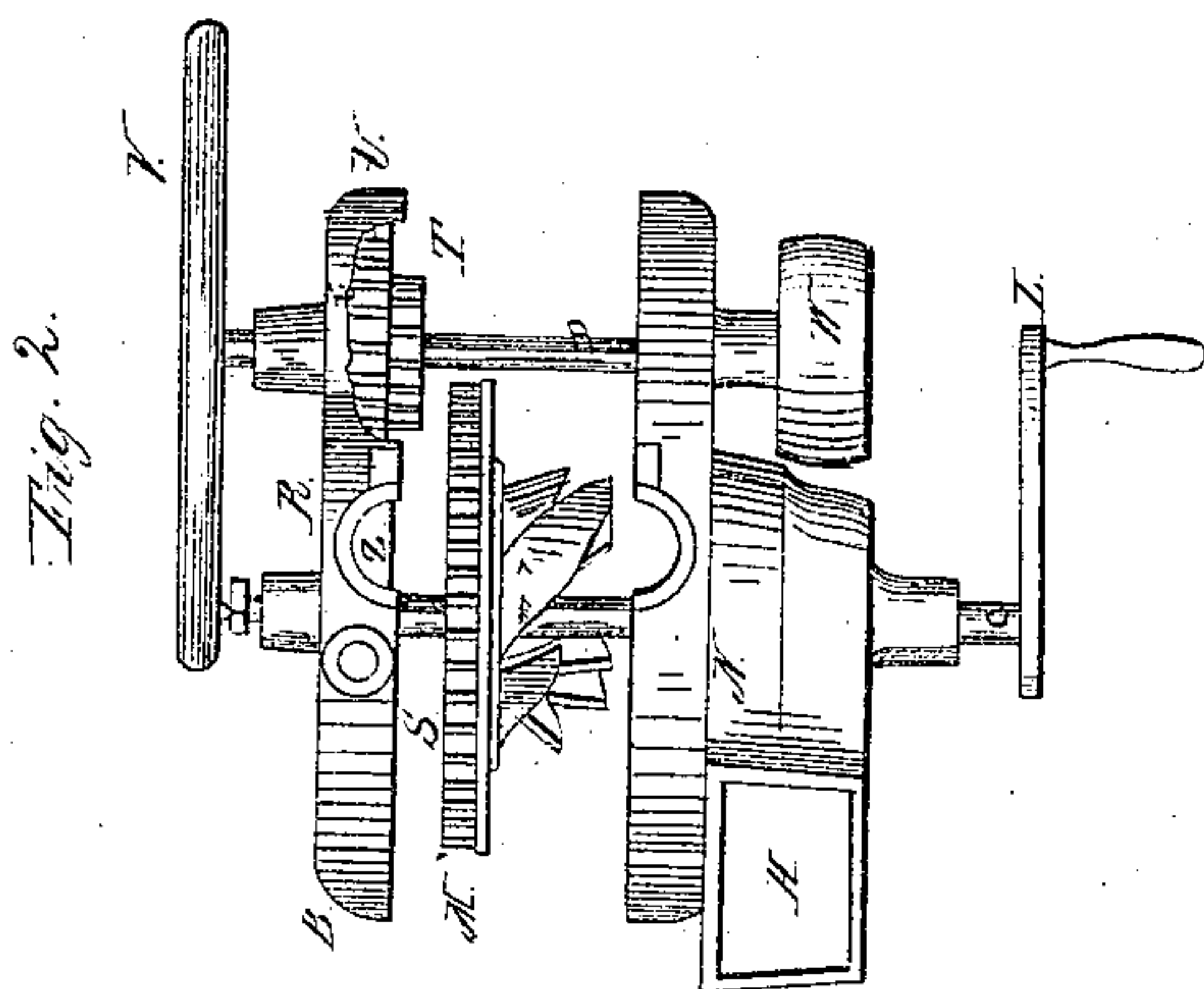


C. B. Hutchison,

Cider Mill,

N^o 29,490.

Patented Aug. 7, 1860.



Witnesses:
E. S. Stockie
Jas. S. Bradburn

Inventor:
Charles B. Hutchison

UNITED STATES PATENT OFFICE.

CHARLES B. HUTCHINSON, OF AUBURN, NEW YORK.

MILL FOR GRINDING GRAIN AND APPLES.

Specification forming part of Letters Patent No. 29,490, dated August 7, 1860; Reissued April 19, 1870, Nos. 3,925 and 3,926.

To all whom it may concern:

Be it known that I, CHAS. B. HUTCHINSON, of Auburn, in the county of Cayuga and State of New York, have invented a
5 new and useful Improvement in Portable Cider and Grain Mills; 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.

The object of my invention is to construct a small, cheap, portable machine, adapted to the wants of every farmer and capable of modifications for making cider,
15 grinding grain, corn and cobs and shelling corn with facility.

My invention consists of a peculiar combination of cider-mill, grain-mill and corn-sheller.

20 In the accompanying drawings: Figure 1 represents a perspective view of my machine. Fig. 2, is a view of the top of the machine, the parts being partly separated for better illustration. Figs. 3, and 4, represent detached pieces hereafter specially to
25 be described.

My machine may be made chiefly of cast iron, the frame A and part of the case B, being cast in one piece and provided with
30 two bearing surfaces for the two wheel shafts C, and D, as represented in Figs. 1, and 2, of the accompanying drawings.

In making cider with my machine, the apples are fed into the mill through the
35 hopper H, Fig. 1, and the pomace escapes by the spout G. (The grinding apparatus will be hereafter described.) As the pomace escapes from spout G, it falls directly into the press hoop E. This hoop may be made
40 of wood and strongly bound by iron hoops *e*. In the lower part of this hoop E, there are fissures *c*, for the escape of the cider. The bed K, of the press is supported by the cross bar A' of the frame A and is provided
45 with a groove and spout for conducting away the cider in the usual manner. The follower of the press is drawn downward by means of the screw shaft F which runs in a female screw in the part B of the case,
50 which, as above mentioned, is cast in the same piece with the frame A.

By this construction of cider mill, very little labor or room is requisite for making cider. At any time, from month to month,

a small quantity of new cider may be made, 55 and thus sweet cider be always at command.

The wheel shaft C of the grinding mill is set in motion by the crank L. This wheel shaft C carries a grinding wheel M, better represented in Fig. 4. Near the circumfer- 60
ence of this wheel is seen upon the grinding surface, a common mill dress, M', the dress being cast in the iron. Between this mill dress and the shaft C the wheel is armed with a series of teeth *m*, of very peculiar 65
form, as represented in Figs. 2 and 4. These long hooked teeth are intended for crushing apples or cracking cobs, while the mill dress M' is designed for finer grinding, either of apples or cobs, or, when the mill 70
is set closely, for grinding various kinds of grain. In the removable portion N, Fig. 3, of the case, is another extraordinary, yet different grinding surface, intended to op-
pose the grinding surface upon the wheel 75 M, Fig. 3. This other surface is represented in Fig. 3, the wheel N (with the hopper H, which is cast in the same piece) being reversed in order to give a better view of the grinding teeth. When the parts are 80
brought together, the mill dress O, Fig. 3, opposes the mill dress M', Fig. 4, and when the wheel M, is revolved, the middle tooth *m'*, Fig. 4, (and its fellow in the opposite side of wheel M) travels between the semi- 85
circular and jagged teeth Q, Fig. 4, while the other teeth *m*, in Fig. 3, travel in corresponding furrows in the grinding surface, Fig. 4. It will be observed that the semi-
circular teeth Q, Fig. 4, are wanting on the 90 side next the hopper H, so that the apples or ears of corn may feed freely into the cavity in which the hooked teeth *m*, Fig. 3, travel, and the faces of these teeth Q, are set obliquely, forming a jagged tooth, very 95
short on the left hand, Fig. 4, and gradually becoming longer toward the right.

When the mill is set in operation, the hooked teeth *m*, seize the apples, ears of corn, &c., sweeping them up the inclined 100
planes of the jagged, semicircular teeth Q, Fig. 4, and crush them finer and finer as the long teeth of both surfaces interlock deeper and deeper. It is scarcely necessary to say that in practice this arrangement of grind- 105
ing surfaces is found to be exceedingly efficient as well as durable.

For shelling Indian corn, the wheel M is

armed with cogs or teeth S, and that surface of the wheel is completely set with shelling teeth of the usual form. When this wheel is brought into place, the cogs S engage
5 with the cogs of wheel F, by which means the shaft D, bevel toothed wheel U, and balance wheel V, are set in motion. The ears of corn are fed into hopper R, and being pressed against wheel U, by a spring
10 z, they are caught by both wheels M and U, and are thus quickly carried downward and shelled, the cobs and shelled corn escaping at the spout G. The wheel shaft D, may carry an emery wheel or grinding stone W.
15 The shelling or the grinding surfaces may be adjusted at pleasure by means of a screw Y, Fig. 2 (which bears against the shaft C) in connection with the screw X.

These latter screws also hold together the two parts B and N, of the case or shell. 20

Having thus fully described my invention, what I claim and desire to secure by Letters Patent of the United States is—

1. The above described combination of a cider and grain mill and corn sheller, substantially as specified for the purposes set forth. 25

2. The peculiar construction and arrangement of the crushing teeth m, and Q, operating substantially as set forth for the purposes specified. 30

CHARLES B. HUTCHINSON.

In presence of—

E. G. STORKE,

WM. MOORE.