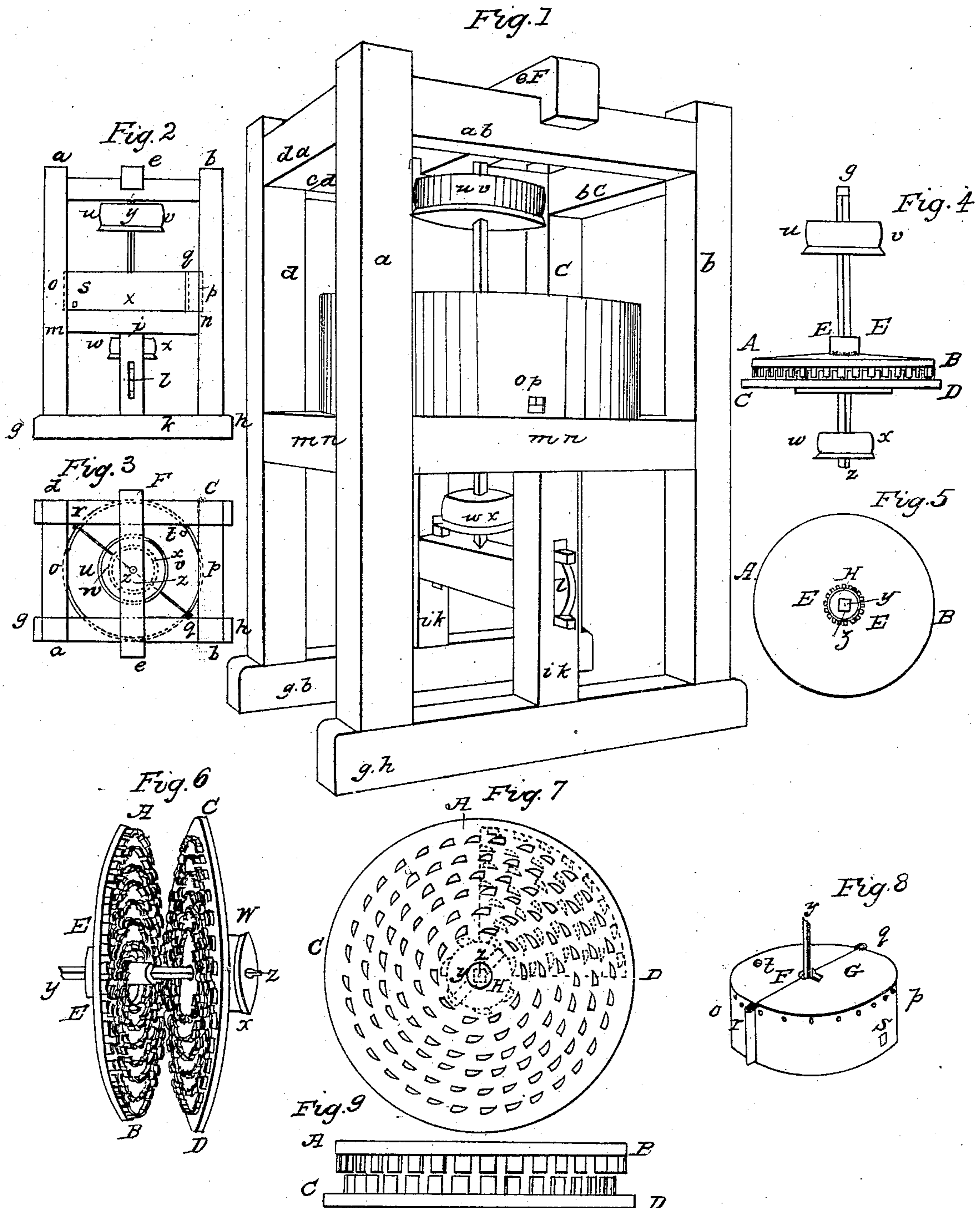


T. McCREA.
Grain Cleaner.

No. 1,280.

Patented Aug. 9, 1839.



UNITED STATES PATENT OFFICE.

THOMAS McCREA, OF ELLICOTTS MILLS, MARYLAND.

MACHINE FOR CLEANING GRAIN.

Specification of Letters Patent No. 1,280, dated August 9, 1839.

To all whom it may concern:

Be it known that I, THOMAS McCREA, of Ellicotts Mills, Anne Arundel county, and State of Maryland, have invented a new and useful Mode of Cleaning Wheat and other Small Grain in Mills.

The nature of my improvement consists in providing that part of the mill machinery usually allotted to the cleaning of grain with two circular cast iron plates placed horizontally one above the other—the lower plate stationary—the upper plate in motion—both plates furnished with circular rows of pyramidal teeth, so arranged that when in motion, the teeth of one plate run between the teeth of the other plate and thus subject the grain to a thorough process of rubbing. By this arrangement and motion a current of air is produced, which separates and carries off the dust and white caps in a proper direction and the grain is consequently delivered at the spout thoroughly rubbed and cleaned.

To enable others skilled in the art to make and use my invention, I proceed to describe its construction and operation with reference to the drawings hereto annexed.

To construct the frame "*a—b—c—d*" (see Figures 1—2—3) are four upright posts, joined together at top by the four cross ties "*ab—cd—bc—da*" (Figs. 1—3) and by the plumber block "*e—F*" joined also at the middle by four cross ties "*m—n*" (Figs. 1—2) which form a bearer for the bed plate, and at bottom by two cross ties "*gh—gh*" (Fig. 1). Two upright bridge posts "*I ik—ik*" (Figs. 1—2) support the bridge to which they are joined at "*l—l*" (Fig. 1.)

To construct the machinery on the four cross ties at "*m n*" which form the bearer, I fasten a circular cast iron bed plate "*C—D*" (Figs. 7—9) which is perforated in its center at "*y—z*" to admit the spindle. Being provided with the spindle "*y—z*" (Fig. 6) I fasten to its neck with a wrought iron driver the circular cast iron plate "*A B*" (Figs. 4, 5, 7) which acts as the runner. The plates "*A B*" and "*C D*" are each provided with circular rows of pyramidal teeth of cast iron sloping circularly toward the edge and at the same time toward the apex. The teeth of one plate are pointed in a direction opposite to the teeth of the other plate as is represented on Fig. 7 in which the teeth of the lower plate are represented by whole lines, and those of the upper plate by dotted lines in the quadrant "*A B*." The runner "*A B*" is furnished with a small hoop of sheet iron at "*E E*" (Figs 4—5—6) to receive the grain. The spindle is also pro-

vided with two pulleys, one at "*u v*" and one at "*w x*" (Figs. 1—2—4). The spindle is then inserted into the frame, the top gudgeon being fitted into the plumber block "*e F*" by a confiner at "*y*" (Fig. 2) and the toe resting in the step fitted on the bridge "*l l*." The plates are then covered with the hoop "*o—p*" (Figs. 1—8). This hoop is made of sheet iron, is divided into two parts, fastened together at "*r—q*" so as to be easily removed when required, and provided with an aperture at "*s*" at which the grain is delivered when rubbed and cleaned. At the top of the hoop is another aperture "*t*" in which is inserted the end of a spout, which spout is connected with a wheat fan placed at any convenient point. When the machinery and the fan is in motion, the dust and white caps are separated by the current of air and carried off through this spout.

To drive the machinery a strap is attached to the pulley "*u v*" which connects with any convenient part of the mill machinery, and at the same time a strap around the pulley "*w x*" drives the fan. The necessary number of teeth in the runner is ninety six; in the bed plate eighty eight. Their shape is pyramidal, sloping circularly toward the edge and at the same time toward the apex. They are made $2\frac{1}{4}$ inches long, by $2\frac{1}{8}$ wide, and three fourths of an inch thick at their base. Thickness of plates one inch—diameter three feet—revolutions of the runner 300 per minute.

In the drawings—Fig. 1 presents, the perspective view—Fig. 2 the vertical projection—Fig. 3 the horizontal projection—Fig. 4 vertical projection of machinery—Fig. 5 horizontal projection of the runner—Fig. 6 oblique view of both plates—Fig. 7 circular horizontal projection of the lower or bed plate, containing a dotted quadrant of the upper plate or runner—Fig. 8 perspective view of the hoop—Fig. 9 vertical projection of both plates.

I do not claim as my invention the two cast iron circular and horizontal plates armed with teeth acting over each other, as this is not new.

What I do claim is—

The method of arranging the teeth of the two cast iron circular horizontal plates, so that the teeth of the upper plate shall revolve between those of the lower plate as herein described.

THOMAS McCREA.

Witnesses:

JAMES LEA,
AMBROSE B. OWENS.