

H. I., P. F., & E. D. CHASE.

MACHINE FOR MAKING GRAIN-CONVEYER FLIGHTS.

No. 172,089.

Patented Jan. 11, 1876.

Fig. 1.

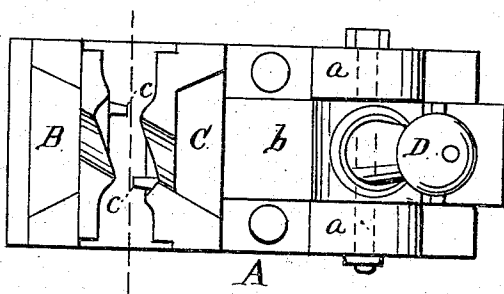


Fig. 2.

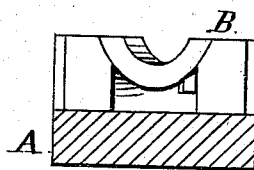


Fig. 3.

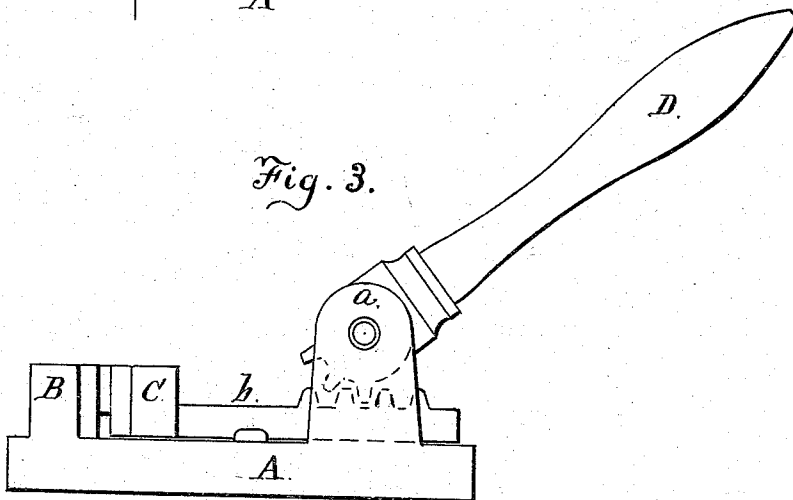


Fig. 4.

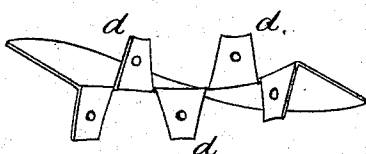
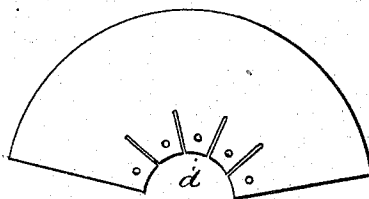


Fig. 5.



Witnesses :

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UNITED STATES PATENT OFFICE.

HENRY I. CHASE, PHILANDER F. CHASE, AND EDWIN D. CHASE, OF PEORIA,
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IMPROVEMENT IN MACHINES FOR MAKING GRAIN-CONVEYER FLIGHTS.

Specification forming part of Letters Patent No. **172,089**, dated January 11, 1876; application filed
May 22, 1875.

To all whom it may concern:

Be it known that we, HENRY I. CHASE, PHILANDER F. CHASE, and EDWIN D. CHASE, of Peoria, in the county of Peoria and in the State of Illinois, have invented a new and useful Machine for making Spiral Grain-Conveyer Flights; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a top view of mold or die for making spiral sheet-metal conveyer-flights with the movable jaw shown open; Fig. 2, a cross-section, showing the spiral-shaped face of the jaw; Fig. 3, a side view, showing movable jaw of die closed; Fig. 4, a view of spiral sheet-metal conveyer-flight, as molded and pressed into shape; Fig. 5, a view of same before it is molded and pressed into shape.

Like letters in all the figures of the drawings indicate like parts.

This invention relates to the construction of spiral conveyer-flights, to be attached to a shaft for conveying grain in a trough; and it consists in machinery hereinafter described.

The die or mold is made of cast metal; and it consists of a base, A, having a stationary jaw, B, and a movable jaw, C, and lever D, having a pivotal connection in the fulcrum bearings *a a*. The bottom end of the lever is provided with a series of cogs, which engage with similar cogs on the sliding plate *h*, having the movable jaw C cast on the end of it. The face of each jaw is shaped spirally in the arc of a circle, and provided each with a rest or guide, *c c*, to hold the sheet metal in place, which, after being cut out in the arc of a circle, and with the ears or lugs *d* (see Fig. 5) duly cut and punched or drilled with holes for screws or nails, to attach them to the shaft, is placed in a furnace and heated red hot, and, while hot, is inserted between the jaws, when the lever is pressed firmly down, causing the jaw C to mash the sheet metal against the jaw B in such a manner as to give it the spiral

form necessary, and also press, and upset, and stretch it sufficiently to make it conform spirally to the shaft and stand out at right angles when attached thereto.

The object of the die or mold, as heretofore stated, is to give the spiral form to the flight, and at the same time stretch or lengthen the inner and outer circumference of the flight while in a heated state, so that it will make a complete circuit of the shaft. Of course, the sheet metal can be twisted sufficiently to make it adjustable to the shaft, and hammered and manipulated by hand, so as to stretch or lengthen it for the purpose, as above described, but not so readily as by the die or mold. Flights of sheet metal can be made cheaper than those of cast-iron, and are more durable, and when an obstruction gets into the conveyer-trough—such as a piece of iron or wood, they will not break off and endanger all the other flights on the shaft, and thereby cause great inconvenience in the handling of the grain, as is very often the case with cast-iron flights; but they will bend sufficiently to allow the obstruction to pass, and will cause no stoppage or hindrance to the other parts of the conveyer. The bend can be straightened out again without taking the flight off of the shaft and without any detriment to the flight.

Having thus fully described our invention, what we claim therein as new, and desire to secure by Letters Patent, is—

The mold or die, having stationary jaw B and movable jaw C, with the face of each shaped spirally in the arc of a circle, in combination with lever D, for operating jaw C, substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our invention, we have hereunto set our hands this 28th day of December, 1874.

HENRY I. CHASE.
PHILANDER F. CHASE.
EDWIN D. CHASE.

Witnesses:

H. S. HILL,
H. G. CHASE.