

A. B. Taylor,
Forming Bats.

No. 2,382.

Patented Aug. 31. 1858.

Fig. 1.

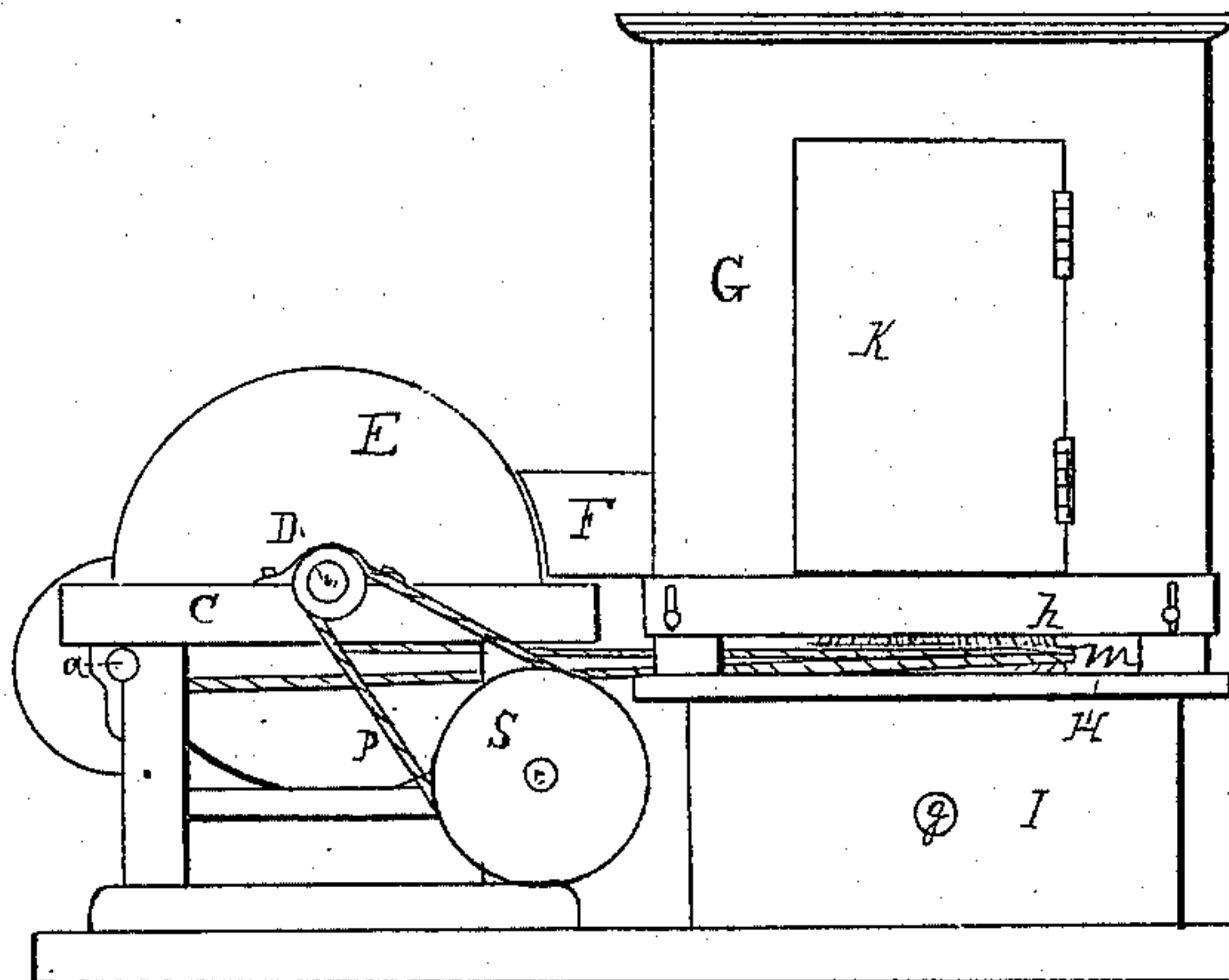


Fig. 3.

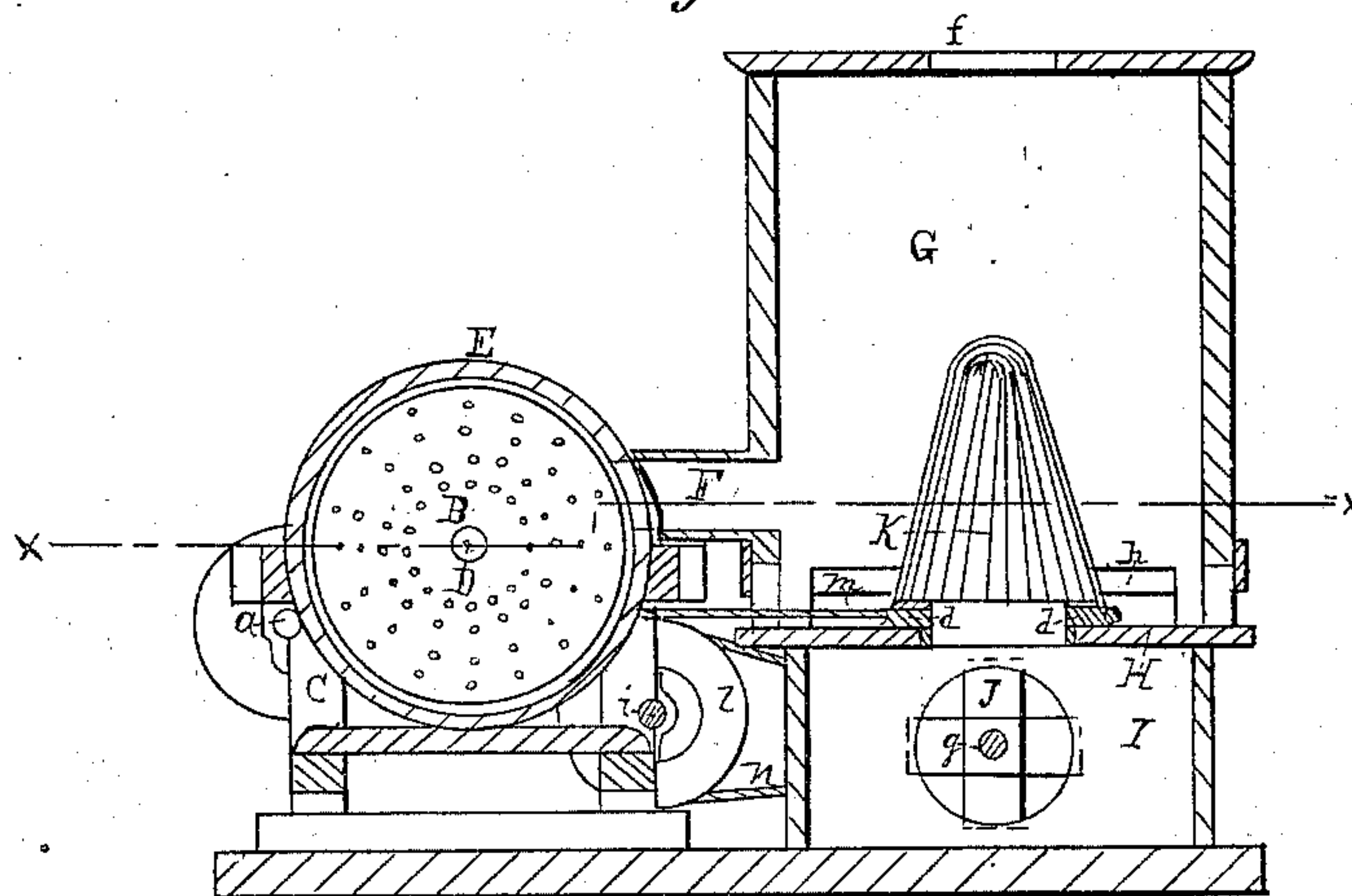
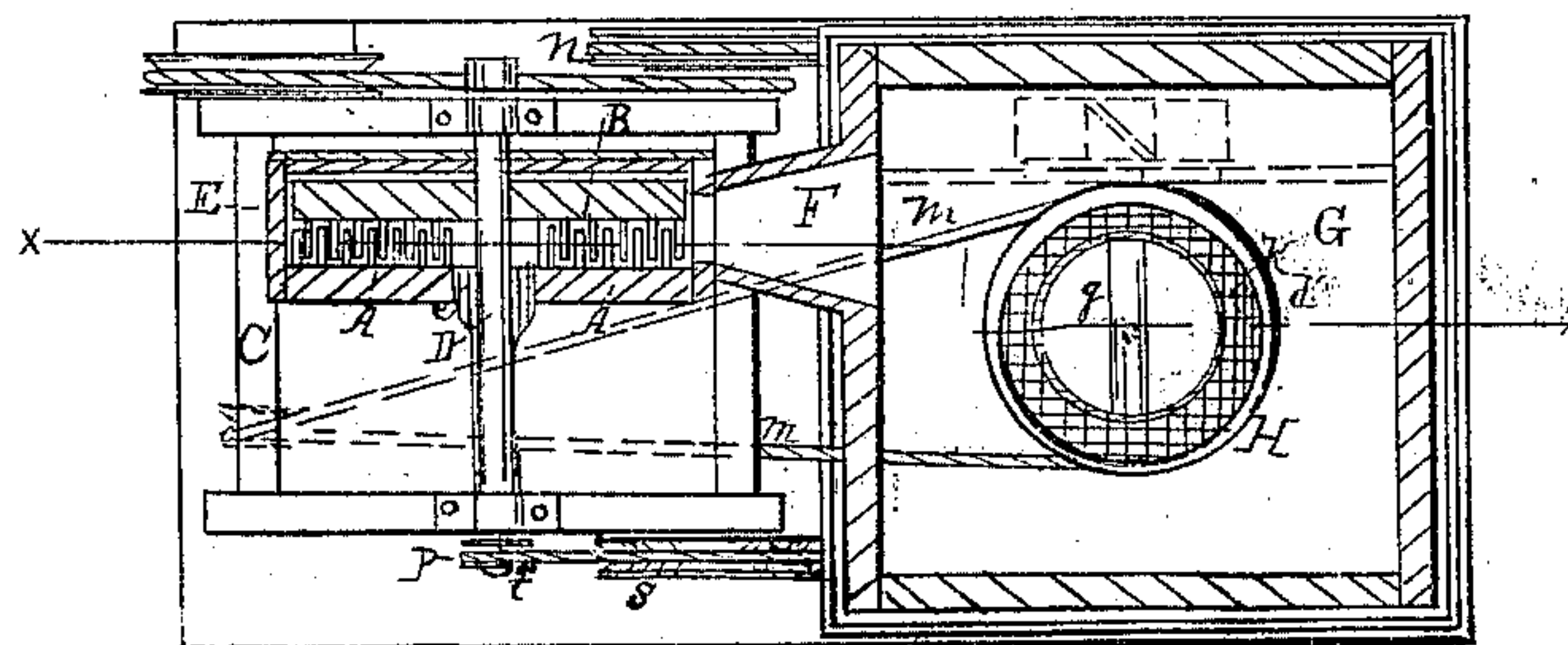


Fig. 2.



UNITED STATES PATENT OFFICE.

ALVA B. TAYLOR, OF NEWARK, NEW JERSEY.

HAT-BODY MACHINERY.

Specification of Letters Patent No. 21,382, dated August 31, 1858.

To all whom it may concern:

Be it known that I, ALVA B. TAYLOR, of Newark, in the county of Essex and State of New Jersey, have invented a new and
5 useful Improvement in Machinery for Manufacturing Hat-Bodies and other Articles; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the ac-
10 companying drawing, in which—

Figure 1 represents a Fosket machine with my improvement applied thereto. Fig. 2 is a horizontal section of the same following the line *x x* of Fig. 1, and Fig. 3 is a vertical
15 longitudinal section of the same following the line *x x* of Fig. 2.

My invention appertains to that class of machines by which hat bodies or other articles are formed by causing picked fibers of
20 fur or other material to deposit in the form of a bat upon a perforated exhausted former of a size and form adapted to that of the hat to be made; and my invention has reference to the picker, or apparatus by means of
25 which the fibrous material is picked apart and its fibers disseminated in air.

The picker of my improved machine, as represented in the accompanying drawing, is composed of two disks A and B, one of
30 which (A) is stationary, while the other revolves upon its axis. These disks face each other and their adjacent faces are studded with teeth in concentric rings of different diameters, so that the teeth of one disk enter
35 between those of the other. The stationary disk (A) is made fast to the frame C of the machine, and has an opening *e* at its center, through which the fibrous material to be picked is fed in. The other disk B is se-
40 cured to a shaft D to which a rapid rotary motion is imparted. The two disks are surrounded by a casing E, having a delivery spout or trunk F at its side, to convey the picked fiber to the forming chamber G.

45 The forming chamber, G, is mounted upon a table H which forms the upper side of a chamber I from which the air is exhausted by an exhausting fan J. This fan is in this instance of the screw variety, and it is
50 mounted upon a shaft *g* to which a rapid rotary motion is imparted. The table H is perforated at its center to receive and sustain a rim *d* upon which the hat body former K is mounted, and the periphery of the rim
55 is grooved to receive a belt by means of which a slow rotary movement is imparted

to the rim. The rim supports the hat body former K, which may be formed of perforated metal, wire gauze, or any other suitable pervious material; it is of the shape
60 and size of the hat bodies to be made, and it is set upon the rim in such manner that it can be readily removed therefrom and re-applied thereto.

The forming chamber, G, is in this in-
65 stance of rectangular form; it has a series of narrow openings around its base to admit air, and it has a circular opening *f* in its top for the same purpose. The openings at the base are fitted with adjustable shut-
70 ters *h*, by means of which the quantity of air admitted is controlled; the opening at the top may also be fitted with similar shutters for the same purpose.

Motion is imparted to the different parts
75 of the machine by means of a driving shaft *a* to which power may be applied by means of a driving belt, and from which power is transmitted by means of belts and pulleys. The rim on which the perforated former is
80 mounted is driven by the belt *m* encircling it and a pulley on the driving shaft. The fan is driven by means of a belt *n* proceeding from a pulley *l* on a countershaft *i*, to which motion is imparted from the driving
85 shaft *a* by means of a suitable belt and belt pulleys. The picker is driven from the same countershaft by means of a suitable belt *p* and belt pulleys *t* and *s*.

When the machine is in operation a quan-
90 tity of fibrous material sufficient to form a hat body is fed into the eye of the picker, whose revolving teeth rapidly disintegrate it and cast the disintegrated fibers toward the rim of the picker case, whence they issue
95 through the trunk into the forming chamber, into which they are drawn by the rush of air through the perforations of the hat body former to supply the exhausting fan. As the fibers enter the forming chamber
100 they are acted upon by the currents of air that enter the openings at the base thereof, by whose action the fibers are driven against and pressed upon the revolving former. As the currents of air entering the opening at
105 the base of the forming chamber set upward toward the top of the former, a portion of the fibers are wafted upward and deposited thereupon. The relative quantities which are deposited toward the base and the tip
110 of the former are regulated by the greater or less extent of the openings in the forming

chamber, which may be regulated by means of the adjustable shutters. The opening at the top of the forming chamber, by admitting air at that part, enables a larger amount
5 of air to be admitted at the base of the former than could otherwise be done without injury to the bat being formed; and thus permits the fur fibers to be supplied more rapidly, and the hat body to be formed
10 with corresponding rapidity. When the requisite quantity of fibers have been collected upon the former, the bat formed is covered with a suitable cover which is inserted through a door $\frac{1}{2}$, made in one of the
15 sides of the forming chamber G, and the former, bat, and cover are removed from the rim, after which the bat may be hardened in any suitable manner. As several methods of hardening hat bodies are well known,
20 and as my present invention does not extend to hardening processes, I do not deem it necessary to describe any particular method of effecting this operation.

25 Having thus described my improvement and a machine in which it is embodied, it may be proper to state that I do not limit

it to the precise arrangement and construction which I have herein described, but intend to vary these as circumstances may render expedient. Thus for example, both
30 disks of the picker may be caused to revolve either in the same directions with different speeds, or in opposite directions; and the picker may be combined with a perforated former not inclosed in a forming chamber,
35 or with other devices than those herein described.

What I claim as my invention and desire to secure by Letters Patent is—

1. The combination of a disk picker operating substantially as herein set forth
40 with a perforated former.

2. I also claim a disk picker composed of two disks whose faces are studded with teeth operating substantially as herein set
45 forth to pick fibrous material fed into the eye of the picker and to discharge the picked fibers at the rim thereof.

A. B. TAYLOR.

Witnesses:

A. S. MORRIS,
GEO. O. DUNCKLEE.