J. H. DULL, dec'd.

J. S. BLYMYER & B. BURNS, Adm's.

Thrashing-Machines.

No. 153,419. Patented July 28, 1874.

Fig 1.

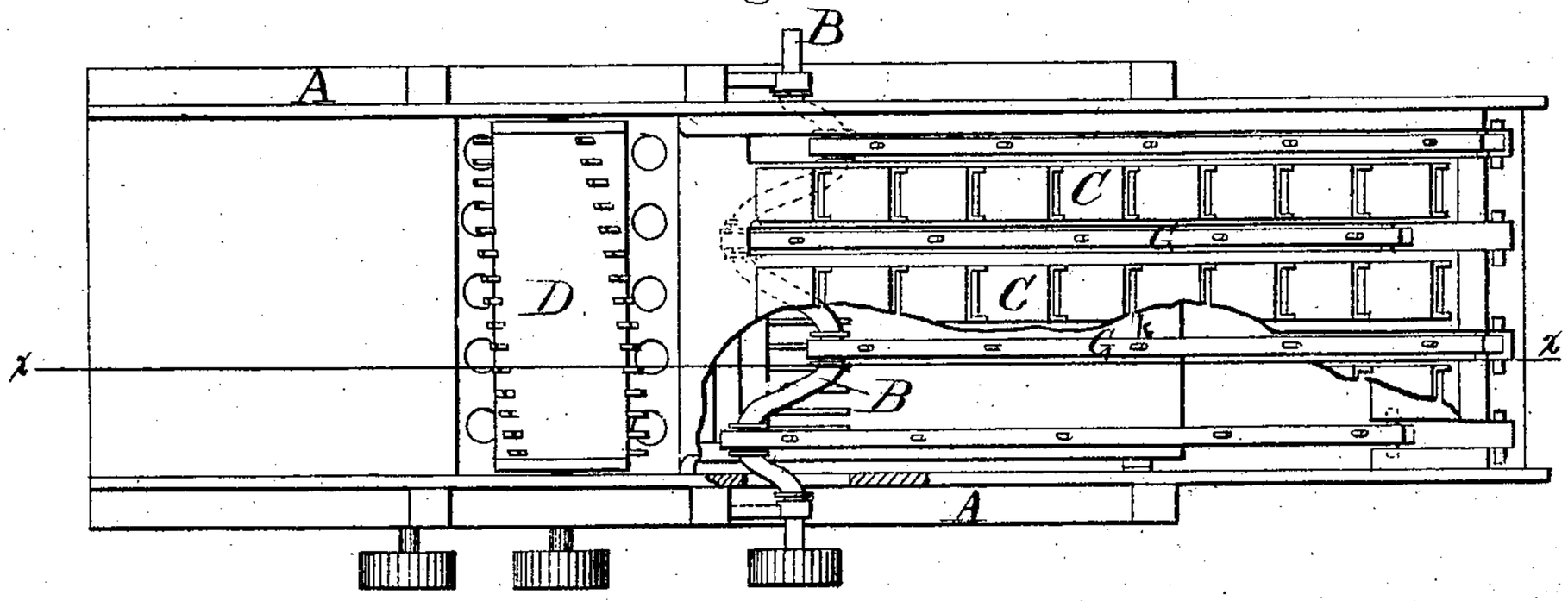
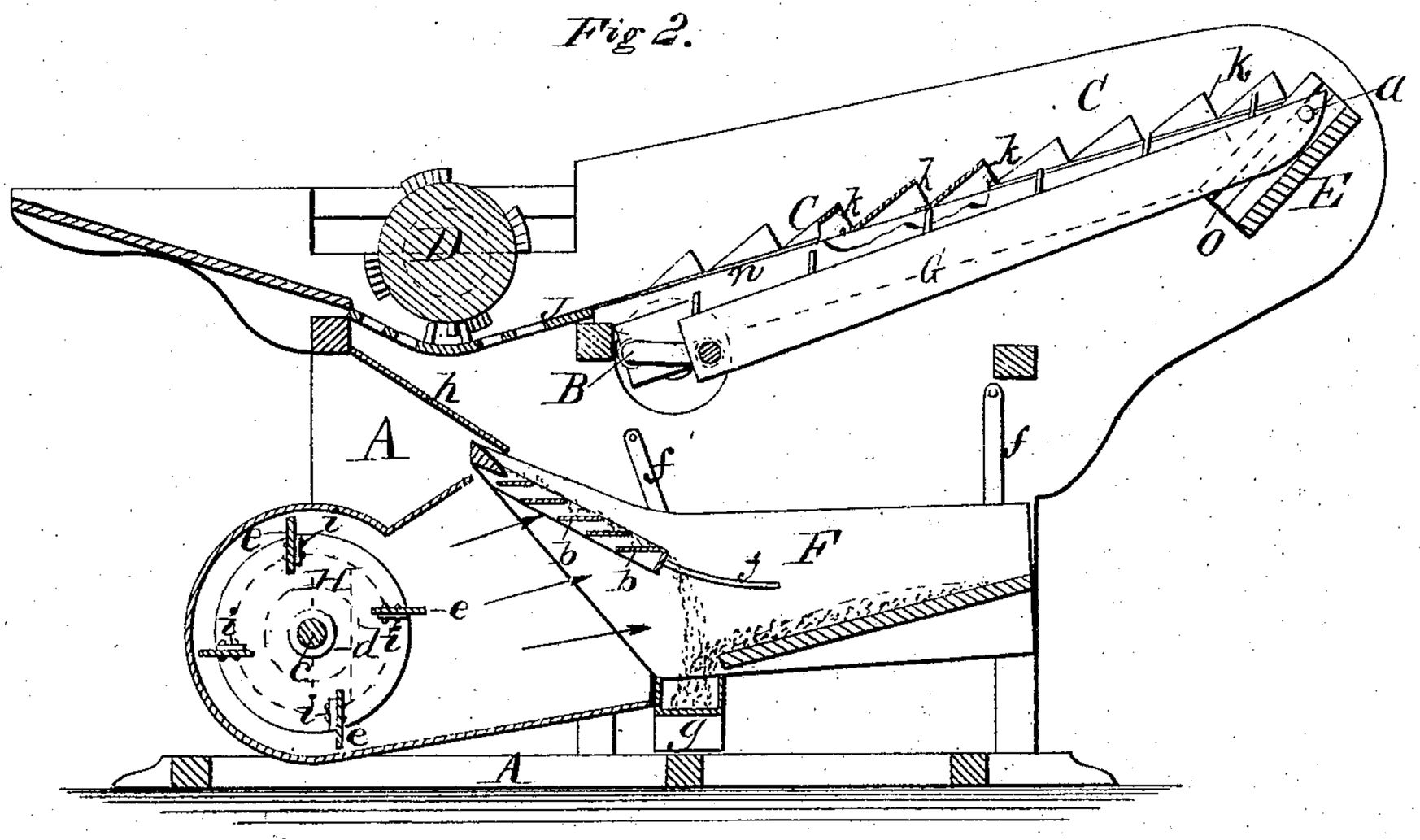


Fig 2.



Witnesses.

Harry King.

N. W. Dodge.

Inventors. J. H. Dull. Dec'd.

J. S. Blymyer & B. Burns. Adm'r

Dodger & Son

Attys.

UNITED STATES PATENT OFFICE.

JOHN S. BLYMYER AND B. BURNS, (ADMINISTRATOR OF JOSEPH H. DULL, DECEASED,) OF MANSFIELD, OHIO.

IMPROVEMENT IN THRASHING-MACHINES.

Specification forming part of Letters Patent No. **153,419**, dated July 28, 1874; application filed October 7, 1873.

To all whom it may concern:

Be it known that J. S. BLYMYER and J. H. DULL, of Mansfield, in the county of Richland and State of Ohio, did invent certain Improvements in Thrashers and Separators, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to thrashing-machines, and consists in a novel construction of the separator or shaker, as hereinafter more fully explained.

Figure 1 is a top or plan view, with a portion broken away to show the manner in which the rake-bars G are operated. Fig. 2 is a longitudinal vertical section of the improved machine on the line *x x* of Fig. 1.

In constructing this improved machine a frame or body, A, is provided, of the usual construction, and mounted therein is a thrashing-cylinder, D. The straw-carrier and separator is made as follows: First, a series of thin bars, *n*, are provided, which are arranged in pairs set on edge, with a space of a few inches between the bars composing each pair, and secured rigidly in place, as shown in the drawing. A series of sheet-metal pieces are then provided, which are bent so as to form shields *c*—these shields having their upper surfaces and their sides closed, and being secured to the upper edges of the bars *n* in a row, one after another, as shown in Figs. 1 and 2. When thus arranged, each shield presents an inclined surface upon its top—a row of them presenting an outline resembling a row of saw-teeth, all inclined in one direction. Their elevated ends all have an opening or mouth, *k*, pointing toward the rear end of the machine, through which the shelled grain readily passes, while the straw rests upon and passes over them. Any grain which is shaken from the straw during its passage from the cylinder to the tail of the machine, falls upon the inclined backs or surfaces of the shields C, and at once slides down into and through the open mouth of the one next to it. Several sets of these bars and shields are arranged parallel with the body of the machine, with spaces for rake-bars between each set. Between these rows of shields are arranged rake-bars G, one end of which are provided with cross-heads *a*, and slide in grooves or guides in the inclined guide-block E, the opposite ends being connected to a crank-shaft, B. This arrangement of the rake-bars G causes them to rise up under the straw and chaff, which passes through under the cylinder D, and move it forward from one to another of the steps C, each stroke of the rake-bars serving to shake up and loosen the straw and chaff, thus allowing the grain, which is heavier, to fall down to the bottom, and thence through the openings *k* to the shoe F, the straw and chaff being prevented from moving back by the back faces of the shields or steps C, which hold it while the rake-bars drop down away from it, move back, rise up, and again push it forward. The grain, which drops through the openings *k*, falls on the bottom or floor of the shoe F, whence it is carried into the inclined spout *g* by the shaking movement of the shoe. This shoe F is so arranged as to allow the blast from the fan to pass directly through the machine, the only obstruction being a series of narrow slats, *b*, which form steps on which the grain falls after passing through openings in the concave bottom J, which connect the table of the machine with the separator, the grain being guided to the said steps by means of a chute, *h*. At the lower end of these steps are placed curved bars *j*, which catch and hold any straw and chaff which may pass down with the grain through the openings in the concave bottom J, the shaking motion of the shoe causing whatever loose grain may be among it to drop out, when it falls with the grain from the steps *b* into the inclined spout *g*.

It is known that screens and riddles have been formed of sheet metal having holes formed therein by punching up lips from the body of the metal, and leaving them pro-

jecting above the surface of the sheet, and that rake-bars in straw-carriers have been formed by punching up sheet metal in a similar manner, and any such device is not claimed, but—

Having described the invention, what is claimed is—

In combination with the series of shields C, the rake-bars G, said parts being constructed to operate as described for the purpose of separating the grain from the straw and carrying the latter from the machine.

J. S. BLYMYER.
B. BURNS,
Administrator of Joseph H. Dull, deceased.

Witnesses:
C. C. HARTMANN,
ADOLPH E. SCHMIDT,
JNO. C. BURNS,
AM. BURNS.