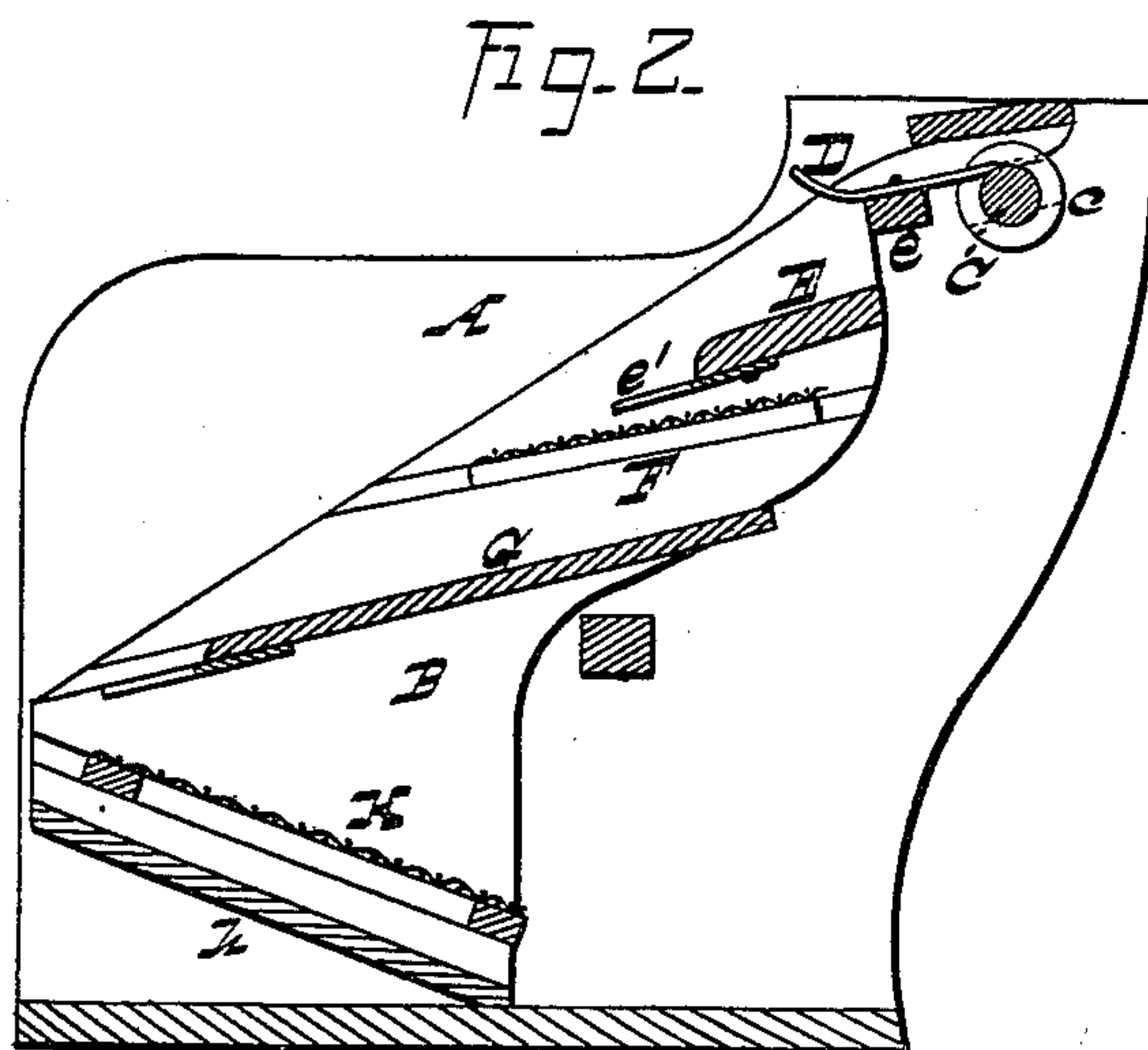
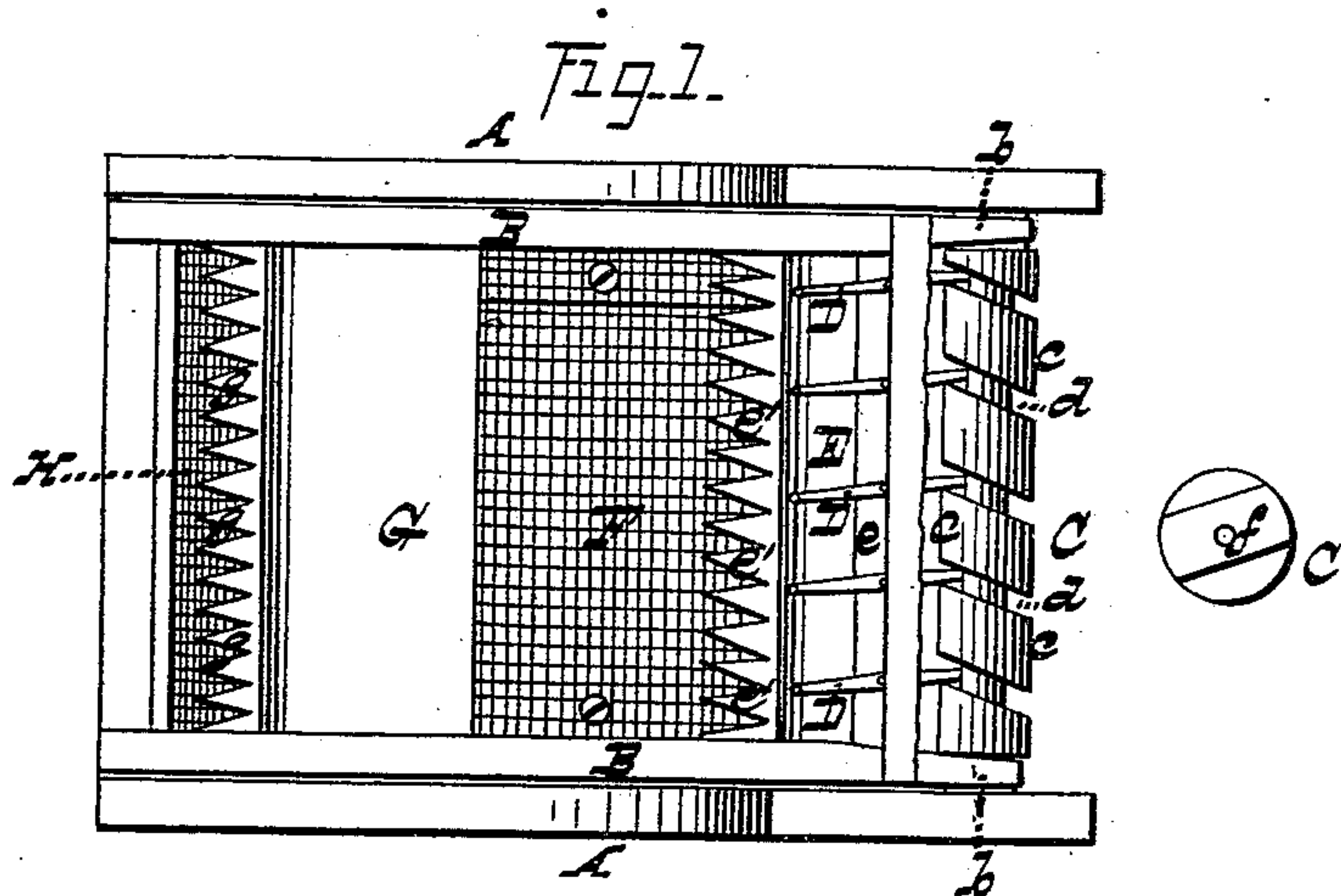


W. S. CLYMANS.
Grain-Separator.

No. 165,544.

Patented July 13, 1875.



WITNESSES=

Jas. E. Hutchinson.
J. W. Hiter.

INVENTOR.

William S. Clymans
Edson B. Biss
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM S. CLYMANS, OF BURNT CABINS, PENNSYLVANIA.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **165,544**, dated July 13, 1875; application filed May 15, 1875.

To all whom it may concern:

Be it known that I, WILLIAM S. CLYMANS, of Burnt Cabins, in the county of Fulton and State of Pennsylvania, have invented certain new and useful Improvements in Grain-Separators; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form part of this specification, and in which—

Figure 1 is a plan view of my improved grain-separator and an end view of the agitating shaft, and Fig. 2 is a vertical longitudinal section of the same.

Corresponding parts in the two figures are denoted by like letters.

This invention relates to a certain improvement in grain-separators; and it consists of a shaft having a series of annular cam-grooves, which receive and vibrate a series of fingers, and cams which rock the shoe, substantially as hereinafter more fully set forth.

In the annexed drawing, A refers to the case inclosing the shoe B, and within which it is pivoted, and the shaft C, to which motion may be imparted by belts and pulleys from any suitable motor. The shaft C is provided with a series of annular cam-grooves, *d d d*, by which the fingers D D D, pivoted upon a bar, *e*, of the shoe B, are vibrated as the shaft C is rotated, to separate the grain from straw, &c., thrown thereon, the grain falling below upon an inclined imperforate board, to be hereinafter referred to, and the straw or chaff being blown off by the blast of the fan. The free ends of the fingers or bars D D D may be curved upwardly, as seen in Fig. 2. The ends

of the shaft C are provided with cams *f f*, upon which rest the projecting portions or arms *b b* of the shoe B, to impart a rocking motion to the latter. Below the fingers or bars D D D is an inclined imperforate board, E, above alluded to, with teeth *e' e'*; below this a removable riddle, F, and still farther down a second inclined imperforate board, G, removable, and having teeth *g g*, all placed or arranged in the shoe B, and in the form of continuous steps, as shown in the two figures of the drawing, by which each board and riddle is exposed directly to the blast of the fan in the rear, to thoroughly remove the chaff, &c.

The teeth *e' e'* and *g g* of the boards E and G assist in cleaning the grain. The board G, extending back under the riddle F, receives any grain falling through, as well as from the latter, and conducts it to the delivering-riddle H, beneath which is placed an inclined board, *h*, to receive and deliver any falling grain, the said latter-mentioned riddle and board being secured in shoe B, also.

My invention is characteristic for its simplicity, cheapness, and efficiency in the performance of its work.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The shaft C, having the annular cam-grooves *d d d* and the cams *f f*, in combination with the fingers D D D and shoe B, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

WILLIAM S. CLYMANS.

Witnesses:

J. W. MISTER,
E. C. WEAVER.