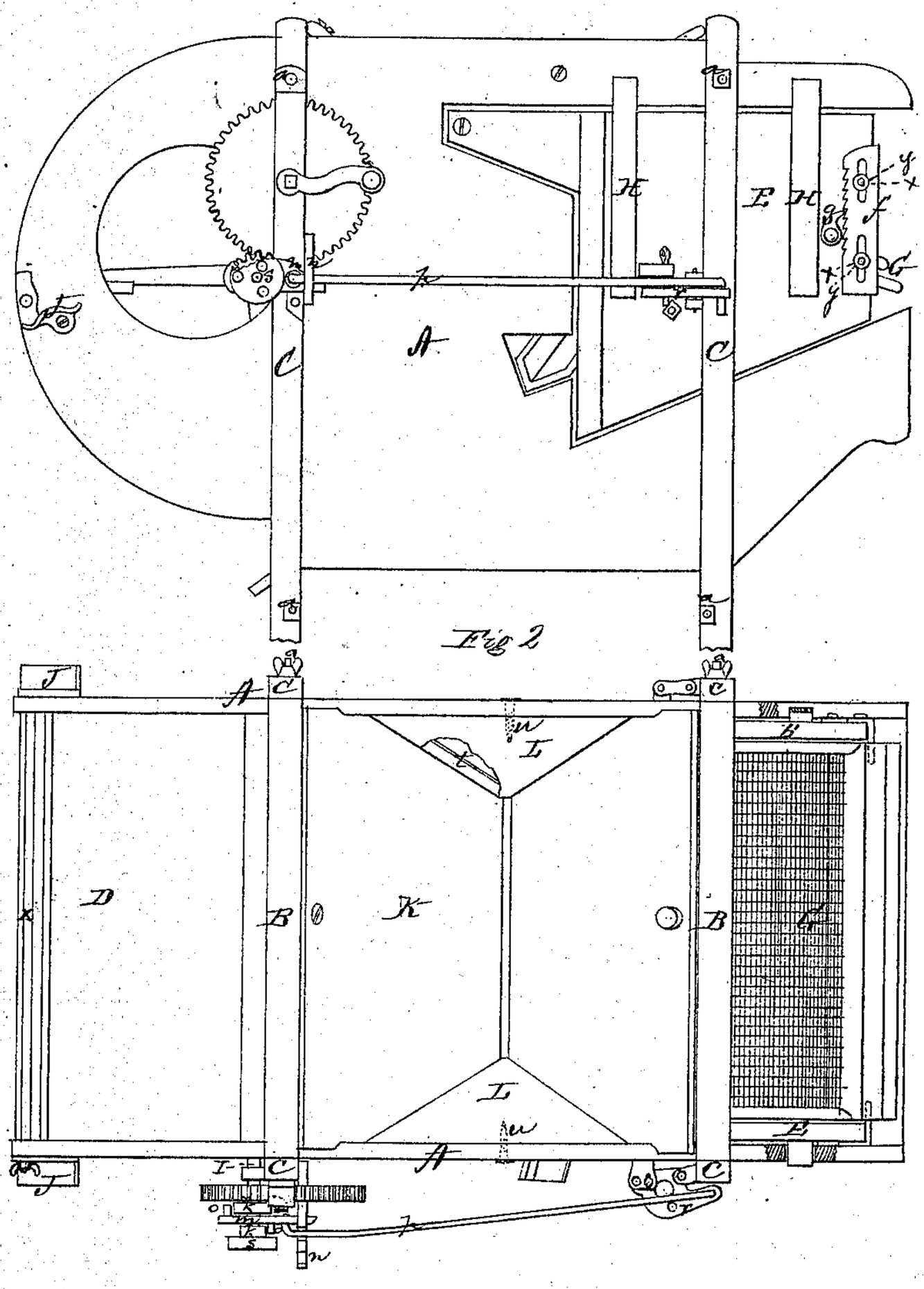
2 Sheets—Sheet 1.

G. E. CLARKE.

Fanning Mill.

No. 107,759. Patented Sept. 27, 1870.

Fig 1

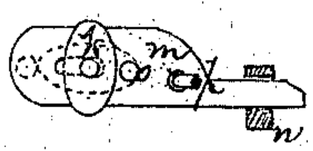


Witnesses:

Harry King

C. L. Ewert

Fig 4



Inventor.

Greville E. Clark

per

Alexander Mason

Attys.

2 Sheets—Sheet 2.

G. E. CLARKE.

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Fig 3

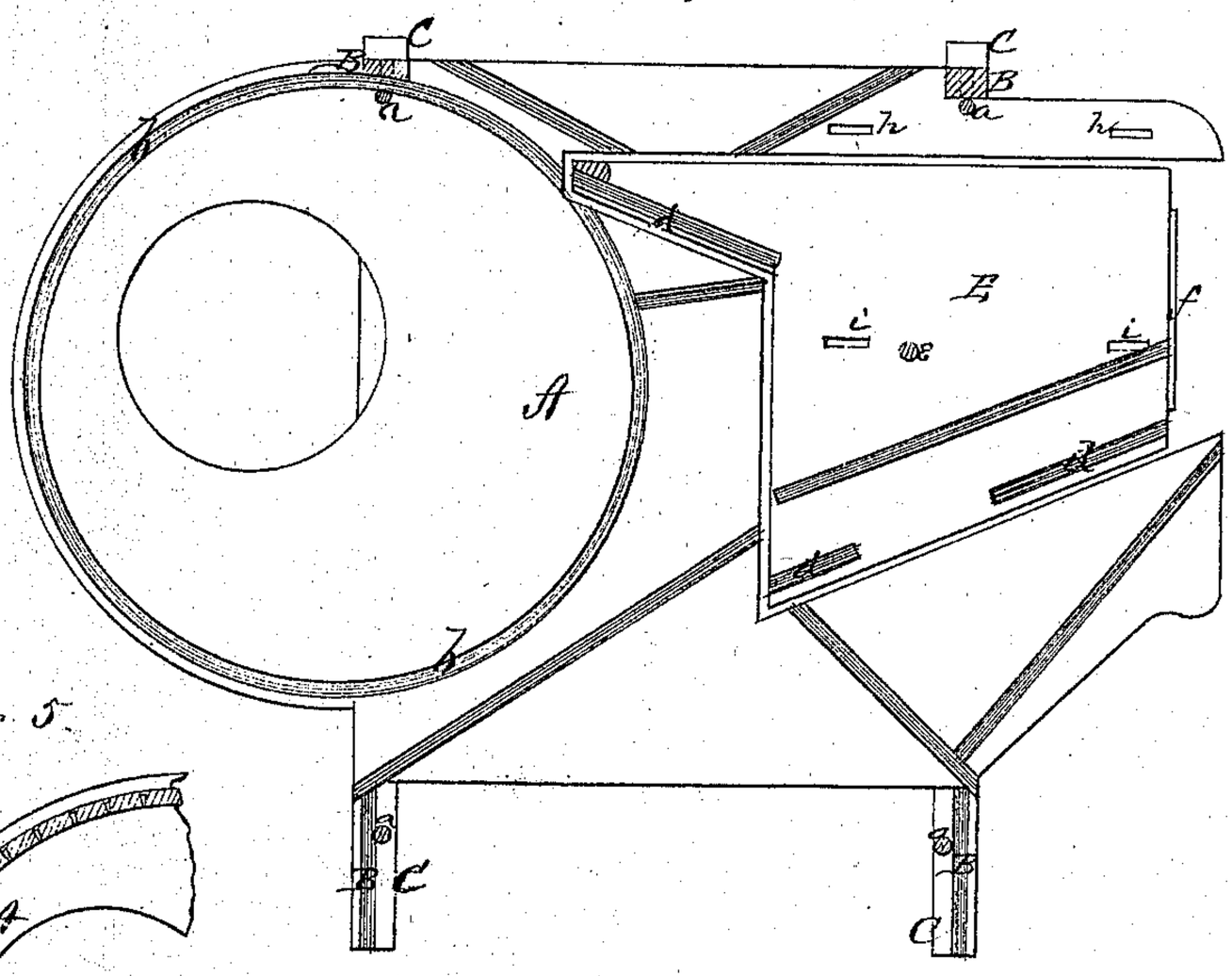


Fig. 5.

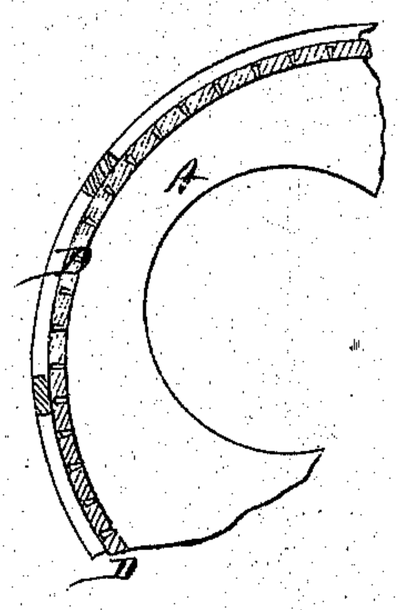
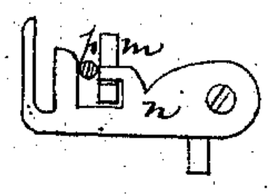


Fig 6



Witnesses

Harry King.

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Inventor.

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per Alexander Mason

Atty's.

United States Patent Office.

GREVILLE E. CLARKE, OF RACINE, WISCONSIN.

Letters Patent No. 107,759, dated September 27, 1870.

IMPROVEMENT IN FANNING-MILLS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GREVILLE E. CLARKE, of Racine, in the county of Racine and in the State of Wisconsin, have invented certain new and useful Improvements in Fanning-Mills; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a "fanning-mill," as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation;

Figure 2, a plan view; and

Figure 3, a longitudinal vertical section of my fanning-mill.

Figure 4 is a side view of the double crank for contributing motion to the shoe;

Figure 5 is a transverse vertical section of a portion of the fan-casing; and

Figure 6 is a front view of a guide in which the rod passes that connects the fan-shaft with the shoe.

A A represent the sides of the fanning-mill, so arranged, with cross-bars B and upright beams C, that the whole frame of the mill is put together by bolts and nuts, the bolts *a a* passing on the sides of the lower cross-bars, and immediateiy below the upper ones, as shown in fig. 3.

In the sides A A are made circular grooves *b*, to receive the ends of the heading or fan-casing D, which is held in place when the frame is screwed together.

The inner side of the heading is cut full of fine grooves, as shown in fig. 5, so that it can be bent and placed in the grooves *b b* in the sides A of the mill.

E represents the sides of the shoe, which are provided with grooves *d d*, to receive the ends of the cross-sections, and are held up to said cross-sections by means of a rod, *e*, passing through the shoe from side to side.

The outer end of the hurdle G is supported at any height desired by means of a slotted sliding bar, *f*, on each side of the shoe, the lower ends of said bars extending inward under the hurdle.

The rear edges of the bars *f f* are provided with ratchet-teeth, and are held up by means of the pawls *g* and the bolts and nuts *x y*, as shown in fig. 1.

The shoe E is supported in the frame of the mill by means of springs H H, the upper ends of which are inserted in slots *h h* in the sides A, and bent over on the inside.

The lower ends of the springs H are inserted and fastened in the same manner in slots *i i*, in the sides of the shoe.

Upon the end of the fan-shaft I are two eccentrics or cams, *k k*, placed at right angles with each other, as shown in fig. 4.

Between these cams is placed a bar, *m*, the fan-shaft I passing through an elongated slot in said bar, and the cams operate on pins *o o* projecting from said bar, one on each side.

The front end of the bar *m* is placed in a guide or guard, *n*, attached to the rear beam C, which guard also supports the end of the shaker-rod *p*. This shaker-rod is at its rear end connected with the bar *m*, and at the front end to a bent lever, *r*, pivoted on the front beam C. This lever is then pivoted to a projection on the side of the shoe, which thus, by the operation of the two cams or eccentrics, obtains a "double shake." This double shake can readily be changed to a "single shake," by removing the rear end of the rod *p* from the bar *m*, and inserting the same in a hole on the face-plate *s*, which is attached on the end of the fan-shaft.

The amount of the "shake," whether double or single, can readily be regulated by changing the point of connection between the rod *p* and lever *r*, and between the lever *r* and the projection on the side of the shoe.

On the sides A A, at the rear edges, are attached metallic handles J J, as shown in figs. 1 and 2.

In the hopper-board K are made grooves *t*, to receive the end of the triangular-shaped board L, forming the side of the hopper, said side L being held by a screw, *u*, as shown in fig. 2.

It will be seen that this mill is held together entirely by bolts and nuts, there being no nails in any of the cross-sections of the mill, the object being to set the mill up at the factory complete, and then take it apart and pack each mill in one compact bundle for transportation, thereby making a vast saving in freight.

It is also so simple in construction that the operator can put the same together without the aid of tools or the aid of a mechanic.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the slotted sliding ratchet-bars *f f*, secured by the bolts and nuts *x y*, with the pawl *g* and shoe E, all constructed and arranged substantially as set forth.

2. The combination of the sides A A, with its slots

h h, with the shoe E, with its slots *i i*, to receive the ends of the springs H H, all arranged substantially as set forth.

3. The double eccentric or cam *k k*, on the fan-shaft, operating in combination with the slotted bar *m*, pins *o o*, and shaker-rod *p*, all constructed and arranged substantially as and for the purposes herein set forth.

4. The combination of the guard *n*, slotted and hooked as shown, with the rod *p*, all as and for the purposes set forth.

5. The arrangement, with the double eccentric or cam *k k* and bar *m*, of the face-plate *s*, for changing the shaker-rod *p* from the double shake to the single shake, as herein set forth.

In testimony that I claim the foregoing, I have here unto set my hand this 20th day of June, 1870.

GREVILLE E. CLARKE.

Witnesses:

HENRY TYRRELL,

DAVID G. JANES.