

F. RENDER.

Flour-Bolts.

No. 135,588.

Patented Feb. 4, 1873.

Fig. 1.

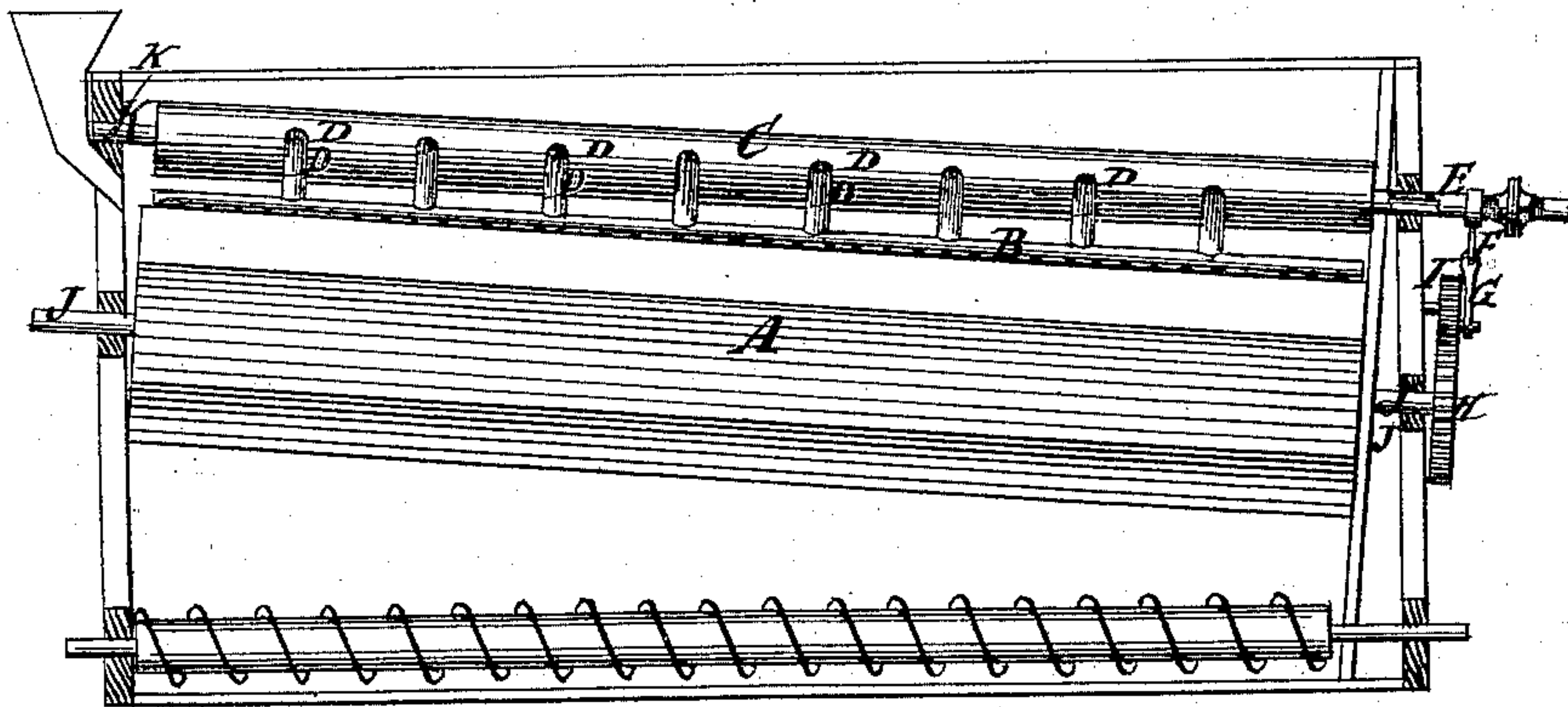


Fig. 2.

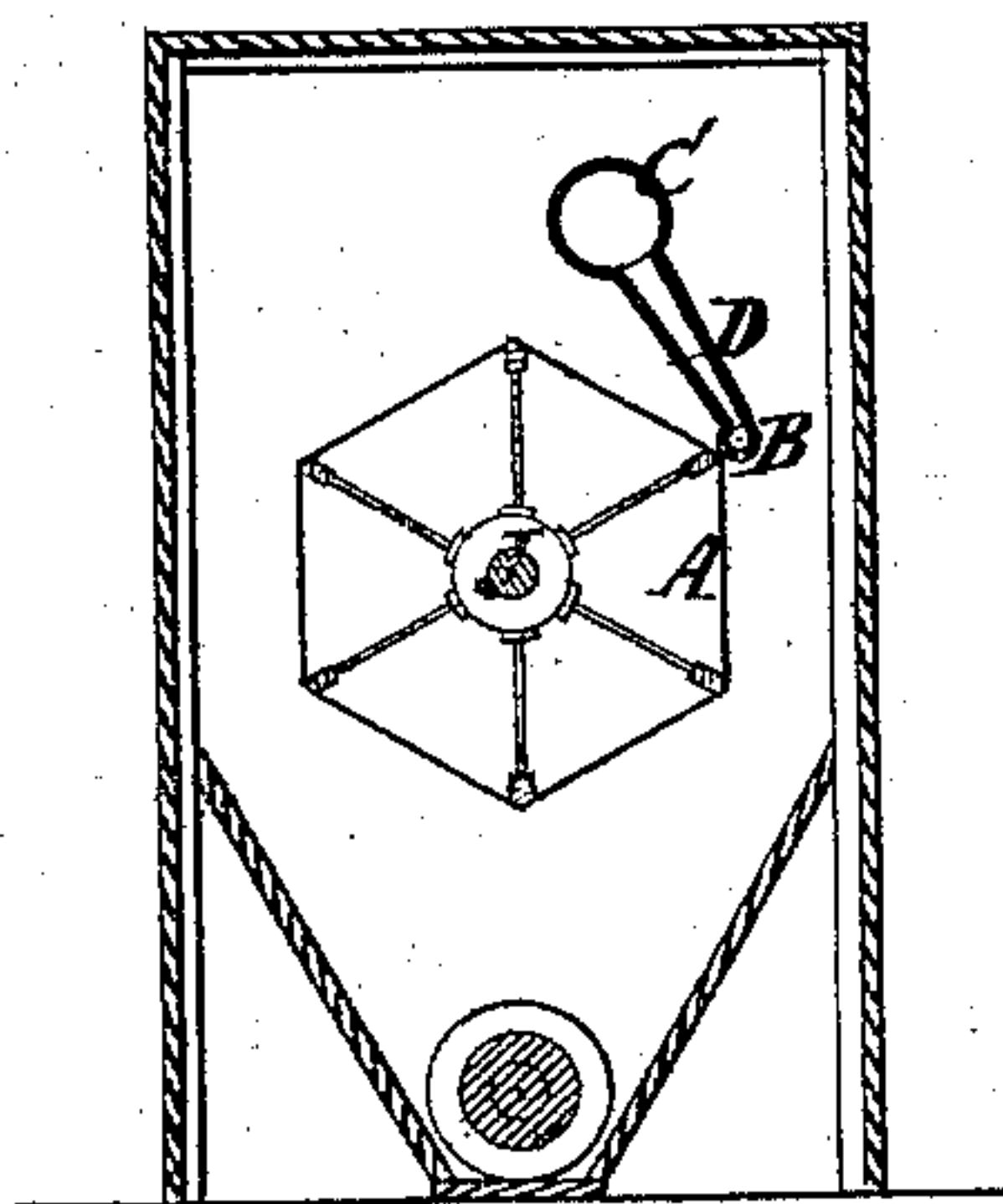
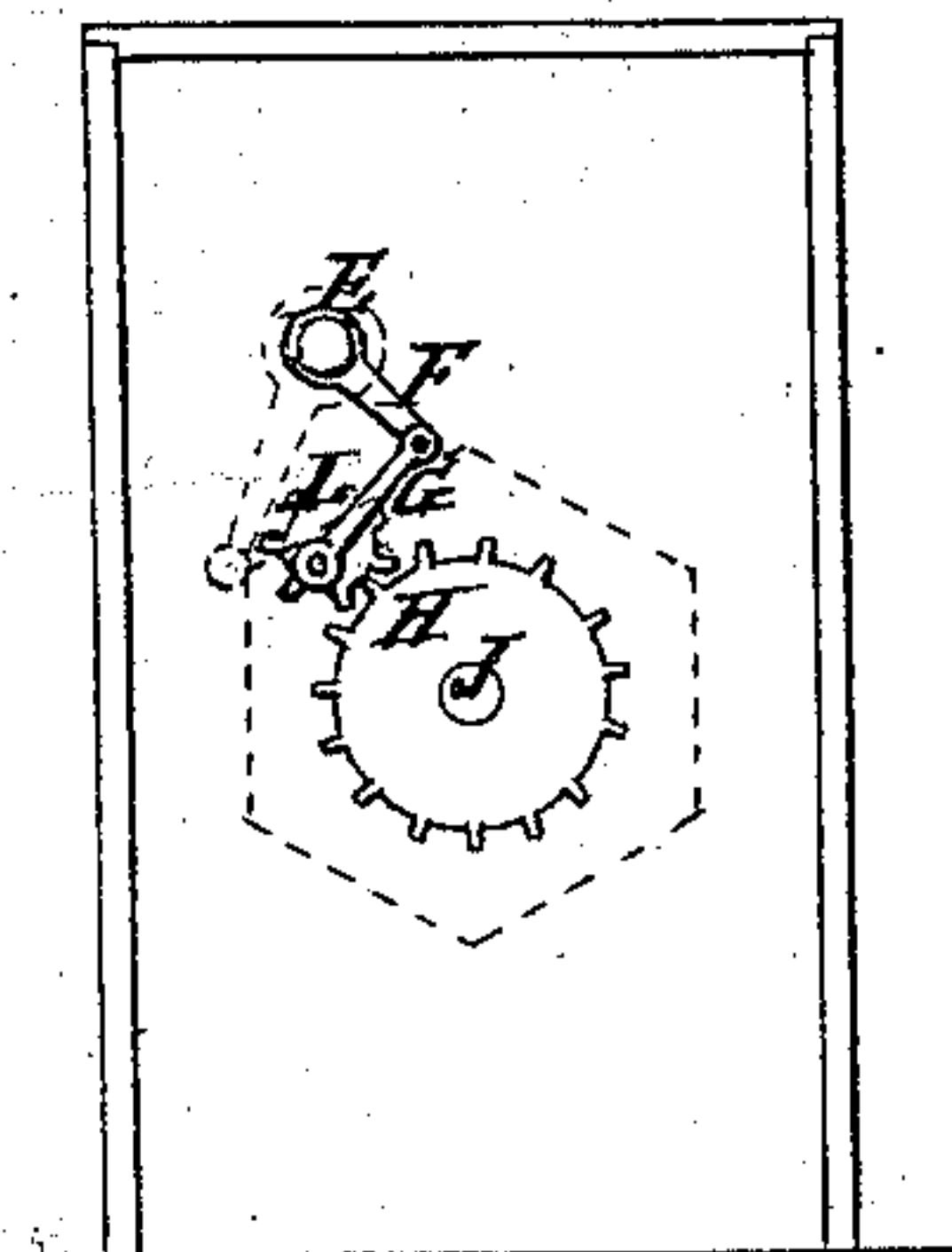


Fig. 3.



Witnesses.  
Chas. Wickers.  
Ernst Rithuber.

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# UNITED STATES PATENT OFFICE.

FREDERICK RENDER, OF BEECH HOUSE, ETHELLES, ENGLAND.

## IMPROVEMENT IN FLOUR-BOLTS.

Specification forming part of Letters Patent No. 135,588, dated February 4, 1873.

*To all whom it may concern:*

Be it known that I, FREDERICK RENDER, of Beech House, Etchells, in the county of Chester, England, have invented a new and useful Improvement in Flour-Bolts; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a sectional side view of this invention. Fig. 2 is a transverse section of the same in the plane  $x x$ , Fig. 1. Fig. 3 is an end view of the same.

Similar letters indicate corresponding parts.

This invention consists in the combination, with a rotary sieve or bolting-reel, of a vibrating or oscillating chamber communicating with and carrying a pipe provided with a series of nipples or small holes arranged in such respect to the bolting-cloth that, if a current of air or gas be forced into the chamber by an air forcing or compressing apparatus, the same will be projected directly against the outside surface of the bolting-cloth, and thereby the operation of bolting flour or other material of a similar nature will be much facilitated.

In the drawing, the letter A designates a bolting reel or sieve, which is by preference made hexagonal and hung on its axis in an inclined position, as shown in Fig. 1, and which is covered with silk or other material generally used for this purpose. Along the entire length of this bolting-reel, and close to its circumference, I place a pipe, B, which is provided with a series of small holes or nipples on that side which is opposite to the bolting-reel. Said pipe communicates, by means of a series of branch pipes, D, with a chamber, C, to which, as mentioned hereinafter, is imparted an oscillation or vibrating motion, and which is hung at one of its ends upon a solid gudgeon, K, while its other end is supported by a tubular gudgeon, E, through

which compressed air or gas is supplied by means of a fan or of a bellows, or of any other apparatus suitable for this purpose. From the chamber C the compressed air or gas finds its way to the pipe B, and thence it escapes through the perforations or nipples, and as the jets of air or gas thus produced strike the covering of the bolting-reel they keep the same always clean, and prevent it from becoming choked by particles of flour.

As above stated, the bolting-reel is by preference made hexagonal, and if the pipe B would remain stationary the distance between the perforations or nipples of said pipe and the surface of the bolting-reel would continually change as the bolting-reel revolves, and thereby the effect of the jets of air or gas would be greatly diminished. This difficulty is overcome by various means, such, for instance, as shown in Fig. 3, where I is a cog-wheel secured to the frame of the machine, and H is a cog-wheel which is mounted upon the shaft of the reel, the bolting-reel being hexagonal. The diameters and teeth of the wheels I and H are in the proportion of one to six. On the hollow gudgeon E of the air-chamber C is secured a crank F, which connects, by a rod, G, with an eccentric wrist-pin secured in the pinion I. As this pinion revolves the chamber C is caused to oscillate on its gudgeons and the pipe B is moved toward and from the surface of the bolting-reel. Cams or eccentrics might also be employed for the same purpose. The blast being thus always at the same distance from the reel, its effect thereon is constant.

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

The pipe B and chamber C, in combination with a reel, A, and with oscillating and adjusting devices, substantially as set forth.

FREDERICK RENDER.

Witnesses:

C. DONHOE,  
THOS. DAVIES.