

G. D. GARDNER & S. D. RANDALL.  
Flour-Bolts.

No. 226,301.

Patented April 6, 1880.

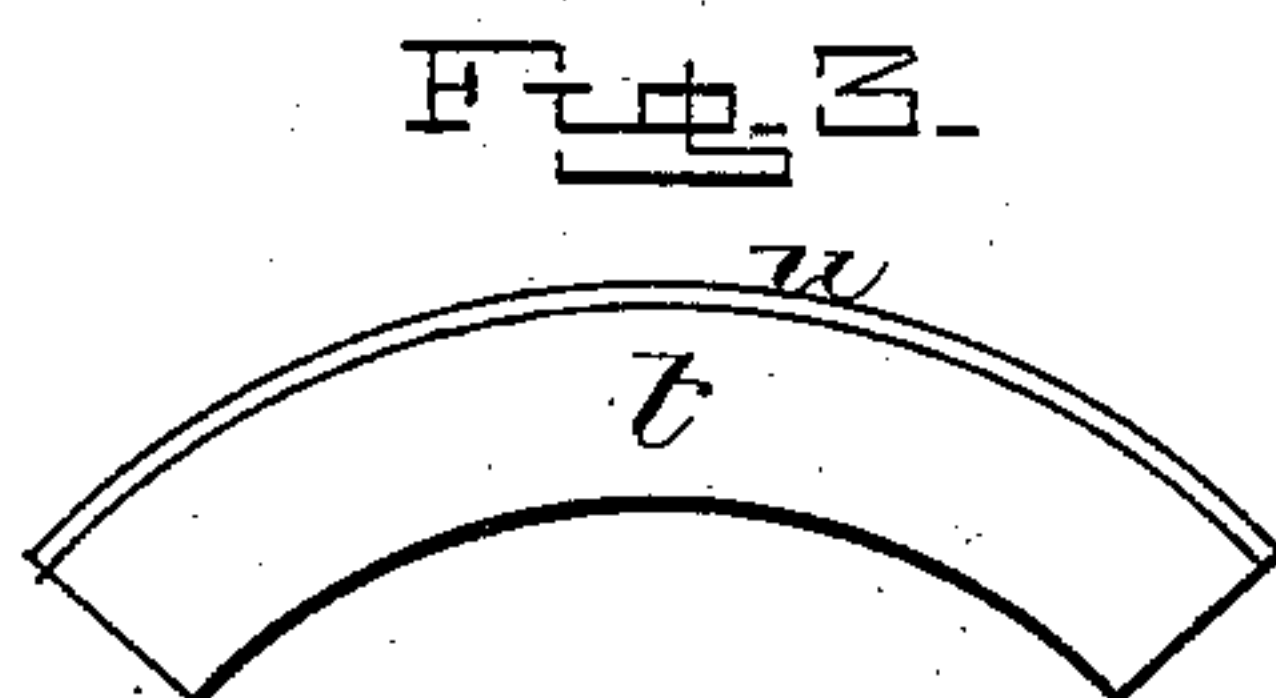
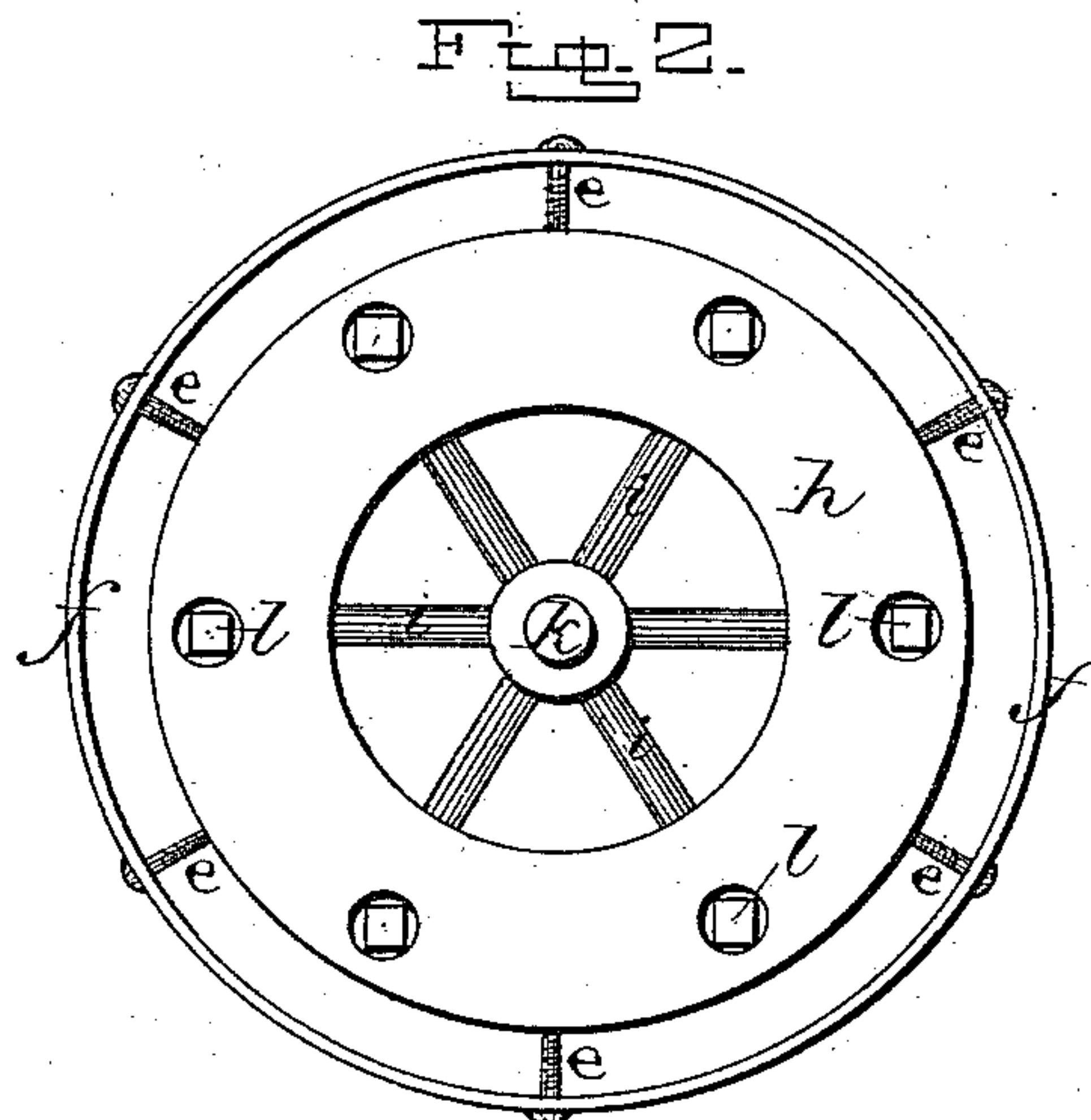
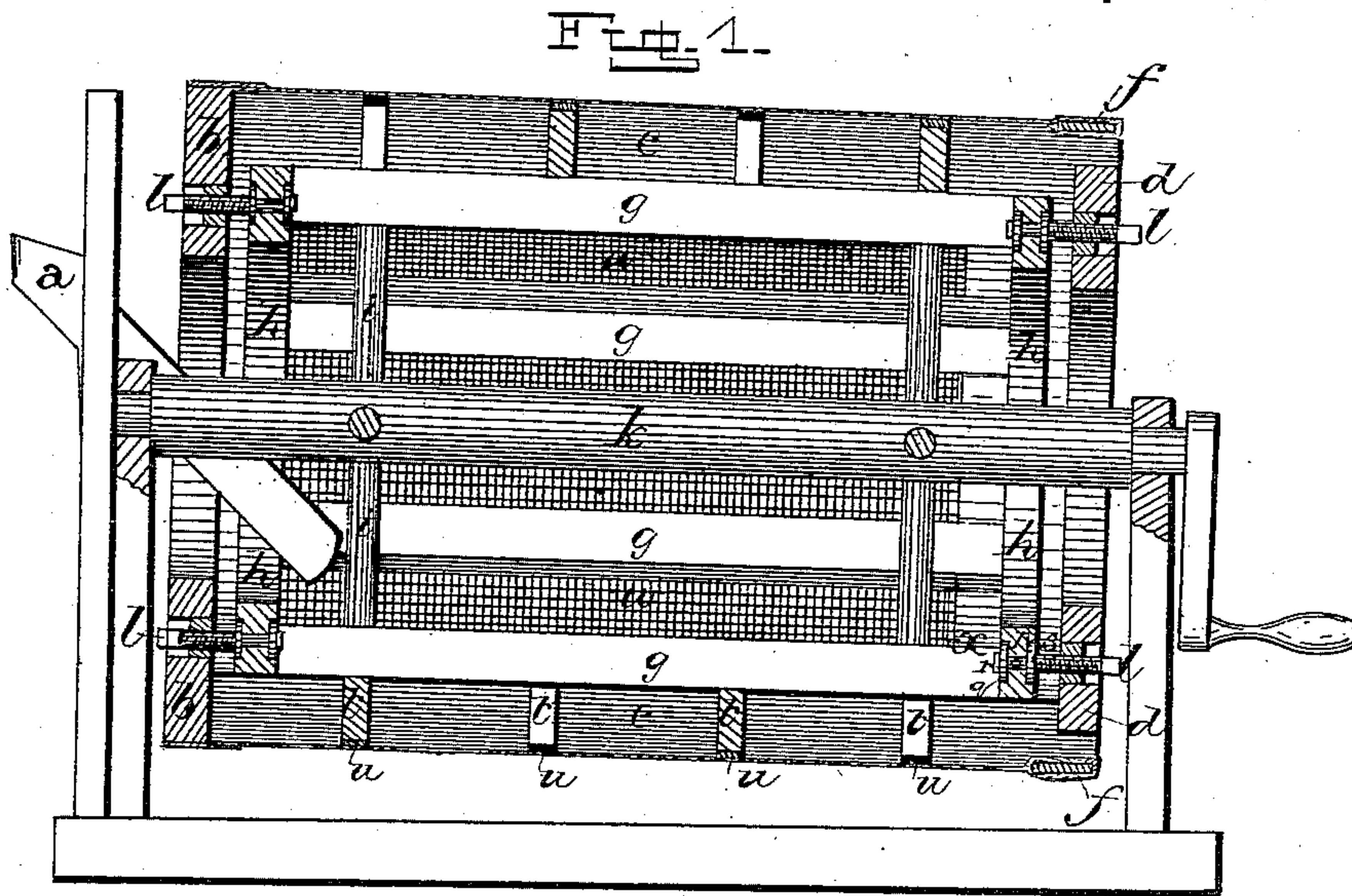
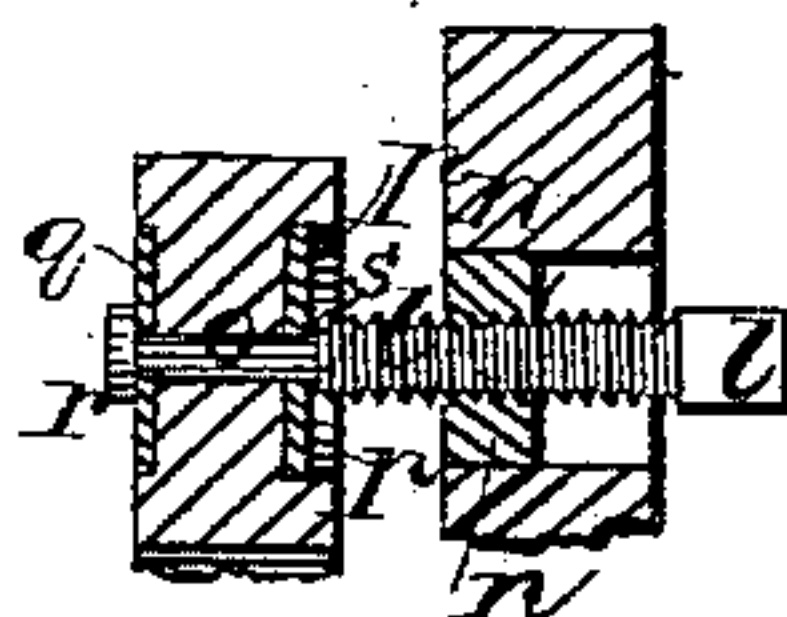


Fig. 4.



Witnesses:

*J. W. Garner?*  
*Wm. H. Mortimer*

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*Geo. D. Gardner,*  
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# UNITED STATES PATENT OFFICE.

GEORGE D. GARDNER AND STEPHEN D. RANDALL, OF WARREN, OHIO.

## FLOUR-BOLT.

SPECIFICATION forming part of Letters Patent No. 226,301, dated April 6, 1880.

Application filed January 5, 1880.

*To all whom it may concern:*

Be it known that we, GEO. D. GARDNER and STEPHEN D. RANDALL, of Warren, in the county of Trumbull and State of Ohio, have  
5 invented certain new and useful Improvements in Bolts; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use  
10 it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in flour-bolts; and it consists, first, in the arrangement of parts, whereby the two heads  
15 can be adjusted in such a manner as to evenly stretch the silk cloth from the center toward both ends; second, in covering the outer edges of the ribs with some soft substance, such as  
20 felt or cloth, for the purpose of preventing the silk cloth from being rubbed or chafed against them, all of which will be more fully described hereinafter.

Figure 1 is a vertical section of our invention. Figs. 2, 3, 4 are detailed views of the same.

*a* represents the spout through which the material flows into the bolt. At the upper end of this bolt is a circular head-board, *b*, which has the silk cloth tacked or otherwise secured  
30 to it in any suitable manner. At the lower end of the bolt is the tail-board *d*, which is not quite as large as the head-board, and to which the bolting-cloth *c* is attached by means of screws *e*, which pass through the hoop *f*, to  
35 which the bolting-cloth is secured at this end. As the tail-board is considerably smaller than the interior diameter of the hoop, it will be seen that there is a series of open spaces all around this end of the bolt, through which the tailings  
40 can freely escape. Just inside of these head and tail boards are the boards *h*, to which the longitudinal ribs *g* are secured, and which ribs are supported in position by means of the arms  
45 *i*, projecting out from the shaft *k*, in the usual manner.

In order to properly adjust the tension of the bolting-cloth evenly toward each end from the center, there are a series of set-screws, *l*, passed through the head and tail boards, which  
50 screws serve to adjust the head and tail boards

either in or out from the inner boards, as may be desired, to tighten or loosen the cloth. If these screws are used at one end only, the cloth will be stretched in one direction only; but where they are used at both ends the cloth is stretched  
55 evenly from the center outward toward both ends. These set-screws *l* are passed through the nuts *n*, which are secured in the head and tail boards, and then the smaller end *o* of the screw is passed through a washer, *p*, on the  
60 outside of the inner boards, through the boards, through a washer, *q*, on the inside of the boards, and then a holding-pin or other suitable device, *r*, is passed through the ends of the screws, so as to prevent them from coming out. By  
65 thus making the shoulder *s* upon each screw, and then securing the inner end in the inner boards, the inner board is secured to the screw, and the head and tail boards are compelled to move either in or out whenever the screw is  
70 turned.

Secured upon the longitudinal ribs are a series of ribs, *t*, which run circularly around the bolt, and which are placed in the relation to each other as shown, so as to allow the free  
75 passage of the material from head to tail of the bolt. These ribs are covered on their outer edges with cloth, felt, or other soft substance, *u*, which prevents the silk cloth from being  
80 chafed or worn in its application to or adjustment on the frame, as is liable to be the case where the ribs are left bare.

Inside of the outer bolting-cloth, *c*, is placed a wire or silk cloth, *w*, the meshes of which are of the right size to allow all of the wheat  
85 chop except the bran to fall directly through upon the outer bolting-cloth. The bran is retained inside of this wire or silk cloth, and is carried down to its lower end, where it drops  
90 off at the point *x* upon the bolting-cloth, and then passes off through the tail-board. By thus placing the wire or silk cloth inside of the bolting-cloth we accomplish at the same time what it usually requires two separate and distinct machines to accomplish.

Having thus described our invention, we claim—

1. In a rotary bolt, the combination of the head-board *b*, bolting-cloth, tail-board *d*, and hoop *f* with an interior frame carrying a screen, 100

*w*, and the adjusting-screws *l*, whereby the bolting-cloth is stretched from the center toward both ends alike, as shown.

2. The combination of the outer bolting-cloth and its frame with an interior frame, which is rigidly secured to the shaft, the ends of the outer frame being connected to the ends of the inner frame by means of screws, which serve to adjust the tension of the bolting-cloth, substantially as described.

3. The combination of a bolt, transverse ribs *t*, and a covering of some soft material, *u*, for the

outer edges of the ribs, whereby the bolting-cloth slides freely over the ribs in being adjusted and is protected from injury, substantially as set forth. 15

In testimony that we claim the foregoing we have hereunto set our hands this 18th day of December, 1879.

GEORGE DANIEL GARDNER.

STEPHEN DAVIS RANDALL.

Witnesses:

W. B. MORAN,

J. W. TAYLOR.