

(No Model.)

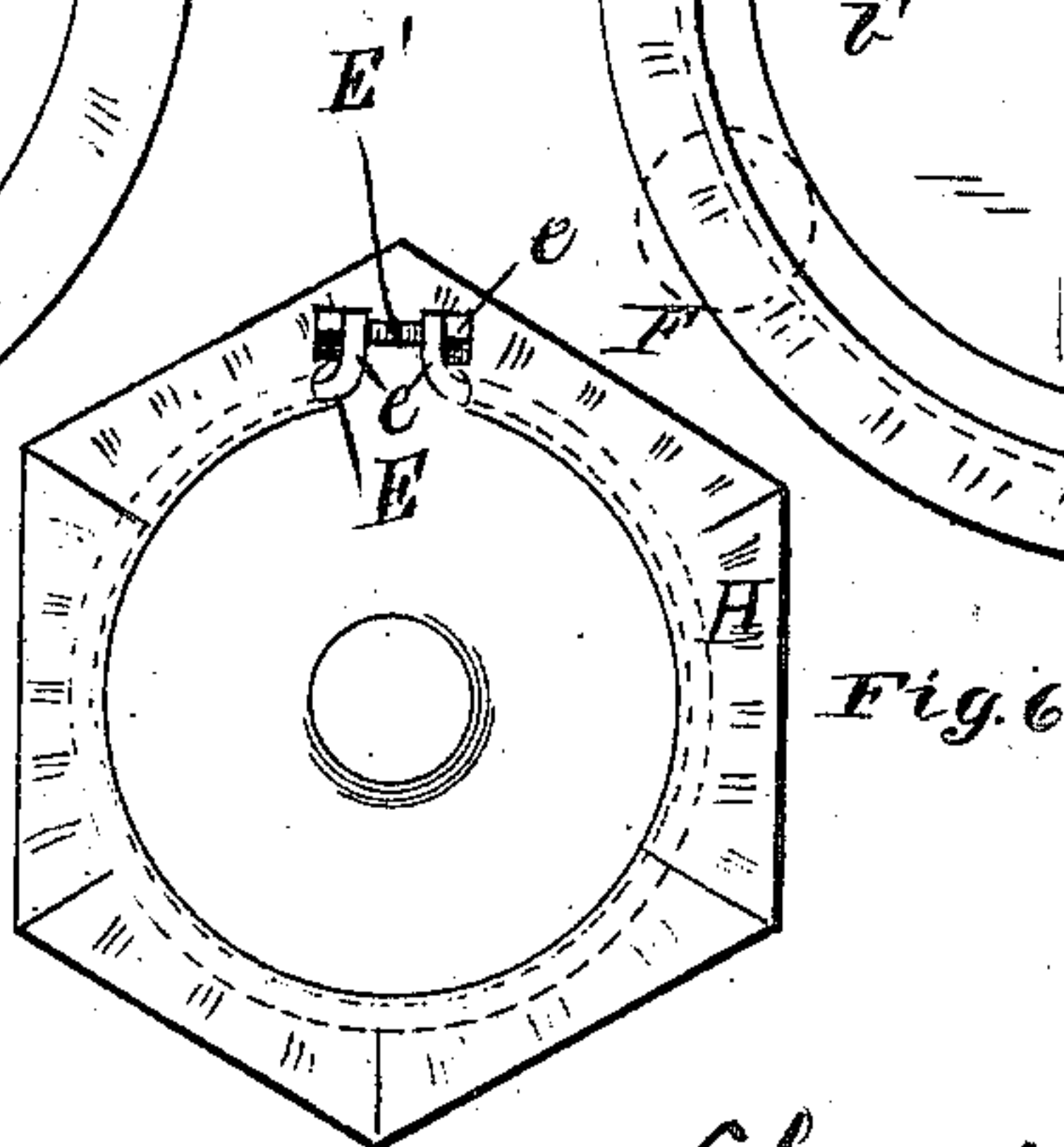
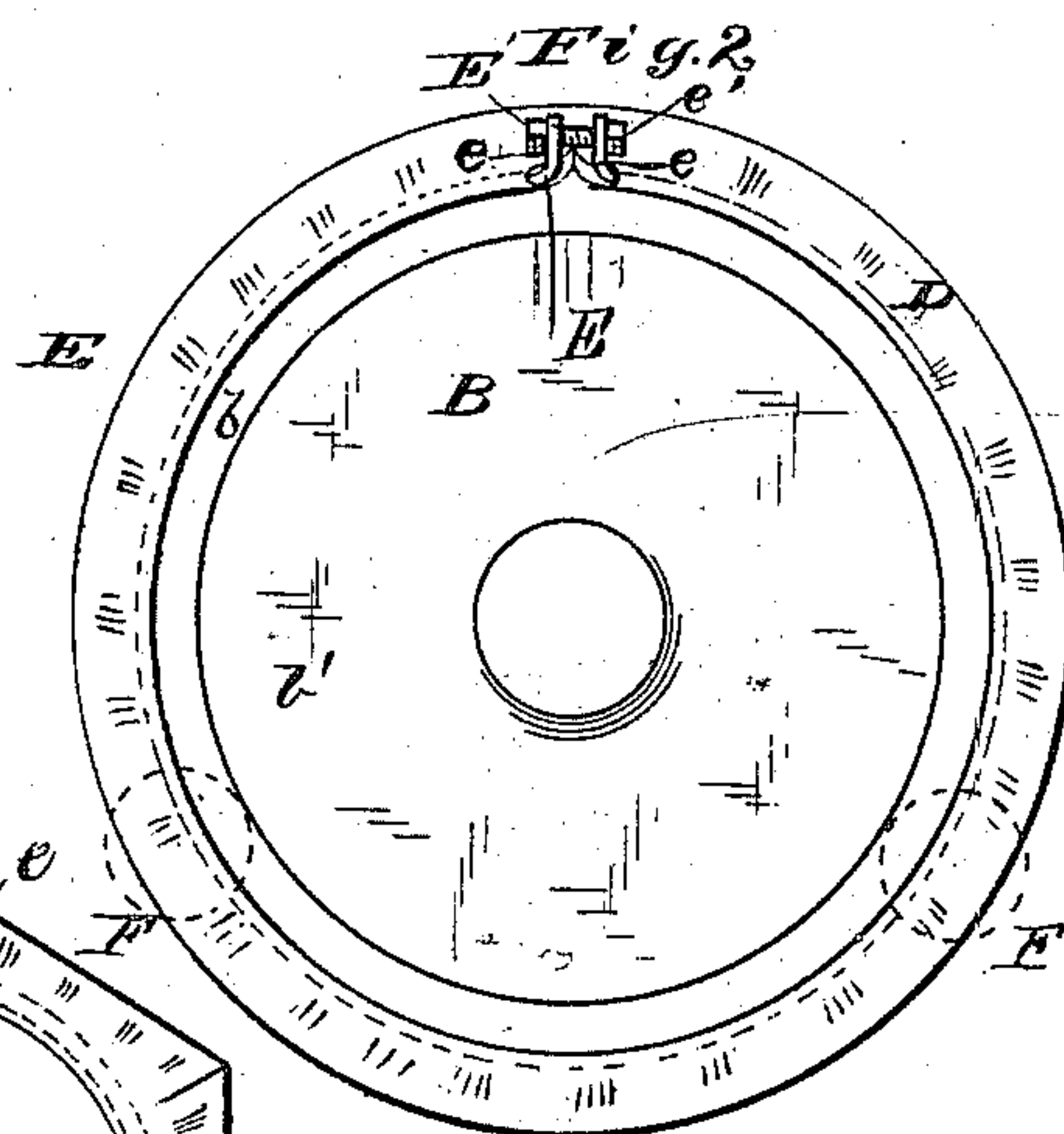
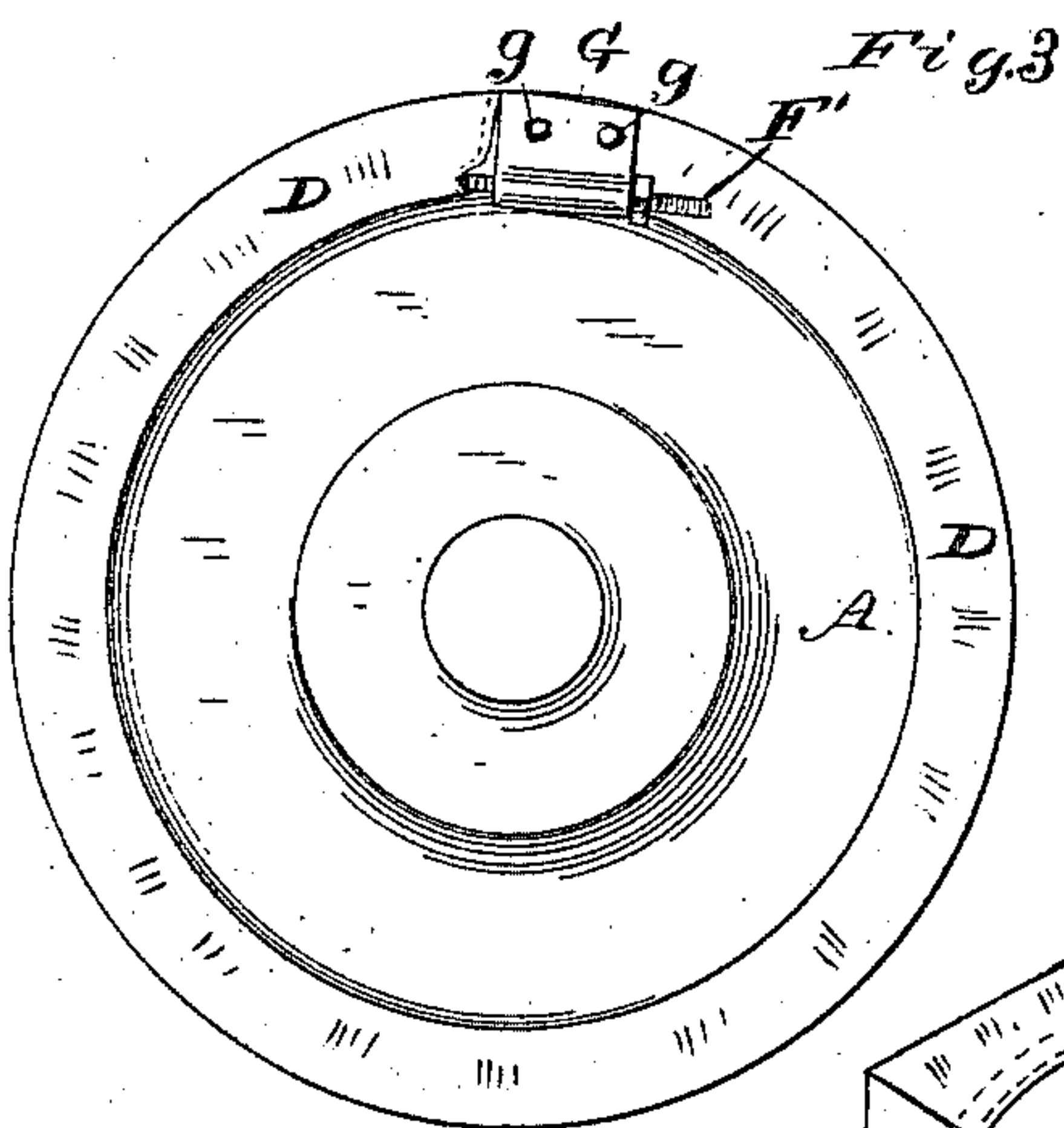
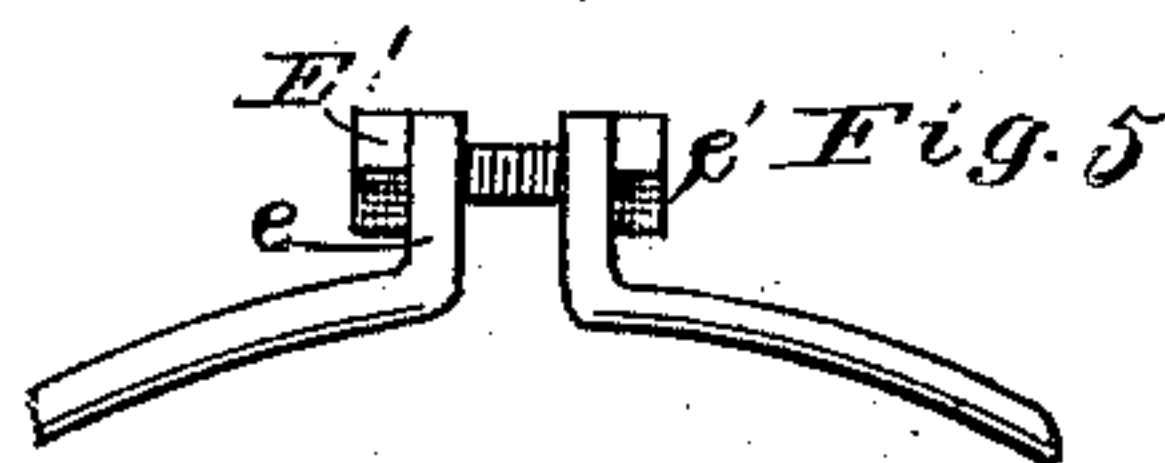
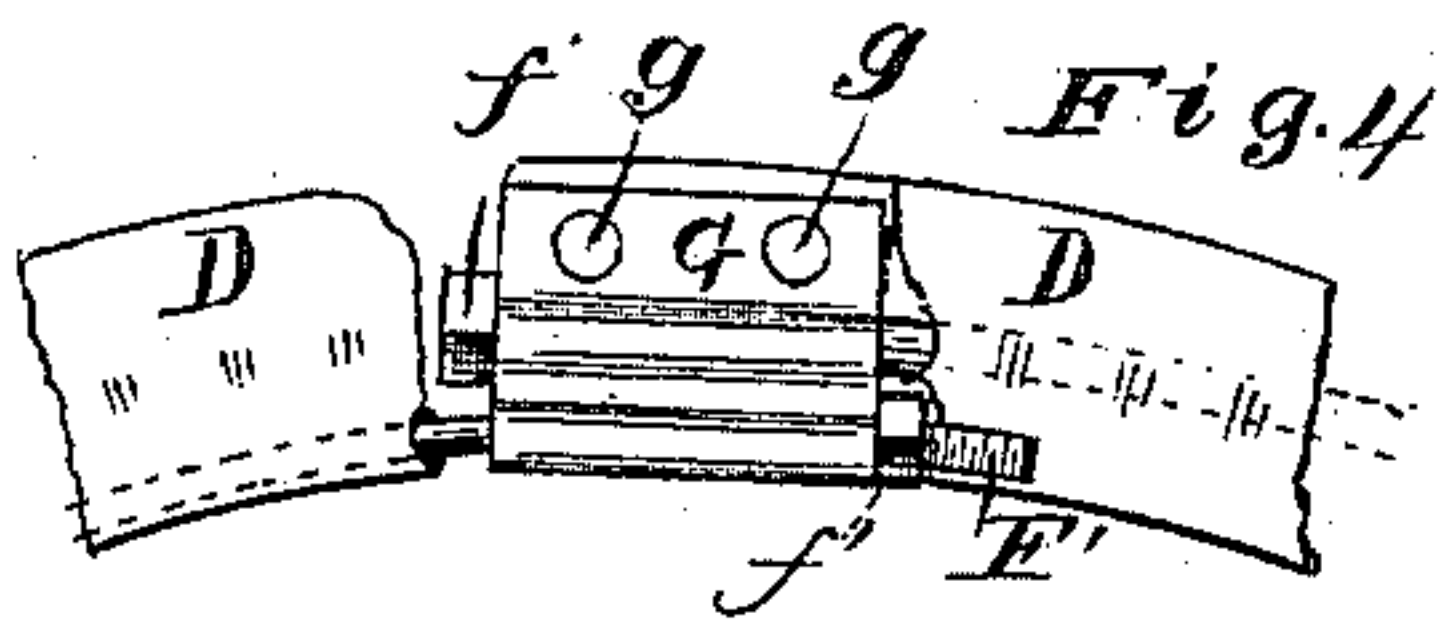
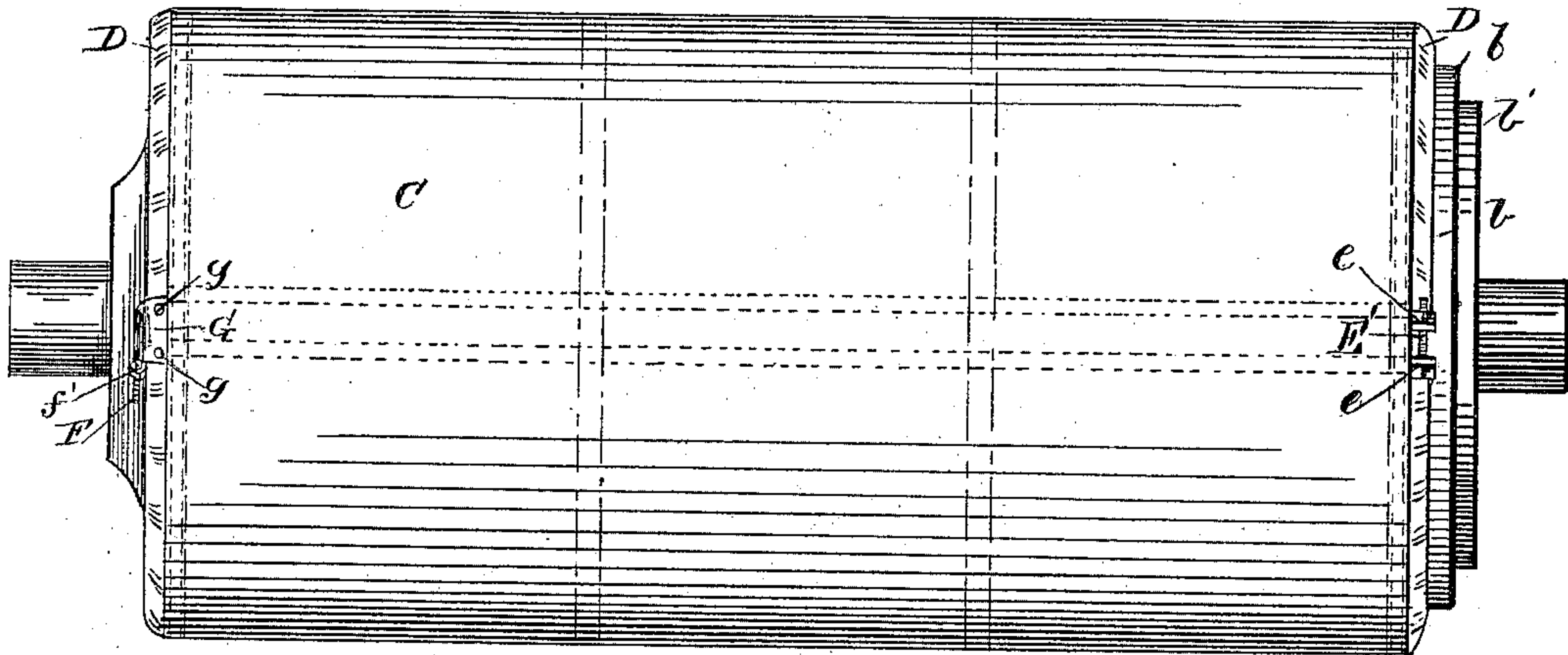
C. A. SMITH.

DEVICE FOR TIGHTENING BOLTING CLOTH.

No. 309,497.

Patented Dec. 16, 1884.

Fig. 1



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES A. SMITH, OF JACKSON, MICHIGAN.

DEVICE FOR TIGHTENING BOLTING-CLOTH.

SPECIFICATION forming part of Letters Patent No. 309,497, dated December 16, 1884.

Application filed February 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. SMITH, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Devices for Tightening Bolting-Cloth, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a side elevation of a flour-bolt containing the invention. Fig. 2 is an end elevation, partly broken away. Fig. 3 is an elevation of the opposite end of the reel, partly broken away. Figs. 4 and 5 are detailed views. Fig. 6 is an end elevation, showing the invention as applied to a many-sided reel.

In the drawings, A B are the reel-heads, which may be of any usual or approved construction, although in this instance they are shown as being provided with central hollow trunnions, such as are commonly used in that class of bolts known as "centrifugals." C is the bolting-cloth.

Referring to Fig. 2, D represents a strip, binding, or extension of the bolting-cloth, which in this instance consists of a narrow sheet or strip of stout woven fabric of double thickness stitched at its edges to the edge of the bolting-cloth. E is a circular tightener, which in this instance consists, essentially, of a hoop-like wire or small rod, turned up at its ends to form ears *e e*, which are perforated to receive a tightening-bolt, *E'*, carrying at its threaded end a nut, *e'*, and at its opposite end a head, which prevents the bolt from passing through the ear in which it is supported. This circular tightener is seated in the fold of the fabric D, and it will be readily understood that by turning the nut *e'* in the proper direction the two ears *e e* can be made to approach, and thus reduce the diameter of the circular tightener E and draw the bolt-cloth over the edge of the reel-head and toward its center.

Under many circumstances it will be found desirable to construct the reel-head B with a concentric flange, *b*, against which the circular tightener shall bind the fabric D; and when it is desired to mount the reel upon anti-friction rollers F, as is sometimes done, it may be provided with a second flange, *b'*, of somewhat

less diameter than the flange *b*. By providing the reel-head with the two flanges *b b'* the rollers F can rotate in contact with flange or rim *b'* without danger of their running upon the drawn-over edge of the cloth, should they become loose, the step between the two flanges keeping the rollers upon their proper way or rim.

Referring to Fig. 3, D is a strip of fabric, doubled and attached by its edges to one end of the bolting-cloth. F is a circular tightener, provided at one end with a head, *f*, and at its opposite screw-threaded end with a nut, *f'*. G is a metal plate, attached to the fabric D by rivets *g g* or otherwise, and provided at its lower or inner end with a seat or groove for the reception of one end of the tightener, the seat or groove being of such size that the tightener may move freely through it. The other end of the tightener is also supported by the plate G, and in this instance is shown as passing through and resting in a groove or seat formed in one or both legs of the plate, between the screw-threaded end of the tightener and the rivets *g g*; but it is not intended to limit the invention to the precise construction of parts shown, it being apparent that one end of the tightener might be riveted or otherwise firmly attached to the plate G, the threaded end being free to move relative to the plate without departing from the spirit of the invention. While in the construction shown the plate is formed of a thin sheet or strip of metal doubled upon itself and riveted at *g g* and *g'*, yet it (the plate) might be made of cast metal, with projecting lugs or ears for the reception of one end or both ends of the circular tightener.

In Fig. 6 the invention is shown as applied to a many-sided reel, in which instance it may be found preferable to cut the fabric H in the form shown—that is to say, with its outer edge or periphery many-sided, to correspond substantially with the outline of the reel, its inner edge, when doubled, being substantially circular, because this form will facilitate producing a uniform tension upon the bolting-cloth, as will be readily understood without further explanation. Of course in this instance the reel may be of any usual or approved construction—as, for instance, with a

central shaft, spokes radiating therefrom, longitudinal bars attached to the spokes, an encircling hoop-rim at the discharging end, with a centrally-open head at the receiving end. It is not necessary that the plate or its equivalent should be attached to the fabric D, because the device will operate satisfactorily under many circumstances, even if the plate be connected directly only to the circular tightener, although the construction shown is believed to be the preferable one for use under ordinary circumstances; nor is it essential to the working of the invention that the parts D D, or either of them, should consist of a fabric separate and apart from the bolting-cloth, because under many circumstances the cloth can be hemmed, the fold being of such depth as to provide a seat for the circular tightener, although it is probably better to employ ticking, canvas, or similar material for these parts D D, one or both of them.

What I claim is—

1. In a flour-bolt, the combination of the reel-head B, provided with the flange *b* and

the smaller flange *b'*, which forms a rim for friction-rollers, the bolting-cloth extending longitudinally of the reel and turned over the edge of the reel-head toward the center, the circular tightener connected to the turned-over end of the bolt-cloth, and means for gripping the tightener and the bolt-cloth upon the flange *b*, substantially as set forth.

2. In a flour-bolt, the combination of the reel-head A, the bolt-cloth extending longitudinally of the reel and turned over the edge of the reel-head and toward its center, the circular tightener connected with the turned-over end of the bolt-cloth, the plate having both ends of the circular tightener attached thereto, and means for adjusting one end of the circular tightener relative to the plate, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. SMITH.

Witnesses:

WM. H. DICKEY,
GEO. S. BENNETT.