

No. 711,705.

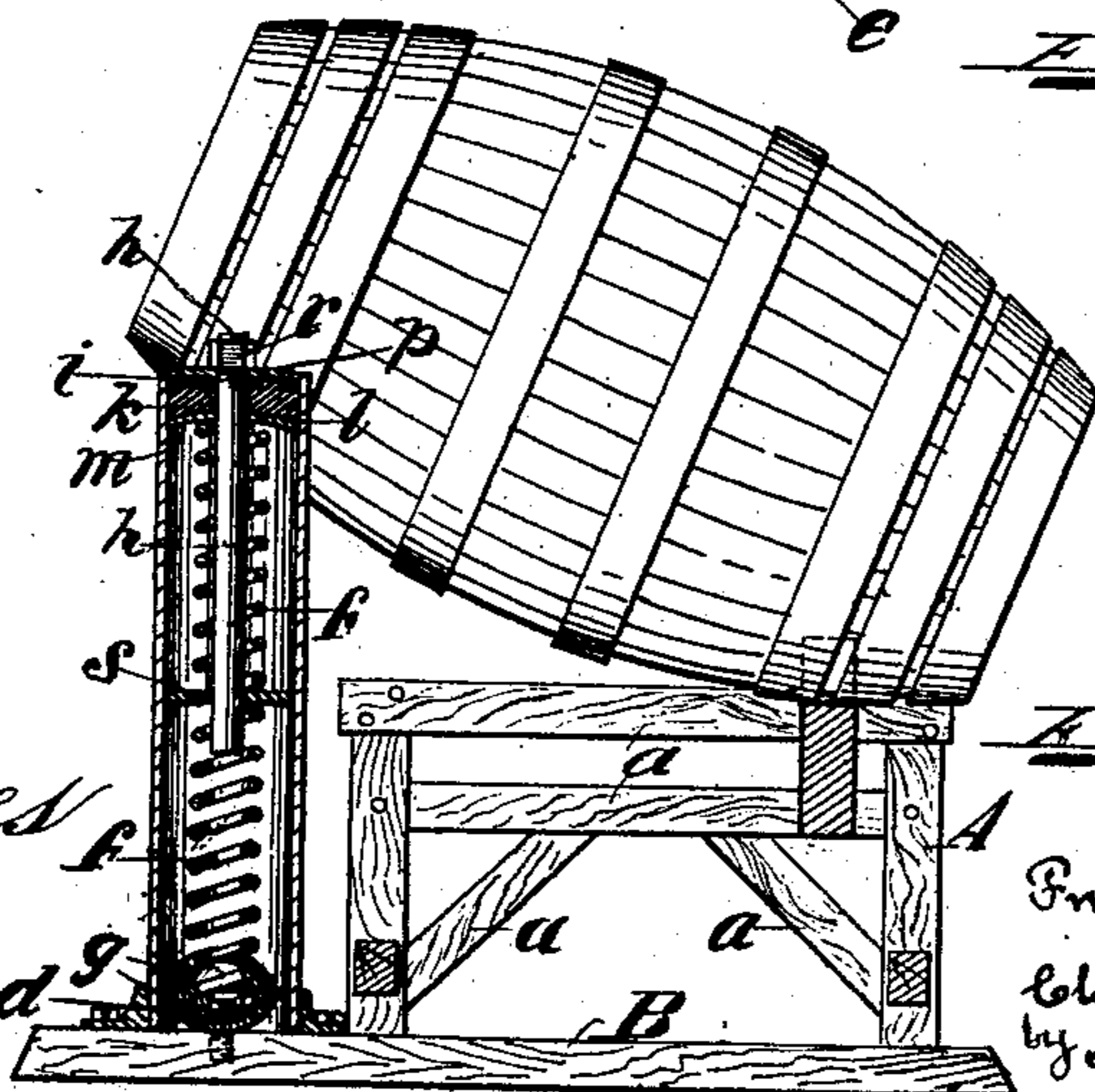
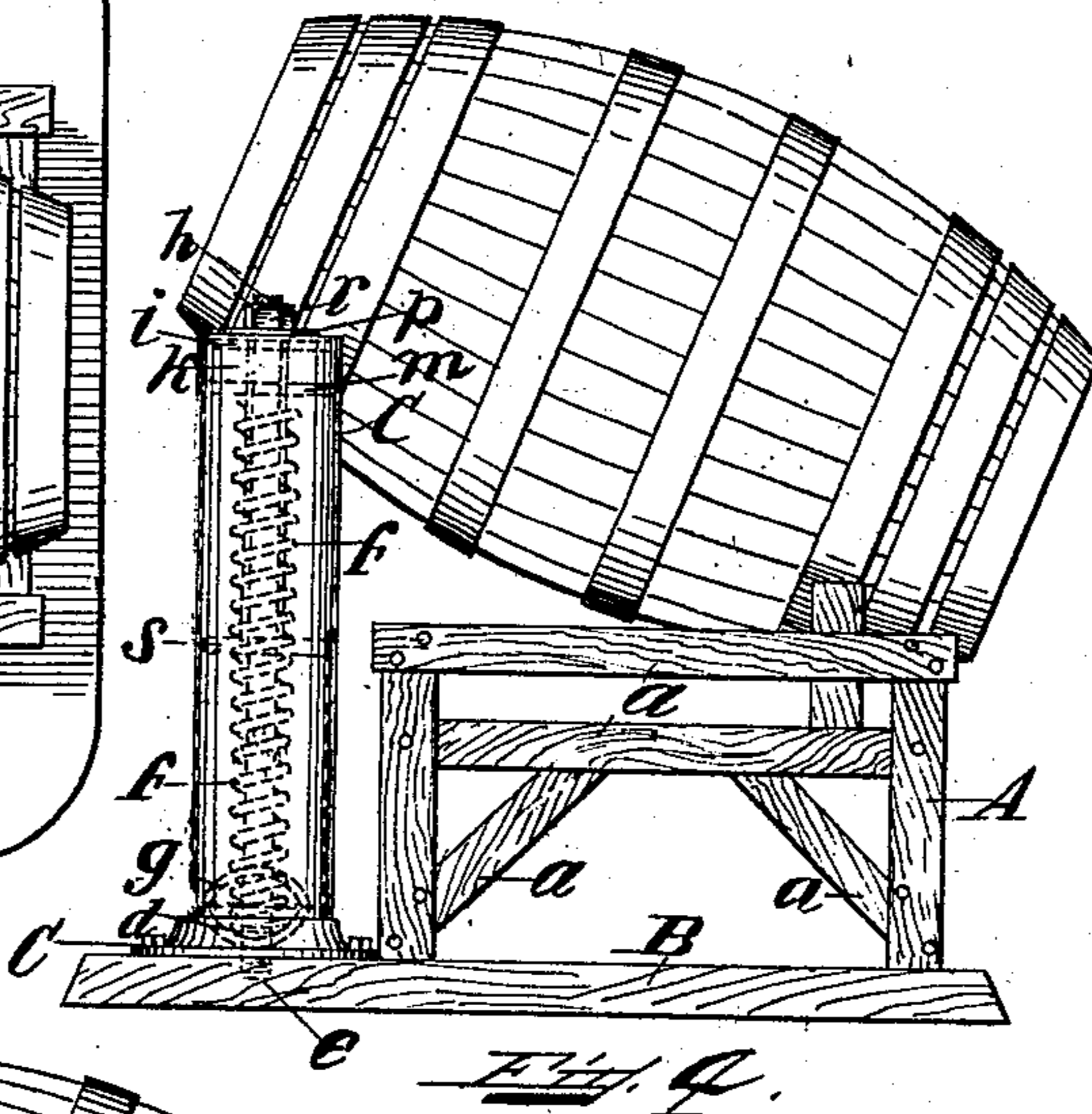
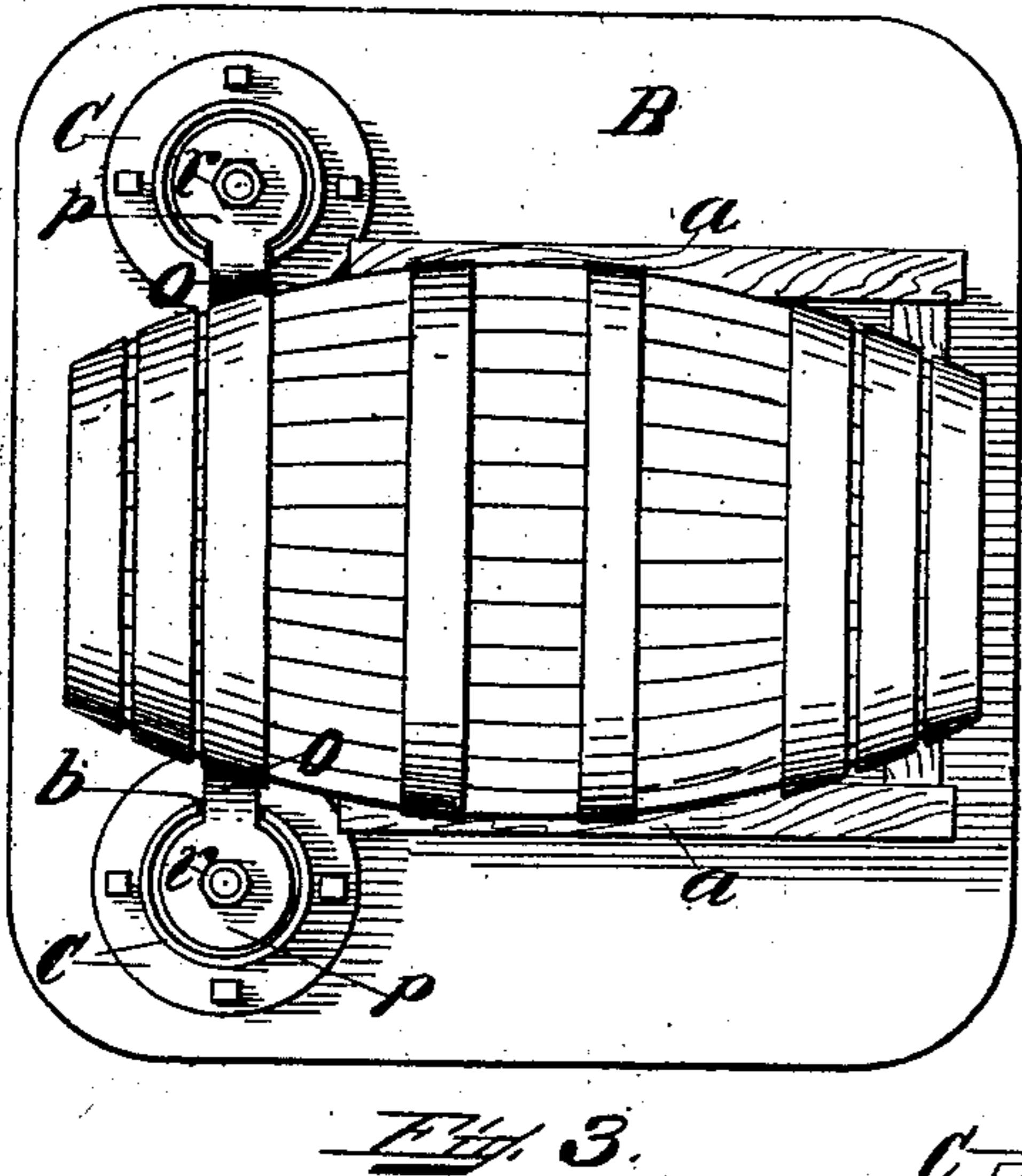
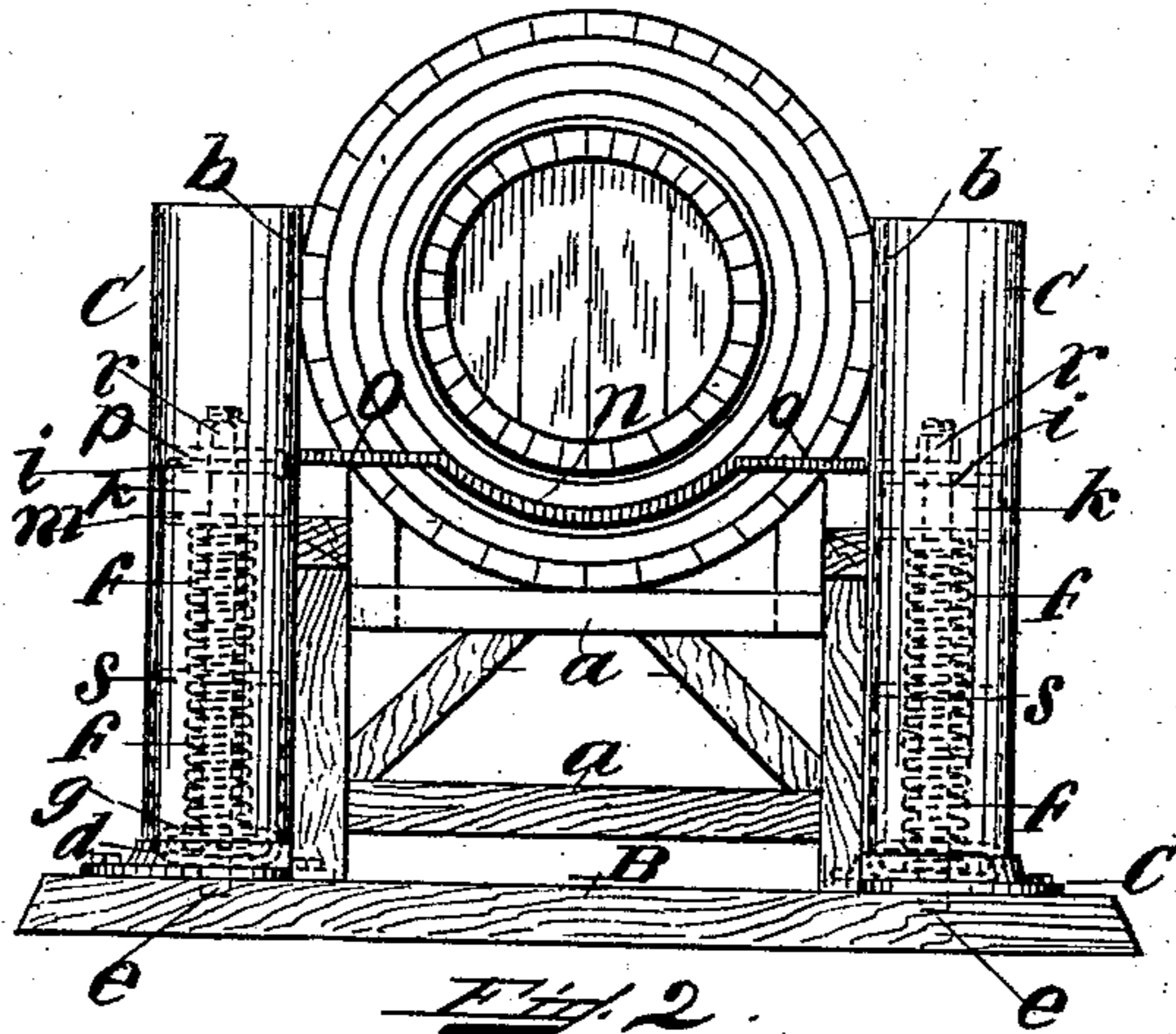
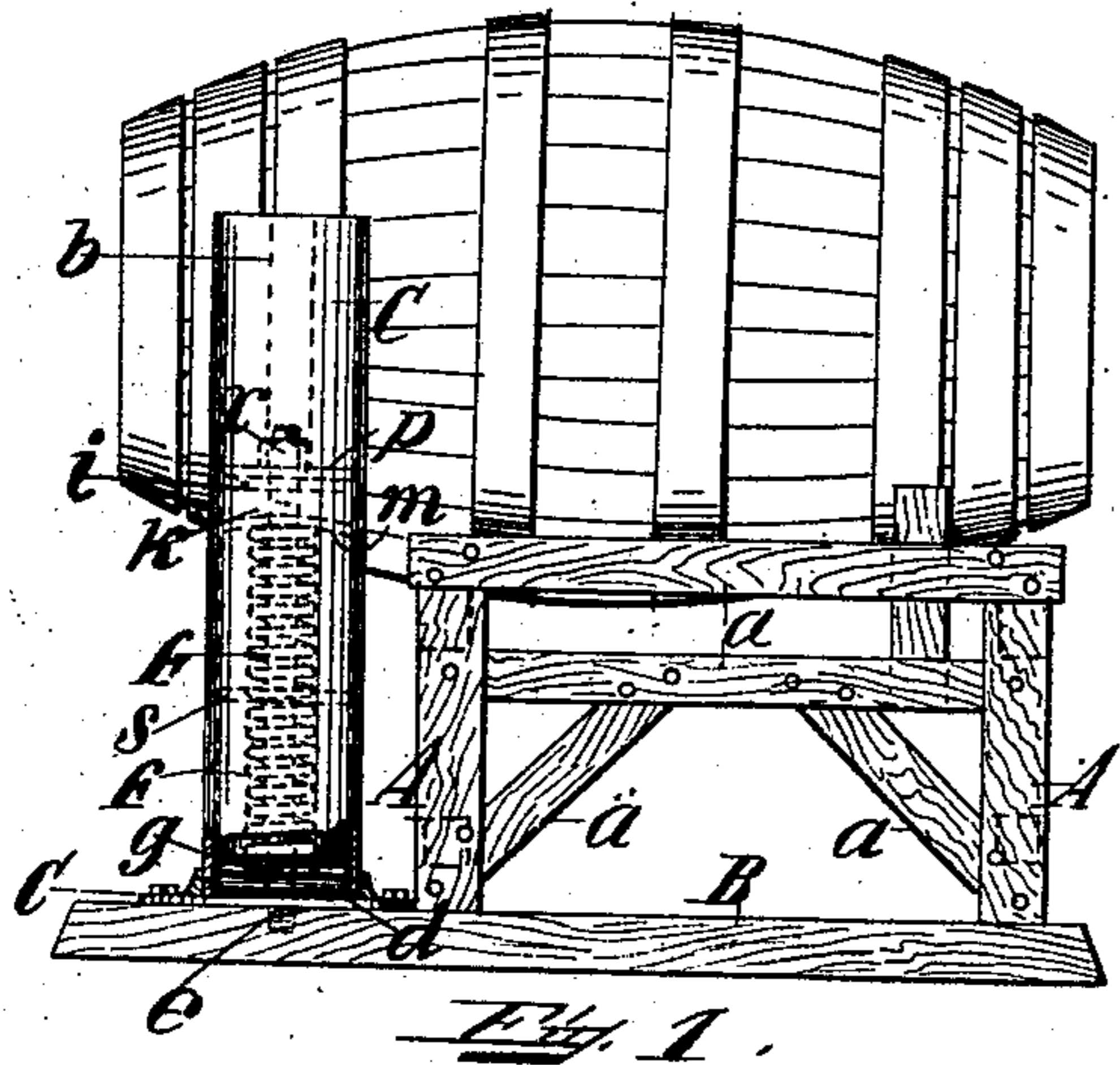
Patented Oct. 21, 1902.

F. W. KEEN & C. H. WILLIAMS.

TILTING BARREL, &c.

(Application filed May 19, 1902.)

(No Model.)



Witnesses

A. H. H. H.  
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Inventors  
Frederick W. Keen  
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# UNITED STATES PATENT OFFICE.

FREDERICK W. KEEN AND CHARLES H. WILLIAMS, OF BOSTON, MASSACHUSETTS.

## TILTING BARREL, &c.

SPECIFICATION forming part of Letters Patent No. 711,705, dated October 21, 1902.

Application filed May 19, 1902. Serial No. 107,904. (No model.)

*To all whom it may concern:*

Be it known that we, FREDERICK W. KEEN, a subject of the King of Great Britain and Ireland, and CHARLES H. WILLIAMS, a citizen of the United States, both residents of Boston, in the county of Suffolk and State of Massachusetts, have jointly invented a new and useful Device for Tilting Barrels and other Like Articles, of which the following is a specification, reference being had therein to the accompanying drawings, which form a part of the said specification.

The invention relates more particularly to a device for tilting a barrel or other like receptacle or vessel filled with any fluid or any substance that will flow—such as, for example, wine, ale, molasses, &c. Heretofore the full barrel, filled, we will say for the purpose of illustration, with stock-ale, has been placed in the cellar upon a stout support commonly called a “stillage,” which is about eight inches high in the rear and four inches high in front. This common and ordinary arrangement will permit of the ale being drawn off all but about five or six gallons without the barrel being farther tilted or raised at the rear end. It therefore becomes necessary at this stage to send a person into the cellar to raise the rear of the barrel up or tilt it up higher in order to be able to draw off the remaining five or six gallons; but by this act of further raising up or tilting the barrel the sediment or settlings and other impurities become stirred up and mingled with the balance of the liquid, which makes the latter appear muddy or roiled when it is drawn off, and inasmuch as “muddy” ale or any other beverage mingled with sediment and other impurities is objectionable and cannot be disposed of to customers it becomes necessary to throw away or waste the five or six gallons (which represent profits) of the liquid remaining in the barrel, as above stated, and place a new barrel on tap.

The object of our invention is to dispense with the need of sending a person into the cellar, as above stated, and to save the waste attendant upon the old way of drawing off the contents from a barrel or other like device when supported on the stillage of ordinary construction and to provide a simple and effi-

cient means for automatically tilting the same as the liquid is being drawn off, so as to accomplish the results above mentioned.

The invention consists of the novel features of construction hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings, Figure 1 is a side view, partly broken away, illustrating the position of the parts when the barrel is full. Fig. 2 is a rear end view of the same. Fig. 3 is a plan view of the same. Fig. 4 is a side view illustrating the position of the parts when the barrel has been emptied; and Fig. 5 is a similar view, partly in section.

Like letters of reference refer to like parts throughout the several views.

A denotes a support or stillage comprising stout pieces of wood or timber *a a*, suitably secured together and having its front and rear ends of substantially the same height and resting upon a suitable base B.

C C denote tubes or circular shells or casings, made preferably of metal, suitably secured to the base B in the rear of the said stillage and made preferably of metal. These tubes extend upwardly from the said base and are parallel with each other. Each of these tubes is slotted on the inside, as at *b b*, and these slots extend from the top of the tube to the top of the stillage and are of similar size and directly opposite each other.

*d d* are saucer-shaped cushions, made of some resilient material, preferably rubber, and firmly secured to the base B and fitting tightly within the tubes C C.

*e e* denote short metallic rods or tubes secured to the base B and extending upwardly and within the tubes C C and concentric therewith.

*f f* denote coiled compression-springs, the lower ends of which are seated upon washers made preferably of metal and resting within the cushion *d d*.

*g g* denote cushions of an inverted-saucer-like shape, made of some resilient material, preferably rubber, and firmly secured to the said springs near their lower ends.

*h h* denote metallic auxiliary or strengthening rods or tubes provided near their upper ends with metallic caps *i i*, which are pref-

erably made integral with the said rods and adapted to slide up and down within the tubes C C. These rods are substantially one-half the length of the coiled springs *f f* when expanded and are encircled by the latter and are substantially concentric with the tubes C C. To these caps are secured rubber disks or cushions *k k*, having a downwardly-projecting flange *l* extending around the circumference of each of the said disks.

*m m* denote metallic disks or washers loosely mounted on the tubes *h* and *h* and forming the upper seats for the springs *f* and *f*.

*n* denotes a cradle or support for the upper end of the barrel and made of iron or other suitable material. *o o* denote metallic straps extending in opposite directions from the said cradle and provided at their outer ends with circular portions *p p*, which fit over the upper ends of the rods *h h* and rest upon the metallic caps *i i* and secured to the upper parts of the said rods by the nuts *r r*. The said straps *o* and *o* are adapted to slide up and down in the slots *b b*, and the said circular portions *p* and *p* are adapted to slide up and down together with their connecting parts within the tubes C C, as will be hereinafter more fully set forth.

*s s* denote washers made of some resilient material, preferably rubber, securely attached to the springs *f f* at or near the lower ends of the slots in the tubes C C when the springs are expanded.

The springs and the cushions and connecting parts are constructed and arranged so that the barrel when placed upon the stillage and the cradle will be in a horizontal position, as shown in Figs. 1 to 3, inclusive, the weight of the barrel upon the cradle being just sufficient to overcome the force of the springs—that is to say, the force of the said springs and the weight of that portion of the barrel resting upon the cradle will be substantially equal when the barrel is in the horizontal position. It is obvious that if a hog-head full of liquor is to be emptied instead of a barrel heavier springs and rubber cushions would have to be used and inserted in the tubes C C to make the device operative.

The operation of the device in so far as it has not already been disclosed is as follows: One end or one portion of the full barrel which is to be emptied is placed upon the stillage and the other end of the said barrel placed upon the cradle *n*. The weight of the barrel and its contents forces the springs down until the barrel is practically in a horizontal position, or approximately in that position, the weight of that portion of the barrel and its contents resting upon the cradle being when the barrel is in said position substantially equal to the force exerted by the compression-springs. The rubber cushions located in the lower ends of the tubes C C not only act as a sort of “buffer” when the full barrel forces the springs downward, but they also act as a “starter” for the upward

movement of the springs by reason of the force of the air which has been compressed between the same. When the springs are fully compressed, the lower ends of the rods *h h* are adapted to strike upon the rods *e e* if the weight of the barrel should be too heavy or if the full barrel should come down with too great force upon the springs—that is to say, the rods *e e* act as a support or additional buffer for the rods *h h*. The barrel being thus supported, just as soon as any of its contents are drawn off the said rubber cushions commence to spring apart and the springs to extend upwardly, and thereby force the cradle upwardly through the medium of the parts intermediate the cradle and the springs, and thus cause as the liquid is drawn off one end of the barrel to become gradually tilted until it assumes substantially the position shown in Figs 4 and 5, or at an angle of about forty-five degrees when the barrel has been emptied. It will thus be seen that this tilting movement is carried on gradually, evenly, and without any jolting, so that the sediment and settlings are not mingled with the liquid to be drawn off, but always remain at rest in the barrel. It thus becomes possible to draw off every drop of liquid from the barrel without waste, free and clear of all impurities, automatically and without the need of sending any one into the cellar to prop up one end of the barrel when it has been nearly emptied or when, perhaps, five or six gallons and the sediment only remain therein.

What we desire to claim and secure by Letters Patent is—

1. In a device of the class described, the combination of a stationary support for one end of a barrel or other article, a plurality of vertical tubes having a slot in one side thereof respectively, a support adapted to sustain the other end of said article vertically movable in said tubes by means of said slots, a rod movable with said support within each tube whereby the depression of said movable support is positively limited, and a coiled spring seated in each tube whereby said support will be raised proportionately to the diminished load carried thereby.

2. In a device of the class described, the combination of a stationary support for one end of a barrel or other article, a plurality of vertical tubes having a slot in one side thereof respectively, a support adapted to sustain the other end of said article vertically movable in said tubes by means of said slots, a rod movable with said support within each tube whereby the depression of said movable support is positively limited, a coiled spring seated in said tubes respectively whereby said support will be raised proportionately to the diminished load carried thereby and a washer carried by said spring, whereby a vertical movement of and atmospheric resistance to the depression of said support is assured.

3. In a device of the class described, the combination of a stationary support for one

end of a barrel or other article, a plurality of  
vertical tubes having a slot in one side there-  
of, respectively, a support adapted to sustain  
the other end of said article vertically mov-  
5 able in said tubes by means of said slots, a rod  
movable with said supports within each tube  
whereby the depression of said movable sup-  
port is positively limited, a coiled spring  
seated in each tube whereby said support will  
10 be raised proportionately to the diminished  
load carried thereby, and a buffer formed by  
the compression of air between resilient bodies

seated in each of said tubes by the compres-  
sion of each of said springs whereby the ini-  
tial raising of said support will be aided. 15

In witness whereof we have hereunto set our  
hands, this 15th day of May, A. D. 1902, in  
the presence of two witnesses.

FREDERICK M. KEEN.  
CHARLES H. WILLIAMS.

Witnesses:

LAURENCE W. STOCKTON,  
N. L. FROTHINGHAM.

It is hereby certified that in Letters Patent No. 711,705, granted October 21, 1902, upon the application of Frederick W. Keen and Charles H. Williams, of Boston, Massachusetts, for an improvement in "Tilting Barrels, &c.," an error appears in the printed specification requiring correction, as follows: On page 3, at the end of the specification, the name of the first-mentioned applicant was erroneously printed "Frederick M. Keen," instead of *Frederick W. Keen*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 11th day of November, A. D., 1902.

[SEAL.]

F. I. ALLEN,  
*Commissioner of Patents.*