

(No Model.)

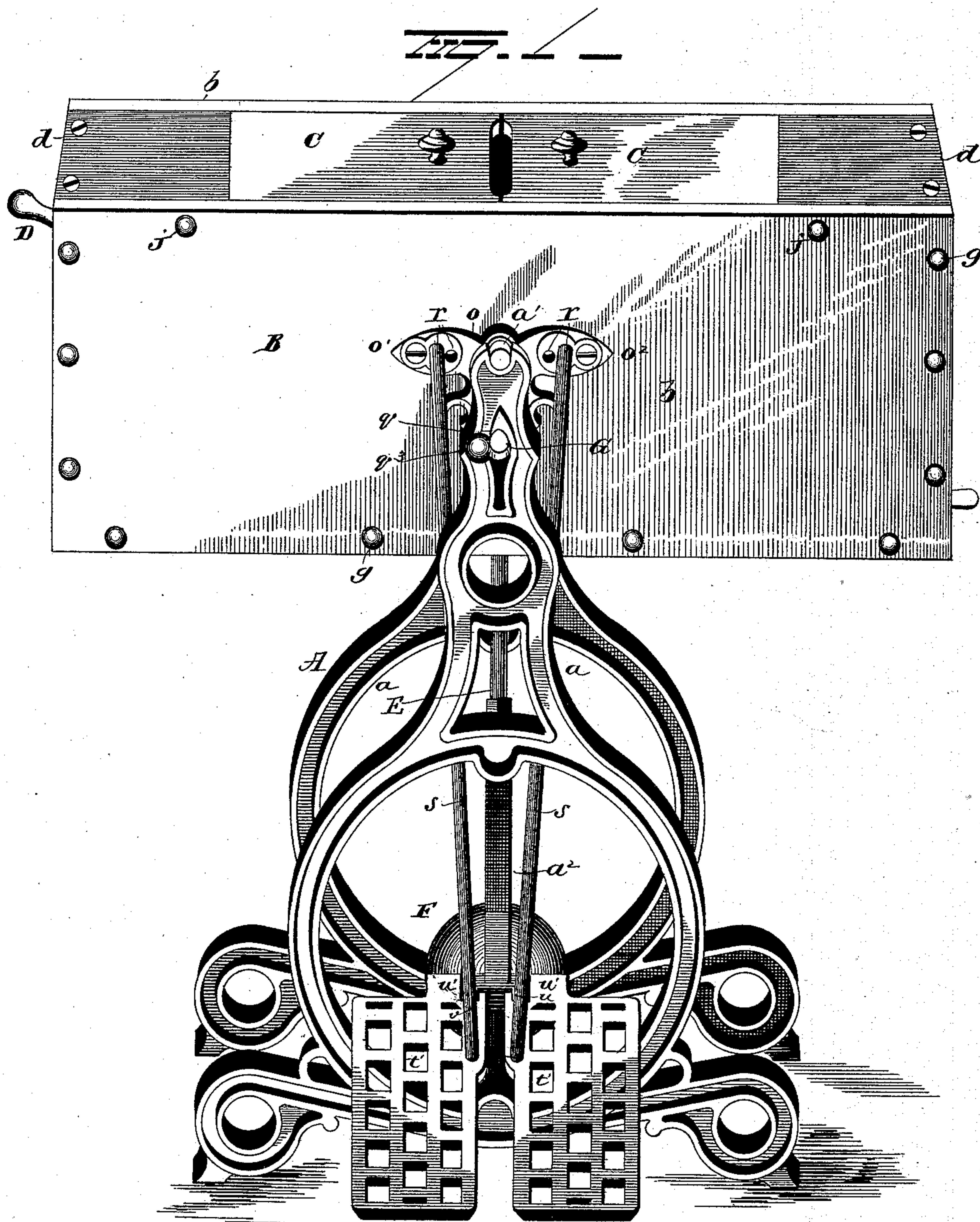
2 Sheets—Sheet 1.

W. H. CURTICE.

CHURN.

No. 388,537.

Patented Aug. 28, 1888.



Witnesses,

E. Nottingham
G. F. Downing

Inventor _____

Wm. J. Curtis.

By his

Attorney

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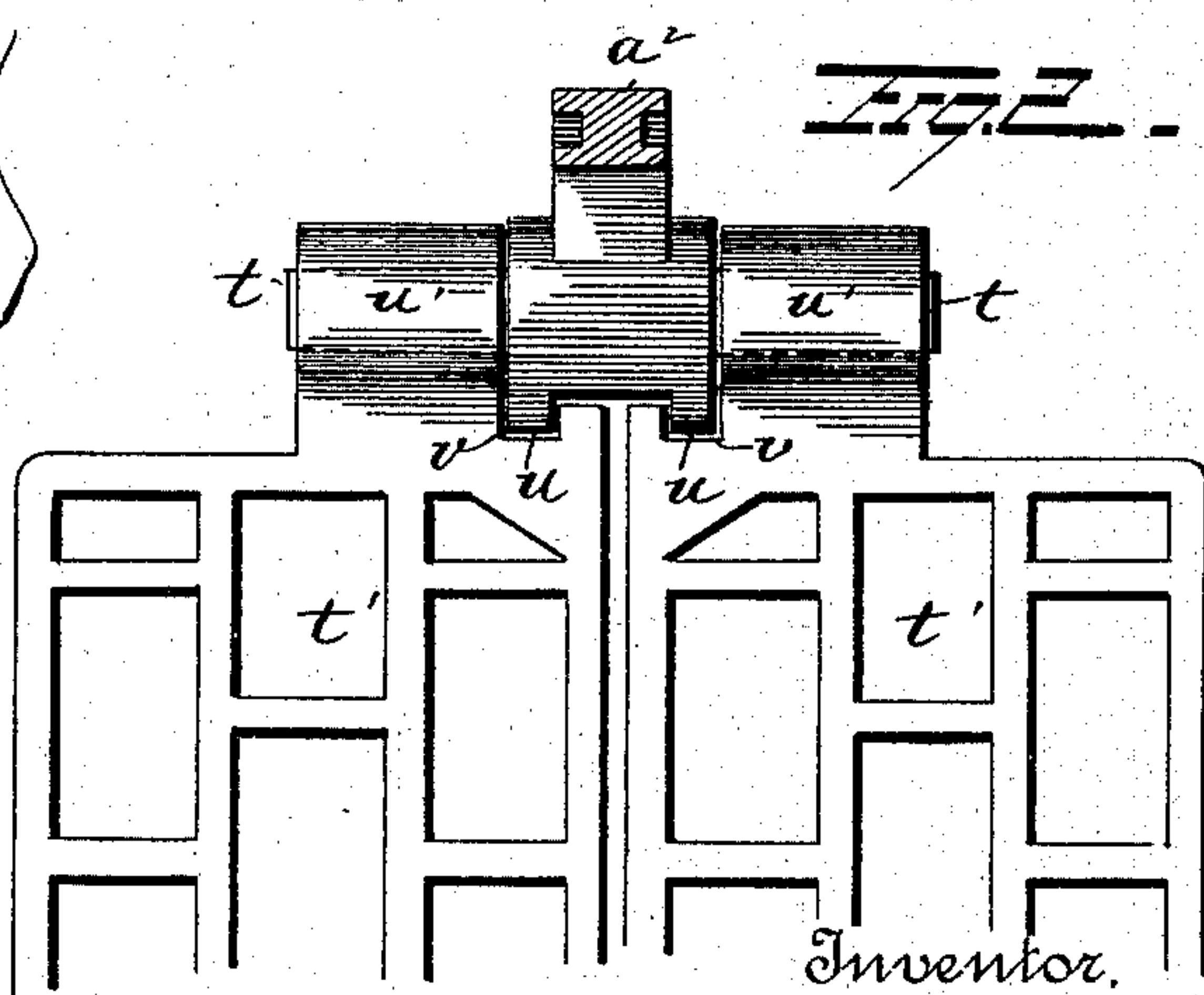
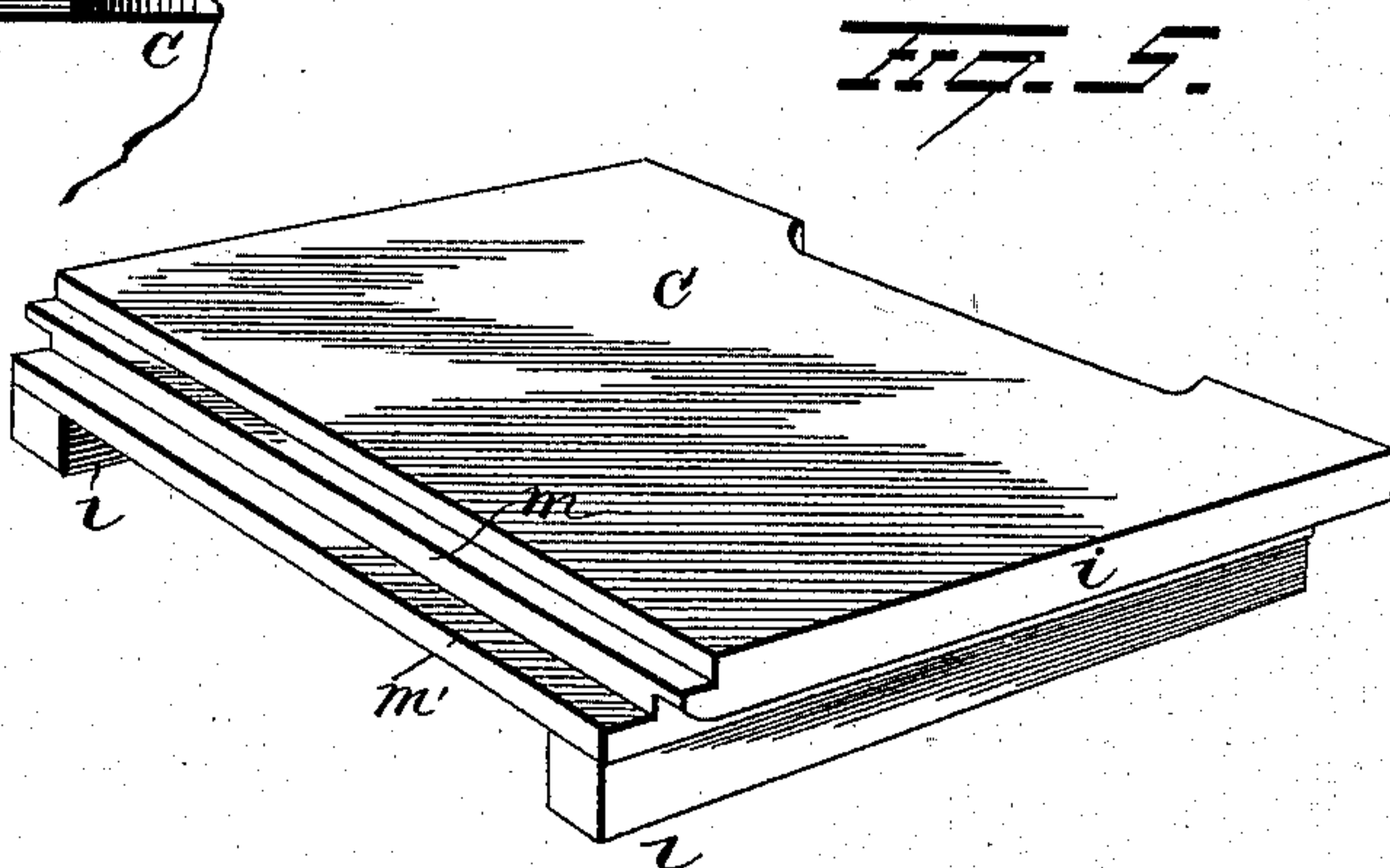
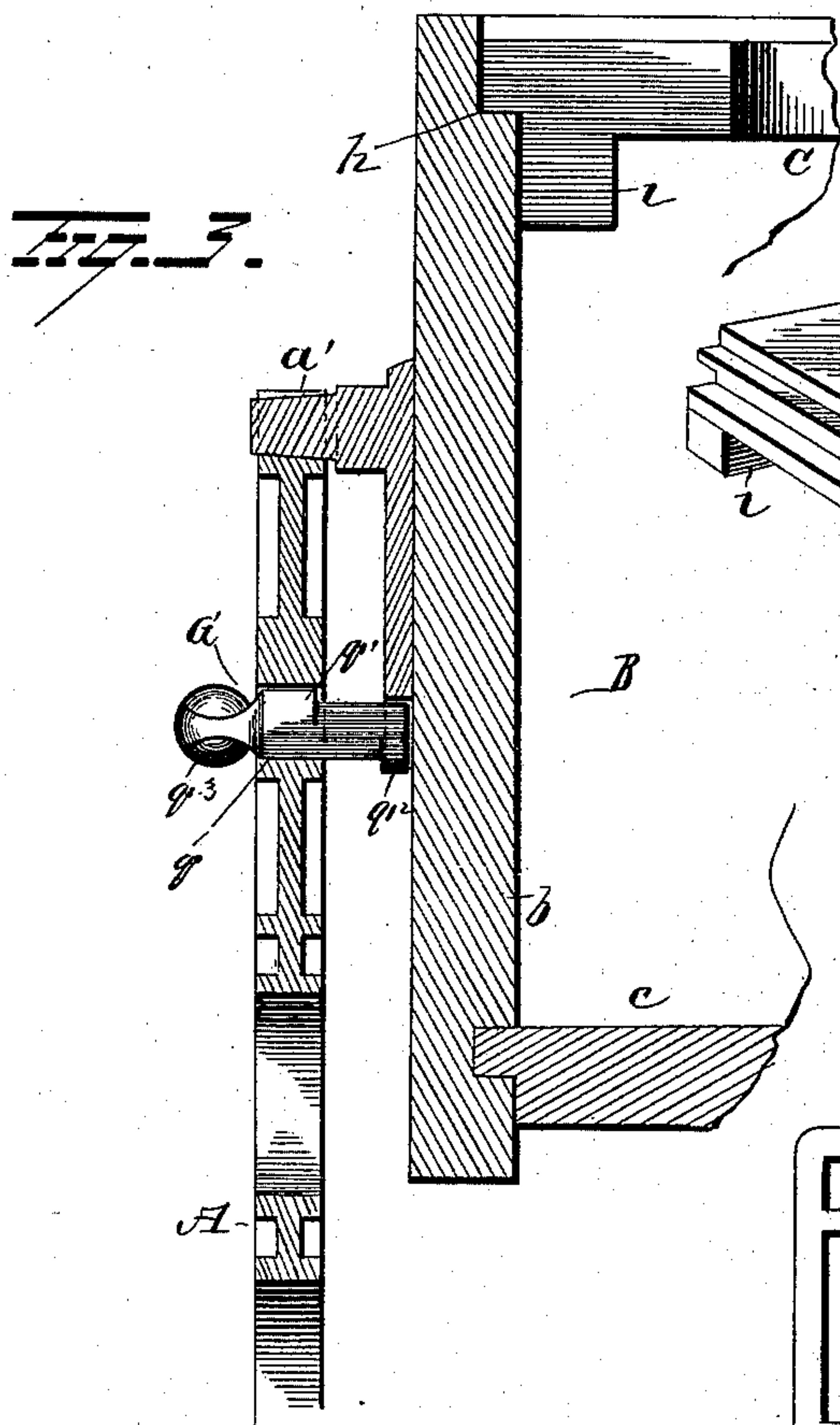
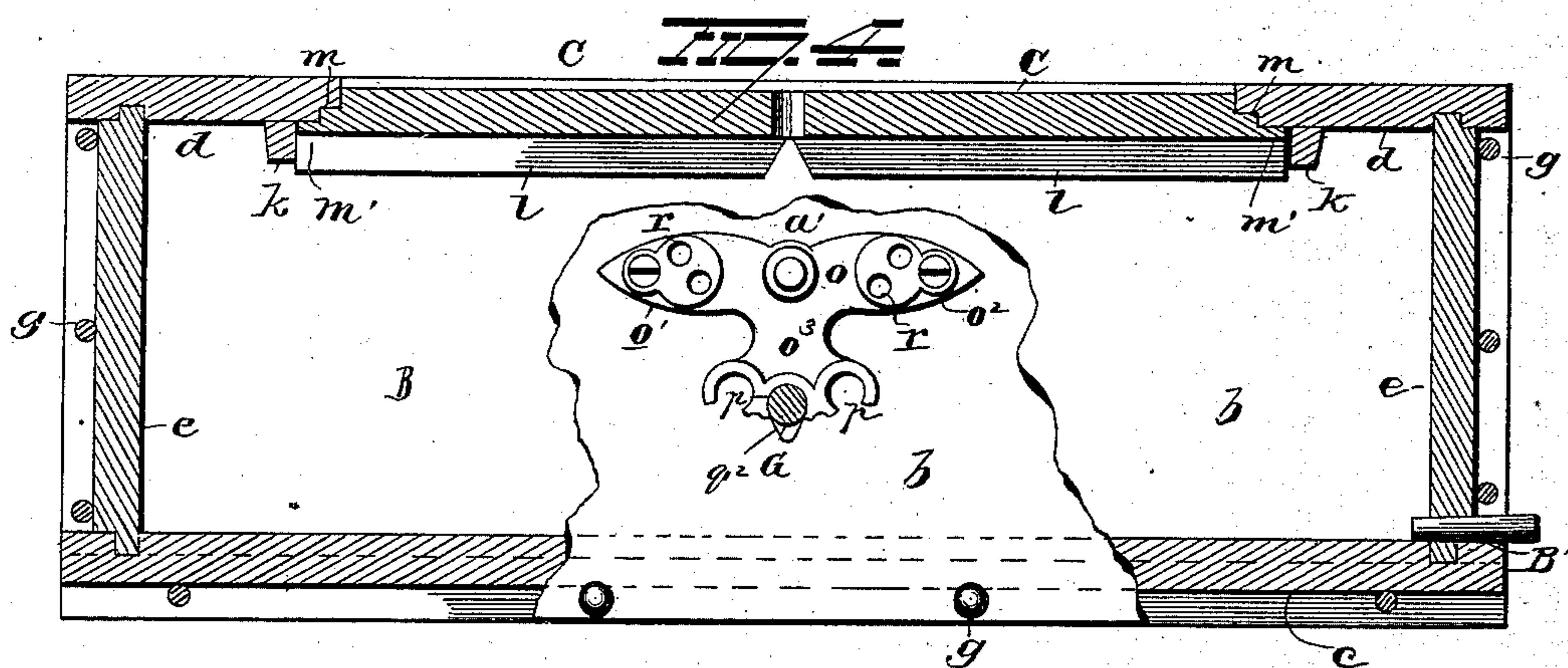
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2 Sheets—Sheet 2.

W. H. CURTICE.
CHURN.

No. 388,537.

Patented Aug. 28, 1888.



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UNITED STATES PATENT OFFICE.

WILLIAM H. CURTICE, OF LOUISVILLE, KENTUCKY.

CHURN.

SPECIFICATION forming part of Letters Patent No. 388,537, dated August 28, 1888.

Application filed March 27, 1888. Serial No. 268,654. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. CURTICE, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Churns; and I 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 appertains to make and use the same.

My invention relates to an improvement in churns, and particularly to such as are known as "working-body" churns.

This invention is designed as an improvement upon that for which Letters Patent were issued to J. N. Curtice, bearing date the 5th day of July, 1887, and numbered 366,157.

The object of my present invention is to provide a churn which shall be simple and cheap in construction and easy in operation.

A further object is to provide a lid for a churn which can be easily and quickly placed in position, and at the same time producing a neat fit to prevent the escape of cream during the operation of churning.

A further object is to furnish means whereby the churn-body may be retained at different angles.

A further object is to so construct the operating-treadles that they may be quickly and easily applied and adjusted to the device, and without the necessity of fastening devices.

A further object is to provide means whereby the oscillating movement of the churn may be varied.

With these objects in view my invention consists in certain novel features of construction and peculiar combinations and arrangements of parts, as will be hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved churn. Fig. 2 is a detached view of the treadle mechanism. Fig. 3 is a view of the locking-pin. Fig. 4 is longitudinal sectional view of the churn-body. Fig. 5 is a side edge view of one of the lids C.

A indicates a frame, preferably of metal, and comprising two uprights, *a*, connected at their bottoms, and upwardly-extending braces *a*². The uprights *a* are made A-shaped and bifurcated at their upper ends for the support of trunnions *a*¹ of a churn-body, B.

The churn-body is preferably made of wood and of oblong shape, comprising two side pieces, *b b*, bottom *c*, top *d d*, and end pieces, *e*, secured together, as shown. The bottom *c* is removed a short distance from the lower edges of the sides *b*, so that rods *g* may be secured to the sides *b* and extended across the bottom of the body B, to firmly unite the parts together. The end pieces, *e*, are likewise placed slightly inward from the extremities of the sides, and rods *g* are passed through the ends of said side piece to securely hold the ends of the box B in place. By thus uniting the sides and bottom of the body the joints of the same will be tight and escape of cream rendered impossible. The top of the box is preferably composed of two pieces, *d*, lids or covers C C being inserted between them. The sides *b b* are cut away at their upper edges to produce supporting-ledges *h*, upon which the top is placed, the two end pieces, *e e*, being rigidly secured between the sides *b* by means of screws or otherwise, rods *j* being preferably passed through the end pieces, *d*, and secured to the sides *b*. The inner edges of the pieces *d* are rabbeted, as shown in Fig. 4, battens *k* being secured between the sides of the box beneath the pieces *d*, immediately in rear of said rabbeted ends.

The lid C of the box is preferably made in two sections, of a width to enter and fit snugly between the sides of the box B, said lids being cut away along their side edges to form flanges *i*, adapted to rest upon the ledges *h*'. Battens *l* are preferably secured to the under side of the lids C, along their side edges, to stiffen said lids and prevent the same from warping. The outer ends of lids C are provided with double rabbets *m*, to fit into the rabbeted ends of the end pieces, *d*, the bottom flanges, *m'*, of the lids abutting against the battens *k* on said end pieces, as shown in Fig. 4. The outer ends of the flanges *i*, at opposite sides of each lid, are preferably rounded, so that when the lid is placed upon its seat small pieces of wood composing the lid will not break off and fall into the churn-body, as would likely occur were this portion of the flange *i* made square. Each lid C will preferably be cut away for a short distance along its inner edge to allow an inlet of air to the cream being churned to enhance the process of churning. The lids

will also be provided with knobs n , by which to apply them to and remove them from place. The body B will preferably be provided with an outlet, B', at one end and a plug or stopper 5 for closing the same, by which the buttermilk may be allowed to escape.

A handle, D, may be secured to the body B at one end, preferably near one of its side edges, by which to oscillate said body on its trunnions; but I prefer to cause such oscillatory motion by means of foot-treadles, in a manner presently explained.

A downwardly-extending rod, E, is secured at its upper end to the bottom of the churn-body, at the center of the latter, and carries at its lower extremity a weight, F, which, when the churn-body is oscillated, will aid such oscillation.

The trunnions a of the body B are preferably 20 cast integral with metallic plates o , secured to the sides b of the body B by means of screws or otherwise. The plate o , at one side of the body B, is provided with two laterally-projecting wings, o' o'' , and a downwardly-extending wing, o''' , having a series of open slots, p p p . 25 Made in an upright, a , of the frame is an oval perforation, q , in line with the slots p of the plate o successively. Inserted in this perforation is a pin, G, having lugs q' q'' projecting laterally from it in reverse directions at opposite ends. The pin or key G may also be 30 provided with a laterally-projecting knob or index, q^3 , for a purpose presently explained.

When the pin is inserted in the perforation q of the upright having its lug q' projecting upwardly and conforming to the shape of the perforation q , the free end of said pin will extend into one of the slots p of the plate o , and thus retain the box B in a rigid horizontal position, for the purpose of collecting and working the butter, or in an inclined position, for the purpose of draining the churn-body. When the churn is in operation, the pin G will be 40 withdrawn from the plate o , so as to disengage the lug q' from the oblong perforation in the upright, the knob q^3 being then turned up or down to prevent the accidental engagement of the pin with the plate o during the operation of churning.

50 The wings o' o'' are provided with a series of two or more perforations, r r , for the pivotal support of the upper ends of rods s s , these perforations being arranged in an oblique line, so that the upper ends of the rods s s may be located at different distances from the trunnions a' , for a purpose presently explained.

One of the braces a^2 of the frame A is provided at opposite sides, near its bottom, with trunnions t t , which are preferably formed integral with said brace and serve as bearings for two treadles, t' t' . At the base of each trunnion t , at opposite sides of the brace, are formed forwardly-extending ears u u . The treadles t' are provided at their upper ends, 65 near their inner edges, with perforated bosses u' u' , adapted to fit upon the trunnions t , upon which said treadles vibrate. These treadles

are preferably cast of suitable metal with open fretwork to secure lightness, and are provided at the upper extremities of their inner side 70 edges, immediately beneath the bosses u' , with recesses v v , into which ears u , at the base of the trunnions, are adapted to take and prevent the treadles from becoming accidentally displaced laterally. By this construction it 75 will be seen that the treadles may be readily placed in position on their trunnions easily and quickly by first elevating the lower end of the treadle, then slipping the perforated boss upon its trunnion until the ear u is in 80 alignment with the recess v , and then lowering the free end of the treadle to its proper position, when the ear u will enter said recess v . The treadles may be removed by a reverse operation. Thus it will be seen that the 85 treadles are placed in position and secured against accidental displacement without the use of separate fastening devices, which are apt to be lost. The treadles t' t' are provided at points between their ends with perforations 90 for the reception of the lower ends of the rods s s , which connect the treadles with the churn-body.

It will readily be seen that by operating the treadles t' an oscillatory motion will be imparted to the body B, and that such oscillation may be regulated by changing the positions of the upper ends of the rods s from one perforation r to another.

With a churn constructed as above described 100 butter can be churned quickly and easily and with but little labor on the part of the operator.

Having fully described my invention, what I claim as new, and desire to secure by Letters 105 Patent, is—

1. The combination, with standards and a churn-body journaled thereon, of a treadle, a pitman connecting the treadle and churn-body, and a pin constructed to pass through 110 an opening in one standard and engage the churn-body for locking the latter against movement, substantially as set forth.

2. The combination, with a frame and a churn-body mounted on said frame, of a plate 115 having a series of open slots secured to the churn-body, and a pin provided with laterally-projecting lugs adapted to be passed through an oval perforation in the frame and into one of the series of slots in the plate, substantially 120 as set forth.

3. The combination, with a frame and a churn-body, of plates secured to the sides of the churn-body, and carrying trunnions upon which said body oscillates, one of said plates 125 being provided with wings, treadles pivoted to the frame, rods pivotally connecting the treadles and plates, and a pin passing through a perforation in the frame and entering an open slot in said plate, substantially as set 130 forth.

4. The combination, with standards and a churn-body journaled thereon, the latter having a series of recesses on one side thereof, of

a treadle, a pitman connecting the treadle and churn-body, and a pin constructed to pass through one standard and enter one of the recesses in the churn-body, whereby the
5 latter can be locked in a horizontal or inclined position.

In testimony whereof I have signed this

specification in the presence of two subscribing witnesses.

WILLIAM H. CURTICE.

Witnesses:

CHAS. H. GORHAM,
J. L. SMITH.