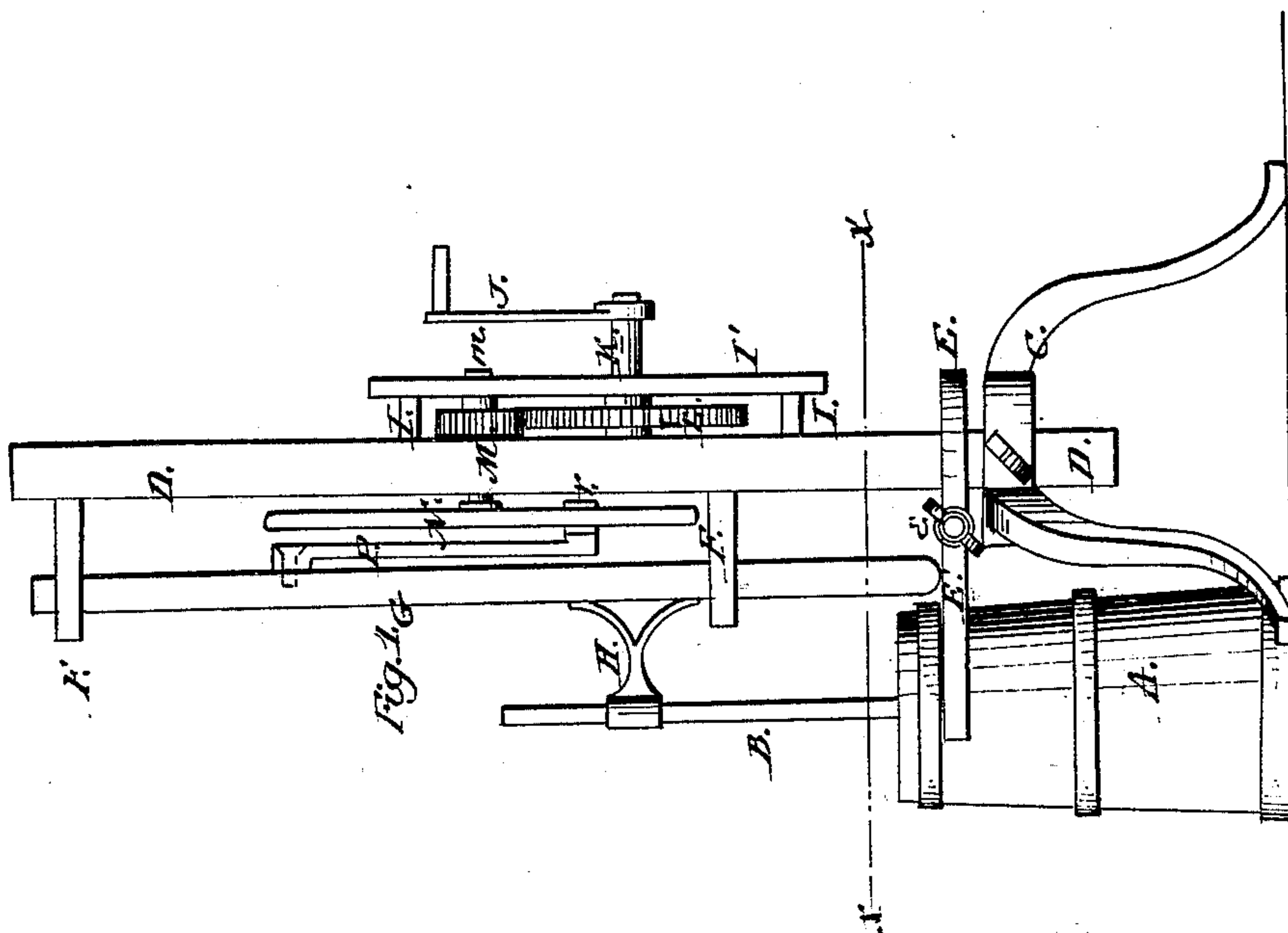
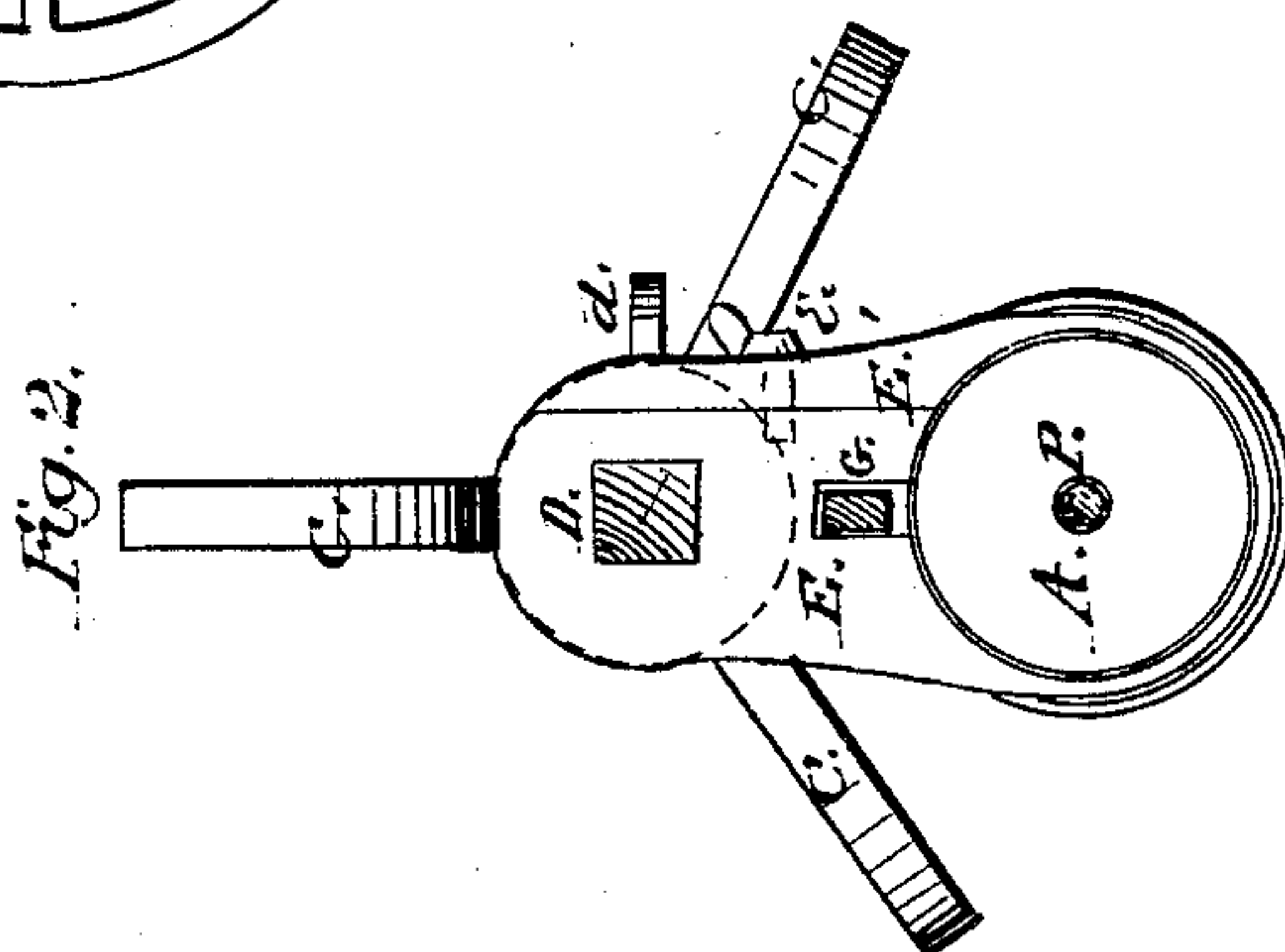
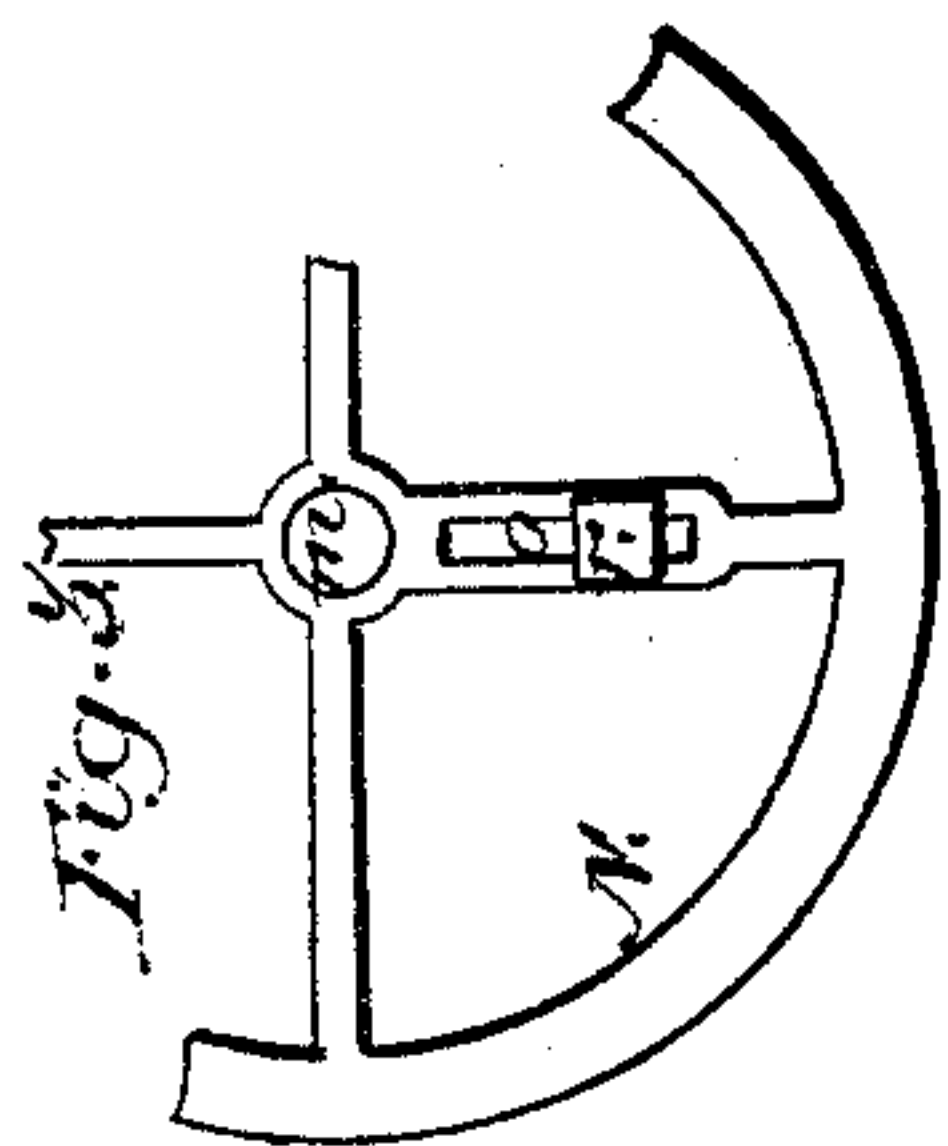


J. S. Huffman.

Churn.

N^o 90,544.

Patented May. 25, 1869.



Witnesses:
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United States Patent Office.

JAMES S. HUFFMAN, OF BROWNSBURG, VIRGINIA.

Letters Patent No. 90,544, dated May 25, 1869.

IMPROVEMENT IN CHURNS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, JAMES S. HUFFMAN, of Brownsburg, in the county of Rockbridge, and State of Virginia, have invented a new and useful Improvement in Churns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view.

Figure 2 is a horizontal section.

Figure 3 is a detached view of a segment of the fly-wheel.

This invention is a novel and convenient attachment for operating the common upright churn, so constructed as to be adjustable to the height of the operator, and to have the means for adjusting the stroke of the dasher, so that the latter can be operated with more or less power and velocity, and with different lengths of stroke. It can be used with any upright churn, new or old, without any change therein.

In the drawings—

A is the churn, and

B, the dasher-handle of a common upright churn.

C is a tripod, the feet of which may be provided with sharp brads, to prevent it from working out of position during the process of churning.

D is an adjustable staff, extending vertically through the top of the tripod, and capable of being fixed at different altitudes by means of the set-screw *d*.

E is a horizontal table or board, affixed to the staff D, above the tripod, and having its outer end adapted to fit to the side of the churn, as seen in figs. 1 and 2.

One side, E', of this table is a detachable piece, capable of being forced firmly against the edge of the outer piece, by means of a screw, *e*, so that the two parts of the table operate together as jaws, to receive and securely hold the churn during the operation.

The staff D is provided with two short horizontal arms F F on the side next to the churn, having slots which guide and support a vertically-reciprocating rod, G. The latter is provided with an arm, H, the end of which receives and holds the handle of the churn-dasher, which can be adjusted higher or lower by a set-screw, pins, and holes, or any other suitable device.

I I are two short horizontal arms affixed to the side of the staff D, opposite to the arms F F, and supporting an upright piece, I'.

J is a crank attached to a shaft, K.

L is a large gear-wheel on shaft K, gearing into and operating a small one, M, on a short shaft, *m*, above the two gear-wheels, operating in the vertical slot between the parts D I'.

N is a large fly-wheel, supported on the end of shaft *m*, and running in the space between the parts D G.

This fly-wheel is connected to the vibrating-rod G by means of a pitman, P, so that the motion of the crank J operates the churn-dasher.

The pitman P is attached to one arm or spoke of the fly-wheel by an adjusting-device, shown in fig. 3, and consisting of a radial slot, *o*, in the arm, and a movable wrist-pin, capable of being fixed in different positions, up and down the slot, by means of a screw-nut, *r*, on one end, and head on the other.

The device thus constructed is specially designed for convenience of operation, it being so made as to be adjustable as follows:

First, by raising or lowering the staff D, it accommodates itself to persons of different heights.

Secondly, by adjusting the dasher up and down in the socket H, it can be made to operate at the bottom of the churn, or near the surface of the milk therein, as may be desired.

Thirdly, by adjusting the wrist-pin *r* in the slot *o*, the churn may be made to operate more or less easily, according to the strength of the operator.

Fourthly, by the means last mentioned, the length of stroke can also be adjusted to the quantity of milk in the churn, so that, while the dasher operates throughout the whole depth of the milk, it will not rise above the surface thereof at any part of the stroke, and thus waste a portion of the power applied.

The clamping-table E E' is a very convenient device, easily and quickly operated, not liable to get out of order, cheap in construction, and very serviceable in holding the churn steadily, so that the dasher-staff shall vibrate in a line with its vertical axis, whereby the hole in the cover may be made to fit the staff more tightly, so that the milk shall not spatter therefrom.

Having thus described my invention,

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

1. In a churning-apparatus, having the upright shaft D and crank J with which to operate the dasher B, making the staff vertically adjustable in a stand, C, by means of the set-screw *d*, or its equivalent, substantially as and for the purpose specified.

2. The combination of the parts E E' *e*, when constructed with a recess to fit around the side of the churn, and adapted to receive and hold the latter, in manner and for the purpose substantially as described.

To the above specification of my improvement, I have set my hand, this 5th day of February, 1869.

J. S. HUFFMAN.

Witnesses:

CHAS. A. PETTIT,
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