

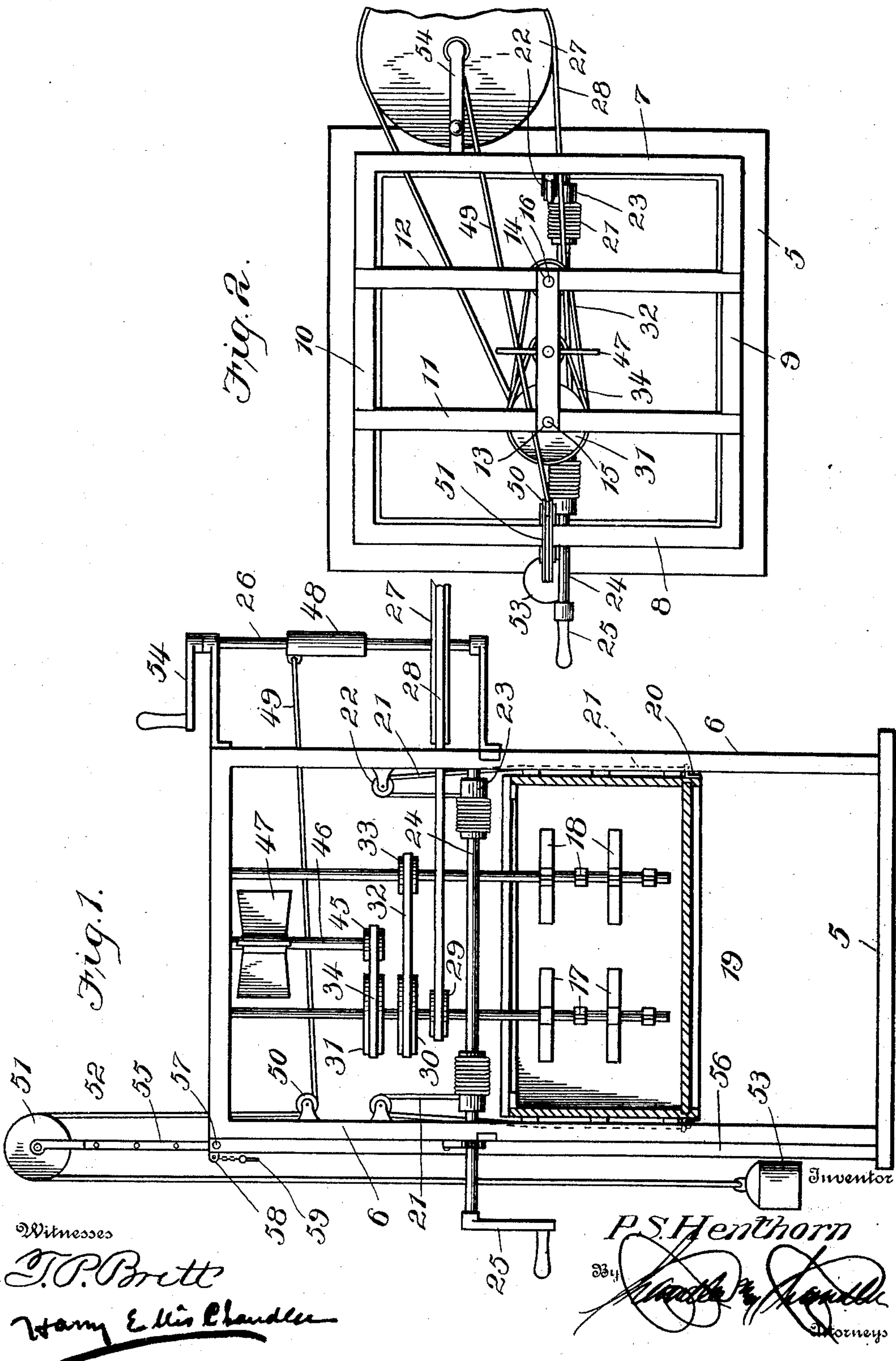
No. 711,106.

Patented Oct. 14, 1902.

P. S. HENTHORN.  
CHURN.

(Application filed Aug. 15, 1901.)

(No Model.)





# UNITED STATES PATENT OFFICE.

PHILIP S. HENTHORN, OF NEWARK, WEST VIRGINIA.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 711,106, dated October 14, 1902.

Application filed August 15, 1901. Serial No. 72,172. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP S. HENTHORN, a citizen of the United States, residing at Newark, in the county of Wirt, State of West Virginia, 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.

This invention relates to churns; and it has for its object to provide a simple and efficient construction of churn and operating mechanism therefor, a further object of the invention being to provide a construction of operating mechanism that may be easily and quickly wound up and will then operate to rotate the dashers.

Other objects and advantages of the invention will be understood from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is an elevation of the complete mechanism. Fig. 2 is a top plan view.

Referring now to the drawings, the present apparatus consists of a base 5, upon which are mounted uprights 6, four in number, and which are connected at the front side of the base by cross-pieces 7 and at the back by other cross-pieces 8, the uprights being also connected at the ends of the base by the cross-pieces 9 and 10, respectively. Connecting the end cross-pieces are the two longitudinal beams 11 and 12, having pairs of alining bearings 13 and 14, which receive dasher-shafts 15 and 16, which are provided at their lower portions with the transverse blades 17 and 18, respectively.

The body 19 of the churn is rectangular and at its bottom is provided with hooks 20, with which are engaged cords 21, which are taken upwardly and over pulleys 22 and then downwardly, where they are attached to drums 23 on a shaft 24, journaled in the end cross-pieces, and provided with an operating-crank 25, whereby the shaft may be rotated to wind up the cords and raise the churn-body to a sufficient height to receive the dashers therein. The churn-body is square and has a two-part lid, in the mutually-adjacent edges of

which are recesses which coöperate to form openings through which the dasher-shafts work when the lids are down. The dashers are rotated, and by reason of the angular shape of the churn-body the contents do not have a regular swirling movement, but instead are thrown against the sides of the body, with the result that the churning operation is much shortened. To rotate the dasher-shafts, a power-shaft 26 is provided and has a power belt-wheel 27, with which is engaged a belt 28, which leads to a wheel 29 on one of the dasher-shafts, said dasher-shaft having two other belt-wheels 30 and 31 thereon. With the belt-wheel 30 is engaged a belt 32, leading to wheel 33 on the second dasher-shaft, while from the wheel 31 leads a belt 34 to a wheel 45 on a shaft 46, which carries a governor-fan 47. Thus when the power-shaft is rotated the two dasher-shafts are rotated, the speed being held practically constant by the action of the governor-fan. To rotate the power-shaft, it is provided with a drum 48, to which is attached a cord or cable 49, which is taken transversely of the mechanism and under a pulley 50, then upwardly and over a pulley 51 at the top of a mast 52, and finally downwardly, where it is connected to a weight 53. The power-shaft is provided with a crank 54, whereby it may be rotated to wind up the cable on the drum, and when the shaft is released the weight acts to rotate the drum and therewith the shaft, as will be understood. The mast consists of two sections—an upper section 55 and a lower section 56—which are telescopically connected, so that the pulley at the upper end thereof may be raised to different heights, and to hold the parts in their adjusted positions they are provided with perforations which are adapted to aline and when alined to receive a locking-pin 57 to hold the sections from sliding one into the other. The upper section may therefore be raised to the desired degree and held in raised position. To permit of folding of the mast down upon the frame of the churn when not in use, the lower end of the lower section of the mast is pivoted between upwardly-projecting ears 58 on the frame of the churn, so that it may be swung downwardly into horizontal position, and when in vertical position it is held in



such position by a latch, which may be in the form of a pin 59, passed through alining perforations in the ears and mast. It will be noted that with this construction the weight 5 may be wound up and the churn then left to operate alone, the height of the mast being regulated to permit of raising of the weight a sufficient height to insure churning at a single operation of the weight.

10 In practice modifications of the specific construction and arrangement shown may be made, and any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention. 15

What is claimed is—

A motor for churns comprising a frame having vertical dasher-shafts mounted therein and provided with belt-pulleys, a power-shaft 20 having a belt-pulley, a belt connecting the

pulley of the power-shaft with a pulley of a dasher-shaft, a belt connecting a second pulley of said dasher-shaft and the pulley of the second dasher-shaft, the connected pulleys of the two dasher-shafts being of different diameters to rotate them at different speeds, a governor-fan having a shaft provided with a belt-pulley, a belt connecting the pulley of the fan-shaft and a pulley of a dasher-shaft, an extensible mast having a pulley at its upper end, a winding-drum on the power-shaft, 25 and a cable wound upon the drum and passed over the pulley of the mast and having a weight at its free end. 30

In testimony whereof I affix my signature in presence of two witnesses. 35

PHILIP S. HENTHORN.

Witnesses:

W. A. FERREL,  
HENRY DRUM.