(No Model.)

J. H. HOUSE.

CHURN MOTOR.

No. 464,874. Patented Dec. 8, 1891.

FIG_1_

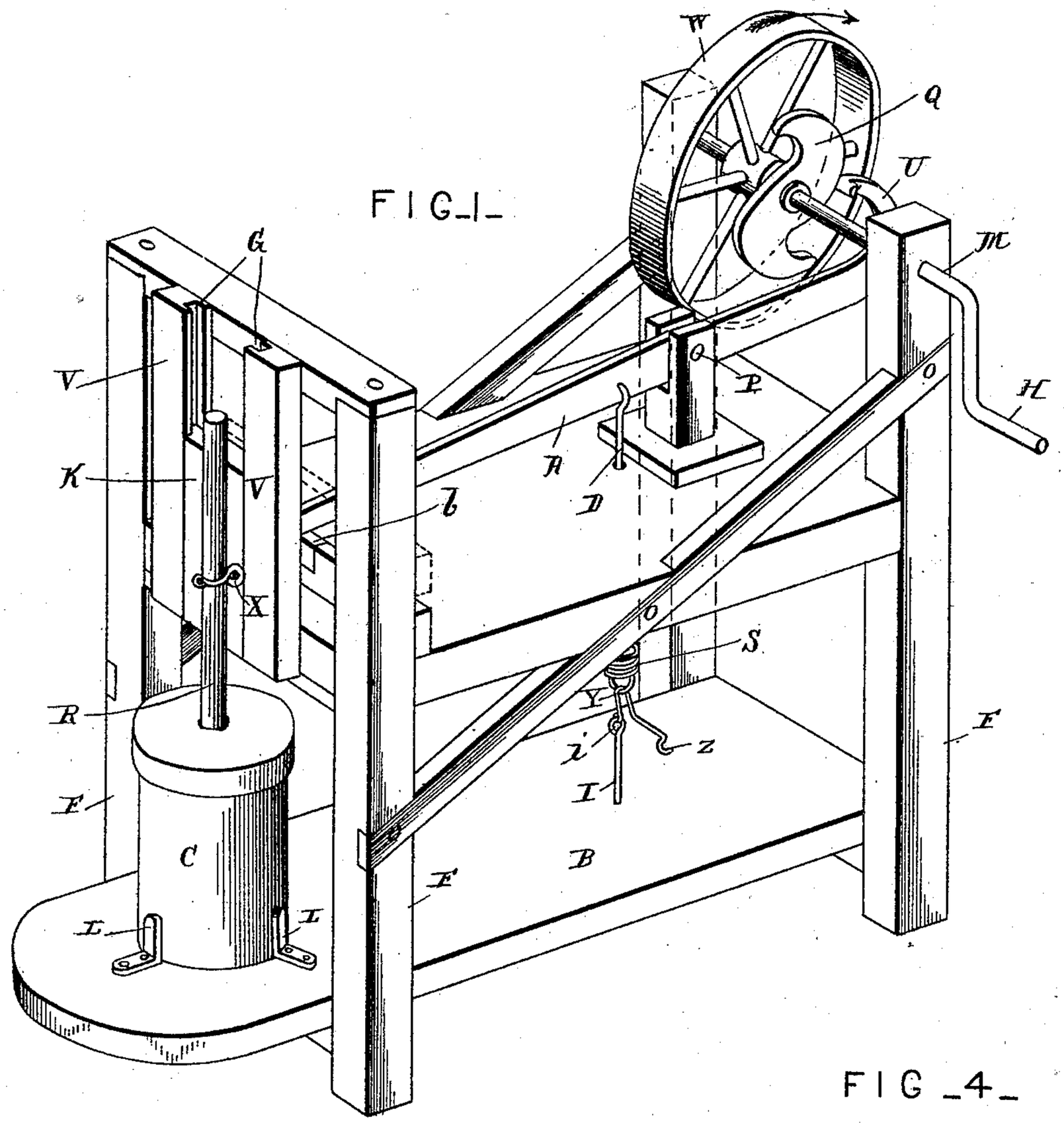


FIG_4_

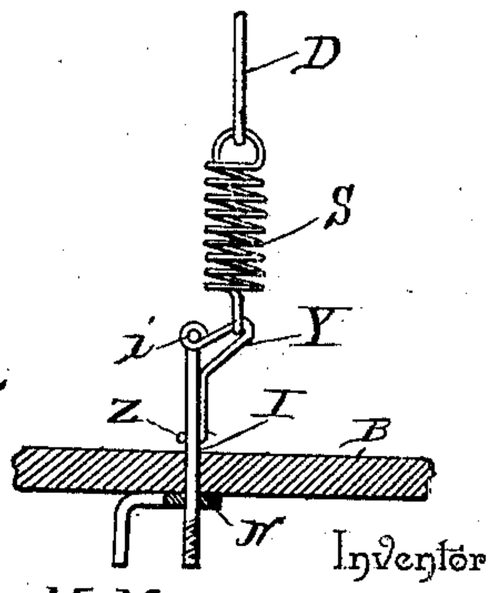


FIG_2_

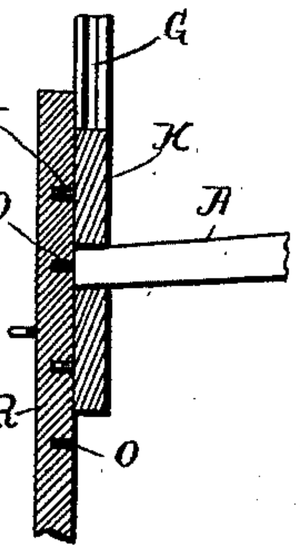
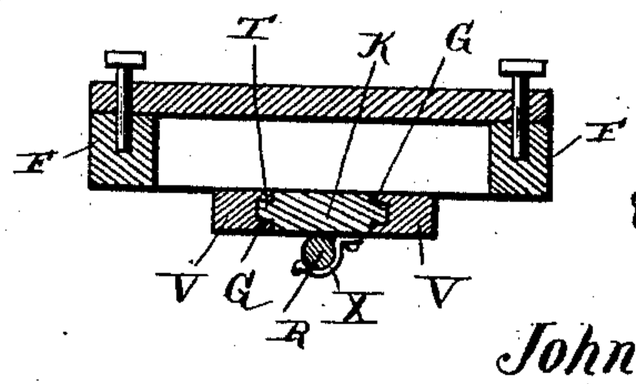


FIG_3_



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN H. HOUSE, OF WILTON, NORTH CAROLINA.

CHURN-MOTOR.

SPECIFICATION forming part of Letters Patent No. 464,874, dated December 8, 1891.

Application filed April 1, 1891. Serial No. 387,240. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. HOUSE, a citizen of the United States, residing at Wilton, in the county of Granville and State of North Carolina, have invented a new and useful Churn-Motor, of which the following is a specification.

This invention relates to motors adapted more especially for use in the act of churning and for analogous purposes; and the object of the same is to produce certain improvements in devices of this character.

To this end the invention consists of the details of construction hereinafter more fully described and claimed, and as illustrated on the accompanying sheet of drawings, wherein—

Figure 1 is a general perspective view of this device. Fig. 2 is a central vertical section through the sliding block. Fig. 3 is a cross-section thereof, showing the fastening for the churn-dasher. Fig. 4 is a section showing the means for fastening and adjusting the tension of the spring.

Referring to said drawings, the letter F designates a suitable frame-work, preferably having a base B, which in the present instance carries L-shaped feet L, between which is removably located the body of a churn C, although it will be understood that any other device or machinery which may require a pounding action or the vertical movement of a rod R (here the dasher-staff) may set upon the base.

The letter M designates the main shaft, which is journaled horizontally in the frame-work and preferably has a crank-handle H, although it may be operated by power applied to a pulley in the well-known manner. This pulley may take the place of a handle, or it may be a wheel W, (here shown,) although I prefer this wheel to serve as a fly-wheel, for which purpose it is made rather heavy. The main shaft also carries a peculiarly-shaped cam Q—that is to say, it is approximately in the form of an ogee curve or a letter **S** with its center widened and keyed upon the shaft.

Mounted upon a pivot P through a portion of the frame-work is an arm A, whose inner end extends beneath the shaft M, and is turned up at U, where it is adapted to be struck by the faces of the cam Q when the latter is turned in the direction of the arrow. These faces are of such shape that when they strike this end they will have a tendency to force it to the rear, which, being resisted by the pivot P, the result will be that this end of the arm will be considerably depressed. The other end of the arm passes between two vertical strips V, carried by the frame-work, and which have longitudinal grooves G on their opposing inner faces. Between these strips moves a block K, having tongues T, which loosely engage said grooves, and the end of the arm A is loosely seated in a hole in this block. The outer face of the block is provided with one or more outwardly-projecting pins J, and the rod R has a number of holes O of a size adapted to fit over these pins, as shown in Fig. 2.

X is a small clamping-arm pivoted at one end to the outer face of the block K and having its outer bent end adapted to be turned over against the rod R to hold the holes O thereof in engagement with the pins J. When it is desired to disconnect the rod, (in the present instance to remove the churn or to gain access thereto,) the arm X is turned down and the rod drawn outwardly off the pins J, as will be understood.

The letter D designates a rod attached to and depending from the arm A just forward of its pivot P, and this rod passes through the frame-work and is connected to a strong contractile spring S, as best seen in Fig. 4.

The letter I designates a rod, which passes through the base B, and has an eye *i* in its upper end, while upon its lower threaded end beneath the base is screwed a hand-nut N. Into said eye *i* is hooked a fastener Y of wire, whose body is bent, as shown, so as to embrace the lower coil of the spring S, and whose free end is provided with a small hook Z, adapted to be engaged around the rod I, as shown in Fig. 4, to prevent the disconnection of this fastener with the spring. When it is desired, however, to disconnect these parts, the hook Z is removed from the rod, as seen in Fig. 1, and the lower coil of the spring S is moved off the same. The nut N is obviously for the purpose of adjusting the tension of the spring.

In operation, rotary power being applied to the shaft M, the cam Q strikes the upturned end U of the arm A and depresses the same,

causing the arm to rock on its pivot P, expanding the spring S and lifting the block K. When the tip of the cam frees the end U, the spring S quickly and forcibly returns the arm A to its original position, where, if desired, it may strike a small buffer *b*, supported by the frame-work, to prevent too great a shock, and the rod R will be driven forcibly and suddenly downward. This I have found very effective in churning, although the rod R might be a hammer or might operate a clothes-washer or many other devices where this pounding action is desirable. The force of the blow can be adjusted by turning the nut N, and if a very light blow be desired the spring S may be entirely disconnected, when the weight of the block K will be alone brought into use.

Various changes in the details of construction may be made without departing from the spirit of my invention.

What is claimed as new is—

In a motor, the combination, with an arm mounted on a pivot and means for oscillating the arm, a rod depending from said arm, and a spring connected to said rod, of a threaded rod passing through the frame-work and having an eye at its upper end, a hand-nut on the threads below the frame-work, and a bent-wire fastener connected to said eye detachably engaging the lower coil of the spring and having a hook at its free end adapted to engage the body of said threaded rod, as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN H. HOUSE.

Witnesses:
C. J. WARD,
C. D. OSBORN.