(No Model.)

W. L. WRIGHT & W. H. STRACENER.

CHURN.

No. 575,581. Patented Jan. 19, 1897.

Fig. 2.

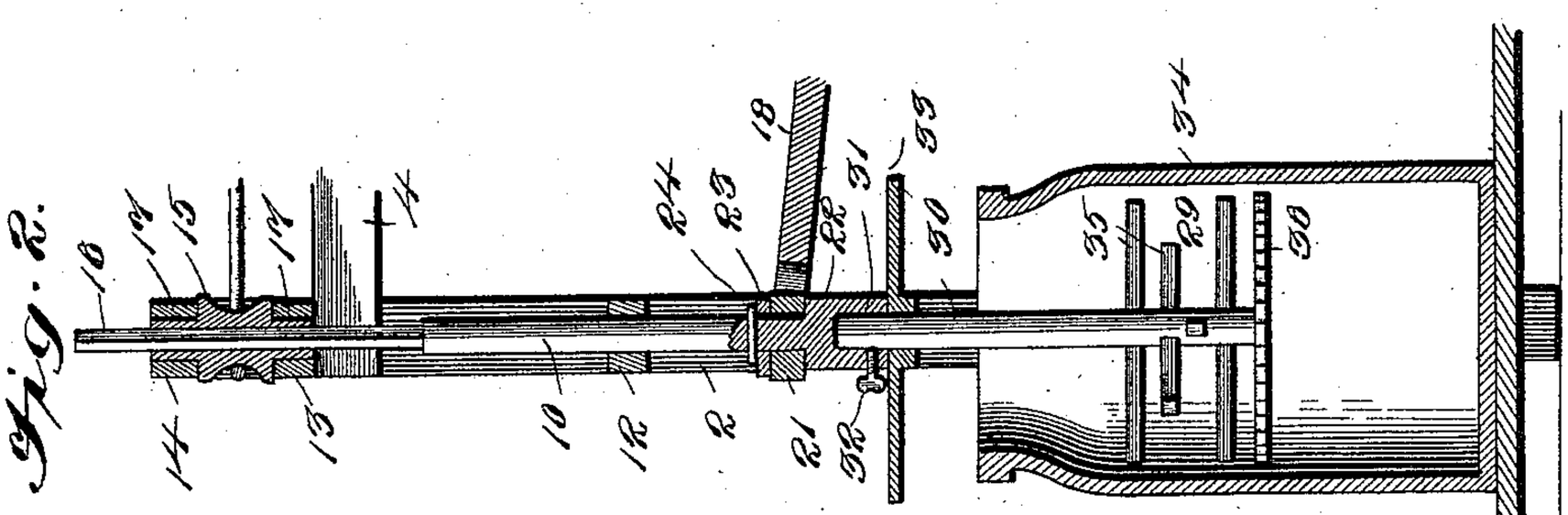
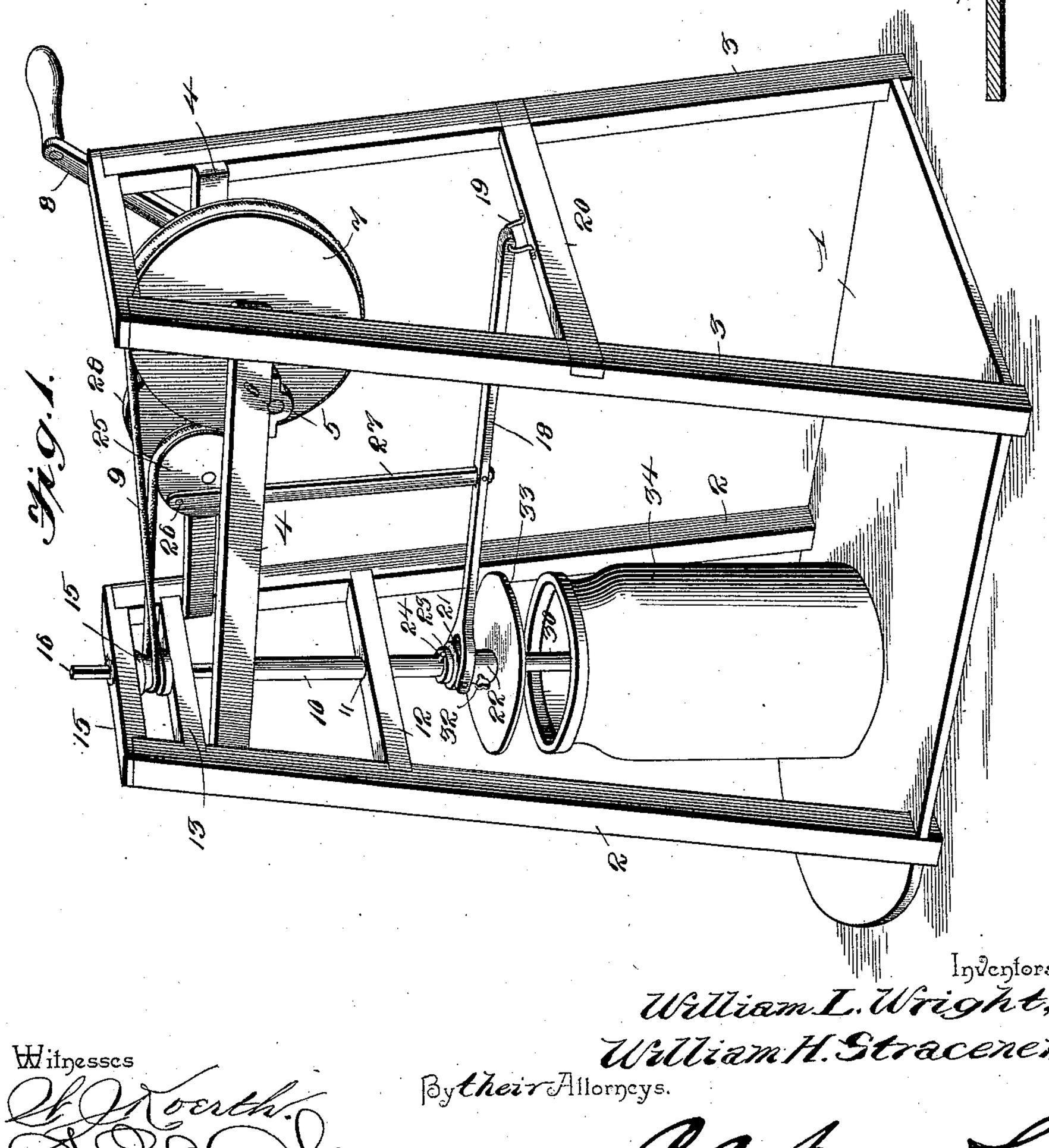


Fig. 1.



Witnesses

E. Koerth.

C. E. Foyle

Inventors

William L. Wright,

William H. Stracener,

By their Attorneys.

Cushman & Co.

UNITED STATES PATENT OFFICE.

WILLIAM L. WRIGHT AND WILLIAM H. STRACENER, OF BETTIES, TEXAS.

CHURN.

SPECIFICATION forming part of Letters Patent No. 575,581, dated January 19, 1897.

Application filed August 12, 1896. Serial No. 602,562. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM L. WRIGHT and WILLIAM H. STRACENER, citizens of the United States, residing at Betties, in the county of Upshur and State of Texas, have invented a new and useful Churn, of which the following is a specification.

Our invention relates to churns, and particularly to dasher-operating mechanisms, the object in view being to provide simple and efficient means for imparting a combined rotary and reciprocatory movement to a churn-dasher to hasten the separation of the butter.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a perspective view of a churn constructed in accordance with our invention. Fig. 2 is a partial vertical section of the same.

Similar numerals of reference indicate corresponding parts in both figures of the drawings.

1 designates a base from which rise front and rear standards 2 and 3, connected at their upper ends by longitudinal bars 4, which support bearings 5 for a driving-shaft 6. A driving-pulley 7 is secured to said shaft, which is adapted to receive motion through a crank-arm 8, and motion is communicated from the driving-pulley through a belt 9 to operate a dasher-staff 10. The dasher-staff is arranged in a vertical position and is mounted for reciprocation in alined guides 11, formed in transverse braces 12 and 13, connecting the front standards. Mounted between the upper cross-brace 13 and a subjacent bar 14 is a guide-pulley 15, having an angular bore for the reception of the angular portion 16 of the dasher-staff, said pulley having an extended hub 17, which is fitted in the bearings in the cross-bars 13 and 14.

From the above description it will be seen that rotary motion is communicated to the dasher-staff by means of the pulley 15 without interfering with the vertical reciprocation of the staff, and in order to impart reciprocatory movement to the latter we employ an oscillatory arm 18, fulcrumed at its rear end upon a bracket 19, supported by a rear brace 20 and bifurcated at its front end for attachment to a sleeve 21, which is fitted upon the dasher-staff between contiguous spaced collars 22 and 23. The lower collar 22 is fixed, while the upper collar 23 is movable and is normally held in operative relation with the sleeve 21 by means of a pin 24, the bifurcated extremity of the oscillatory arm being pivotally connected to the sleeve to allow vertical reciprocation of the dasher-staff without twisting the same.

Motion is communicated to the oscillatory arm by means of an intermediate belt-wheel 25, traversed by one side of the belt and having a wrist-pin 26, which is connected by a pitman 27 with an intermediate point of the lever.

The rotation of the driving-shaft communicates simultaneous rotary motion to the pulleys 15 and 25, which are respectively mounted upon vertical and horizontal axes, the latter having a balance-wheel 28 attached to its spindle, and while the pulley 15 communicates rotary motion to the dasher-staff the pulley 25, operating through the pitman 27 and the oscillatory lever 18, reciprocates the dasher-staff axially with relation to the pulley 15, and thus imparts a double motion to the dasher 29, attached to said staff. The stem 30 of said dasher is secured in the socket 31 in the lower end of the dasher-staff by means of a set-screw 32, and a guard 33 is attached to the lower end of the dasher-staff for operation contiguous to the plane of the top of the receptacle 34 to exclude dirt and insects.

The upper side of the belt-wheel 25 is arranged approximately in the plane of the driven or guide pulley 15, and as the lower side of the belt passes from the under side of the driving-wheel 7 over the belt-wheel 25 it is brought approximately into the plane of the upper side of the belt, whereby both sides of the belt are arranged contiguous to the driven pulley 15 in the same plane therewith to avoid twisting and displacement incident to the arrangement of the sides of the belt in different planes.

The dasher which we prefer to employ in connection with the mechanism above described is provided with radial agitating-arms 35 and a horizontal disk 36, suitably perfo-

rated to allow the liquid contents of the receptacle to pass therethrough during the vertical movements of the dasher. The arms of the dasher are preferably beveled upon their operative faces to deflect the contents of the receptacle.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described our invention, what we claim is—

The combination with a supporting-frame provided with vertical guides, and a dasher-staff mounted for rotary and reciprocatory movement in said guides, of a driven pulley arranged coaxially with the dasher-staff and held from vertical movement, the same being provided with an angular bore through which a contiguous angular portion of the dasher-staff extends, a driven pulley having a horizontal axis, a belt-wheel having a horizontal axis arranged between the driving and driven pulleys with its upper side approximately in the plane of the driven pulley, a belt connecting the driving and driven pulleys and having its lower side carried over the intermediate belt-wheel, to arrange both sides of the belt contiguous to the driven pulley in the plane of the latter, an oscillatory arm fulcrumed at one end upon the frame and having a swiveled connection at the other end with the dasher-staff, and a pitman connecting the belt-wheel with said arm, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM L. WRIGHT.
WILLIAM H. STRACENER.

Witnesses:
W. A. PETTY,
T. F. HICKMAN.