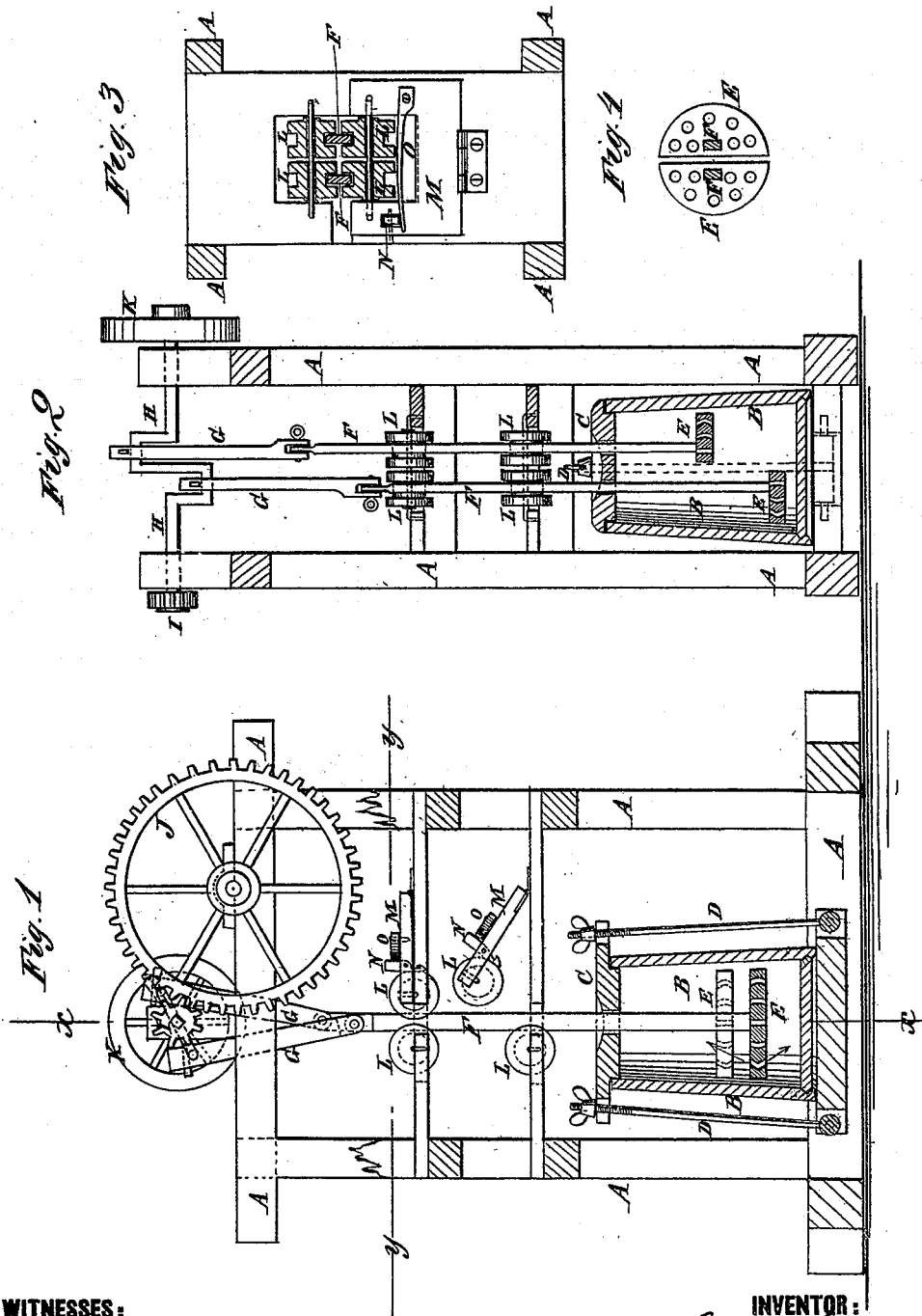


G. W. KNAPP.

CHURN.

No. 187,285.

Patented Feb. 13, 1877.



WITNESSES:

H. W. Amos
John Goethals

INVENTOR:

G. W. Knapp
BY *Wm. H. ...*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE W. KNAPP, OF ARBUCKLE, WEST VIRGINIA.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. 187,285, dated February 13, 1877; application filed September 30, 1876.

To all whom it may concern:

Be it known that I, GEORGE W. KNAPP, of Arbuckle, in the county of Mason and State of West Virginia, have invented a new and Improved Churn, of which the following is a specification:

In the accompanying drawing, Figure 1 is a side elevation, with a portion cut away to show the internal construction. Fig. 2 is a vertical section on line X X in Fig. 1. Fig. 3 is a horizontal section on line Y Y in Fig. 1; and Fig. 4 is a detail view of the dasher of my improved churn.

Similar letters of reference indicate corresponding parts.

The invention will first be described in connection with the drawing, and then pointed out in the claim.

In the drawing, A is the main frame of the driving mechanism, which is provided with a cross-piece at the bottom, upon which the churn B rests. The cover C of the churn has formed upon two of its sides slotted ears for receiving swing-bolts D, that are hinged in the cross-piece supporting the churn. E E are semicircular dashers provided with holes that are bored diagonally from each side to the center in such a way that they direct the cream passing through the holes toward the center of the churn. Dasher-rods F are fixed to the dashers E, and connected to cranks diametrically arranged on the shaft H by connecting-rods G. I is a spur-pinion fixed on the shaft H, and taking its motion from the wheel J, which is turned by hand or any convenient power. K is a fly-wheel on the shaft H. L L are grooved friction-rollers, between

which the dasher-rods F are guided. These rollers, at one side of the dasher-rod, are supported by a hinged frame, M, by which they may be thrown back out of the way when the dashers are to be removed from the churn.

When the frame M is closed down on the cross-piece that supports it, a catch, N, is caused by the spring O to engage with a pin in the cross-piece.

The dashers are removed from the churn by taking out the pins that connect the rods G to the rods F, and loosening the swing-bolt D and throwing back the rollers L and frames M, and removing the dashers and cover together by taking the dasher-rods through slits in the side of the cross-bars of the frame, cream is introduced and the parts replaced. Motion is given to the wheel J, when the dashers are alternately moved up and down.

The peculiar formation of the holes in the dashers throws the cream together toward the center of the churn as the dashers move up or down. The rollers L L relieve the friction of the rods F, and the cranks, being oppositely arranged, permit the parts to balance themselves.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the rod F, hinged frames M, rollers L, catch N, spring O, and cross-bar of the frame A, substantially as herein set forth.

GEORGE WILLIAM KNAPP.

Witnesses:

EDWARD H. S. WHITEHEAD,
DARIUS BEARD.