T. BORCHER.
EGG-BEATERS.

No. 195,695. Patented Oct. 2, 1877.

FIG. 1

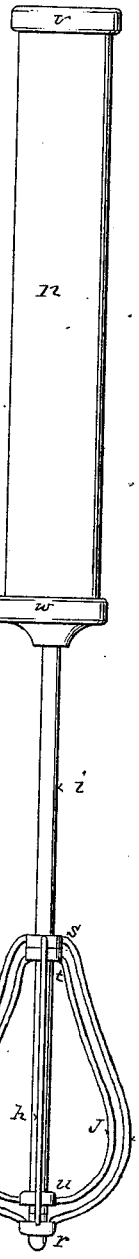


FIG. 2

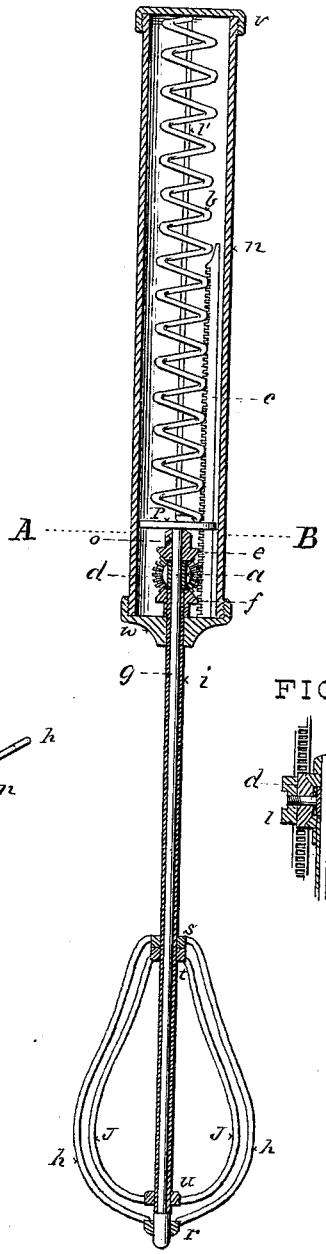


FIG. 3

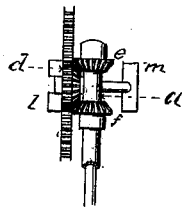


FIG. 4

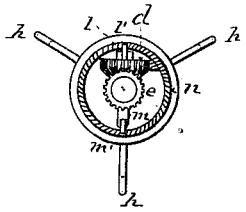
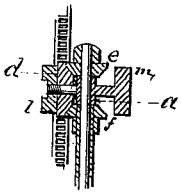


FIG. 5



WITNESSES

Witnesses Frazee

Chas Windsor Briggs.

INVENTOR

Thomas Borcher

per atty John H. Pitts

UNITED STATES PATENT OFFICE.

THOMAS BORCHER, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN EGG-BEATERS.

Specification forming part of Letters Patent No. **195,695**, dated October 2, 1877; application filed June 11, 1877.

To all whom it may concern:

Be it known that I, THOMAS BORCHER, of the city and county of San Francisco, and State of California, have invented certain Improvements in Egg-Beaters, of which the following is a specification:

My invention consists of an egg-beater with two beaters revolving reversely, and provided with a tubular handle, within which is placed the whole mechanism, consisting principally of a rack, a combined spur and bevel wheel, and two reverse-moving pinions, the whole actuated reciprocally by a spiral spring.

Figure 1 is an elevation of my device. Fig. 2 is a longitudinal section. Fig. 3 is a view of the mechanism as seen in the directions A B. Fig. 4 is a transverse section through A B. Fig. 5 is a section of the mechanism, bisecting the short sleeve *a*. The teeth in the rack are here shown sunk in the faces to avoid contact with the spiral spring *b*.

The mechanism of my device consists of a rack, *c*, which actuates a combined spur and bevel wheel, *d*, which, in its turn, actuates reversely two beveled pinions, *e* and *f*. The pinion *e* is fixed to a spindle, *g*, to which is attached the outer beater *h*, and serves to revolve it in one direction, while the pinion *f*, fixed to the covering-tube *i*, to which the inner beater J is attached, revolves the latter beater in a contrary direction. A sleeve, *a*, moving only in the direction of its axis, encircles the spindle between the pinions, and is held in position by two guides, *l* and *m*, which traverse respectively the grooves *l'* and *m'*, cut within the handle *n*, and serves to maintain the spindle in a central position, and also assists in maintaining the pinions in place. The combined spur and bevel wheel *d* revolves on a journal either fixed to or forming a part of the sleeve *a*, and is retained in its place by means of a nut formed in the guide *l*. The head *o* of the spindle is rounded and turns against a plate, P, which is attached only to the spiral spring *b*, and the foot *r* is enlarged and rounded at its end, and attached to the outer beater *h*. There is a collar, *s*, at the upper portion of the beater *h*, which moves freely around the tube *i*. The inner beater *j* is attached to the tube *i* by the collars *t* and *u*.

The mechanism is operated by placing the foot of the spindle against a suitable surface and pushing the handle toward it, and by a reverse motion the operation is reciprocated by means of the spiral spring. The device may be formed of any suitable materials. The handle may, in some cases, be formed of two thicknesses of tin, in which case the grooves *l'* and *m'* should be stamped in the inner thickness.

The caps *v* and *w* may be either screwed or soldered on.

I disclaim as my invention the tubular handle *n*, the spindle *g*, the covering-tube *i*, and the beaters *h* and *j*; but

I claim as my invention—

The rack *c*, the combined spur and bevel wheel *d*, the pinions *e* and *f*, the sleeve *a*, and the guides *l* and *m*, in combination with the grooves *l'* and *m'*, the spiral spring *b*, and the beaters *h* and *j*, substantially as set forth.

THOMAS BORCHER.

Witnesses:
JOHN HILLEBRANDT,
FERDINAND TUCHS.