

(No Model.)

W. SIAR.
CHURN.

No. 314,399.

Patented Mar. 24, 1885.

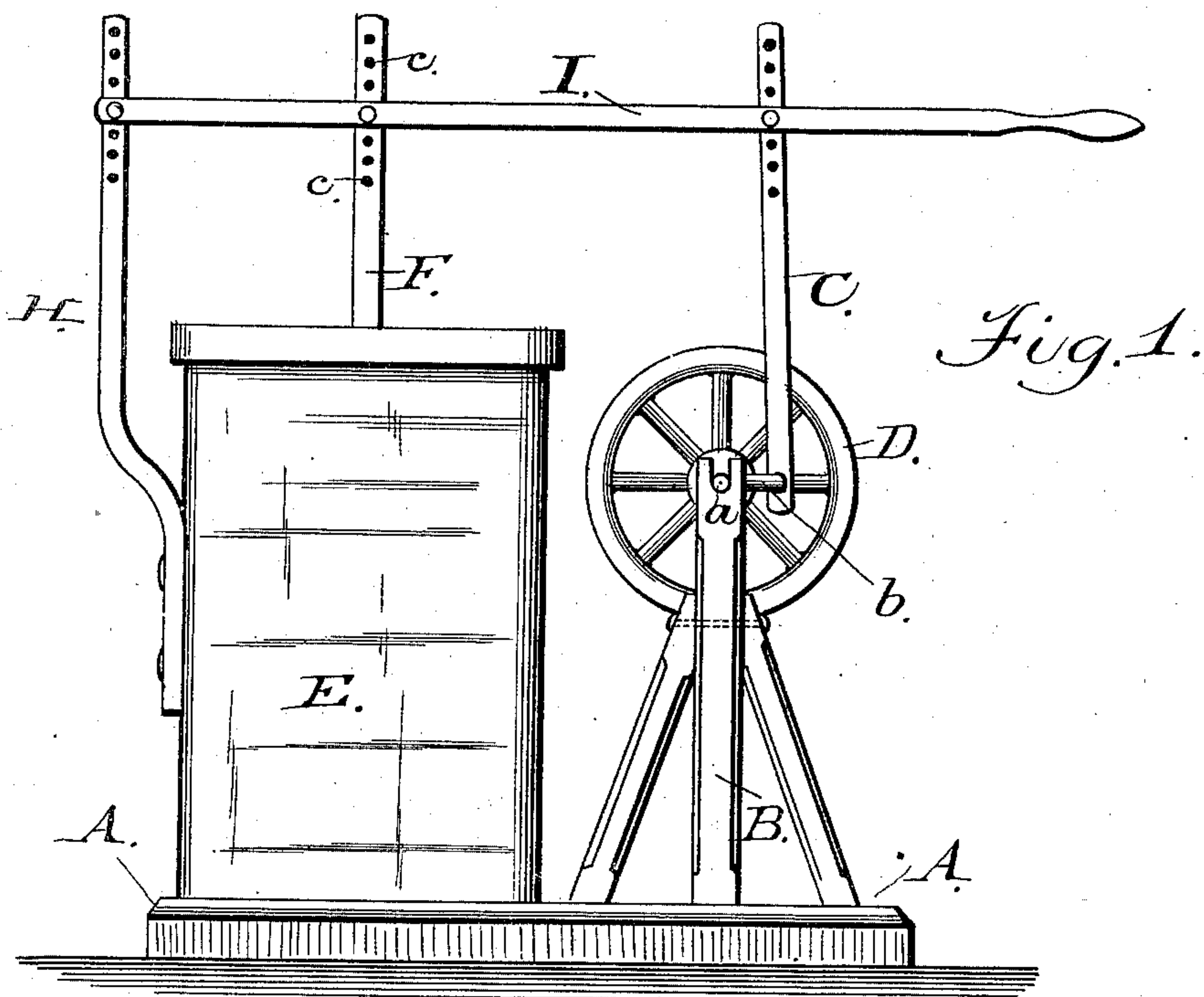


Fig. 2.

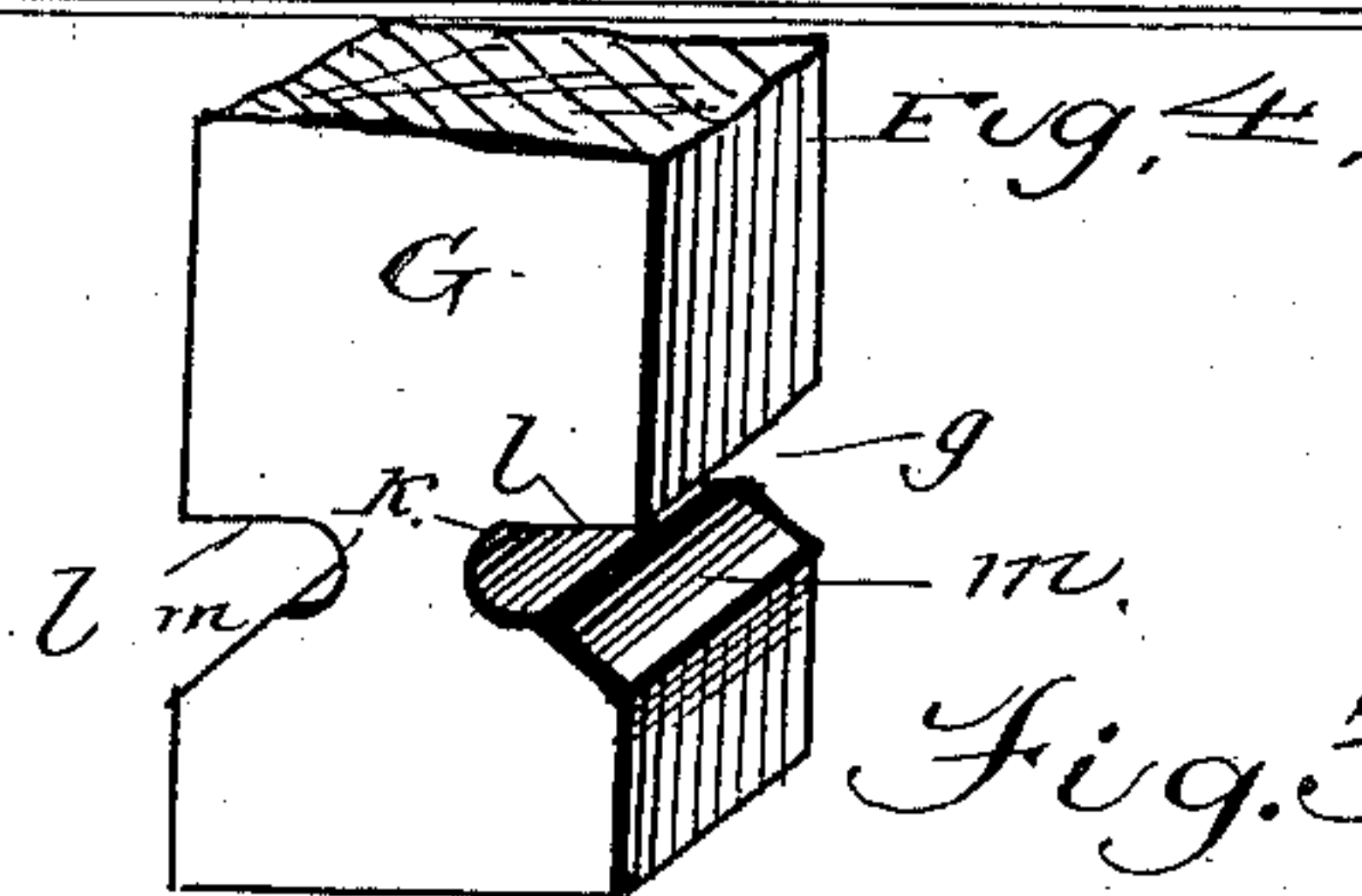
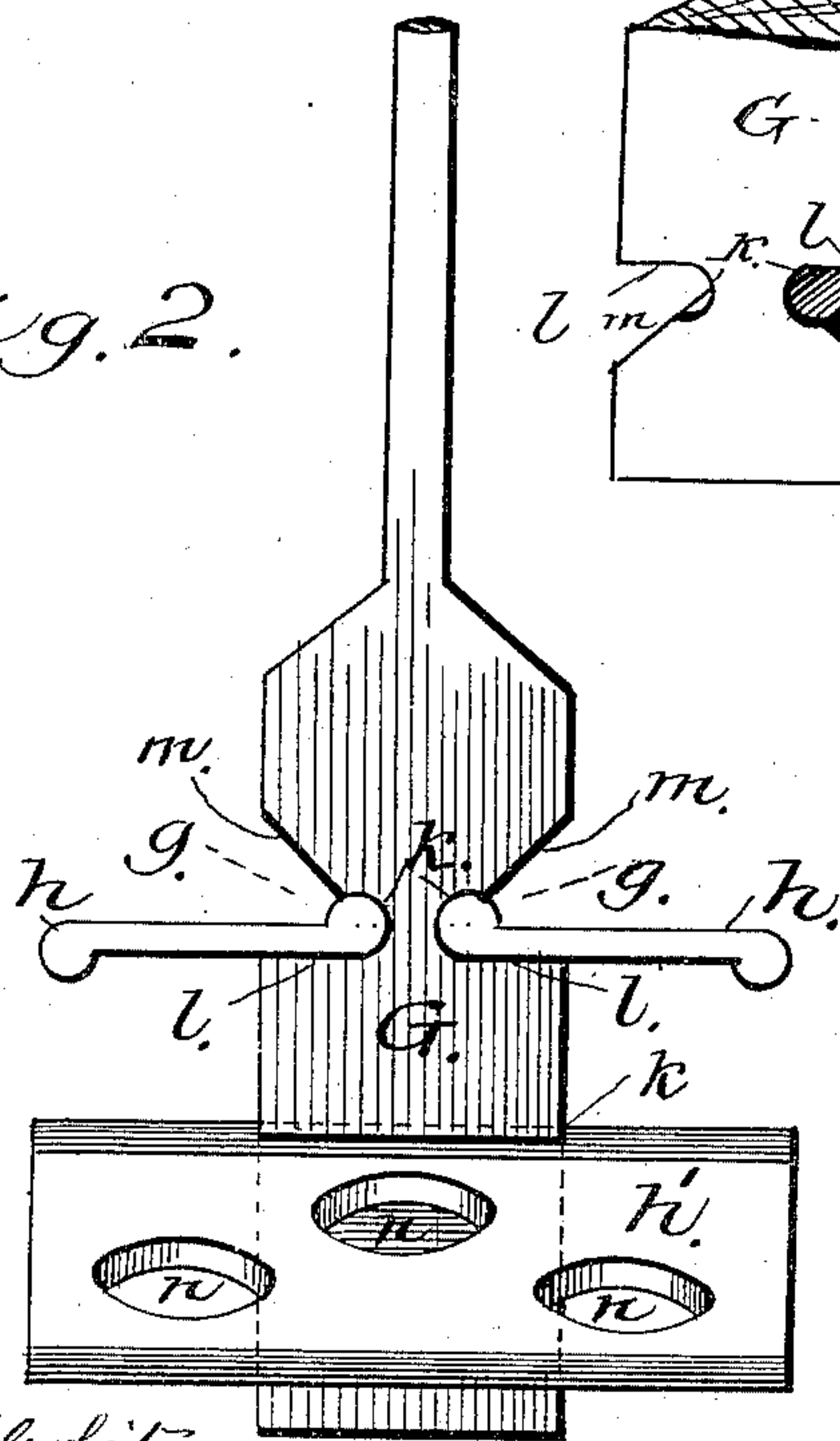
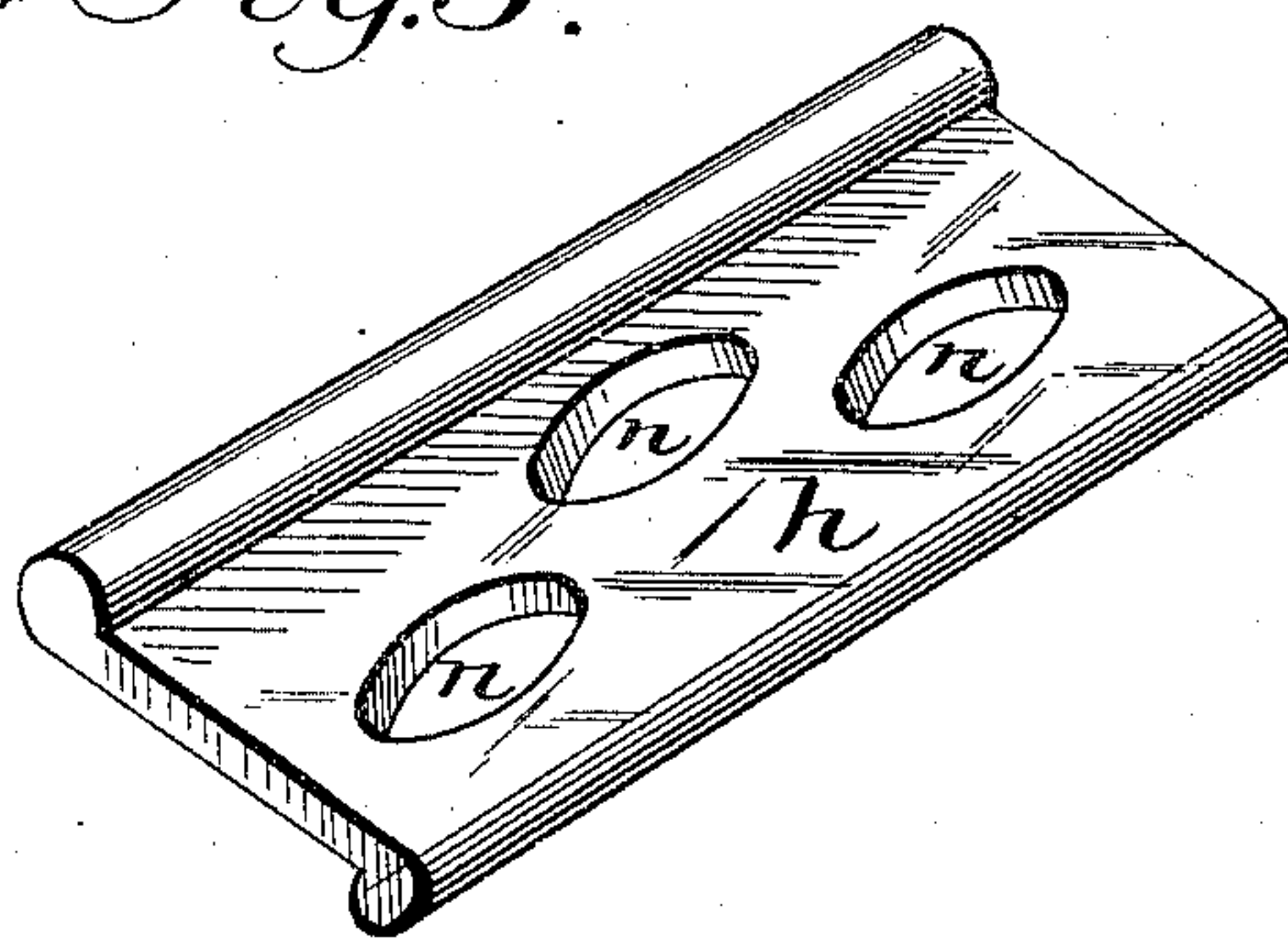


Fig. 3.



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CHURN.

SPECIFICATION forming part of Letters Patent No. 314,399, dated March 24, 1885.

Application filed June 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SIAR, a citizen of the United States, residing at Rimersburg, in the county of Clarion and State of Pennsylvania, have invented certain new and useful Improvements in Churns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts.

Figure 1 is an elevation of a churn with my improvements attached. Fig. 2 is a side view of the dasher and rod detached. Fig. 3 is a perspective view of one of the dasher-blades. Fig. 4 is a detail of the lower end of the head-block G.

My invention relates to that class of reciprocating churns in which power to operate the dasher is communicated from a crank to a pivoted horizontal lever; and my invention consists in the novel construction and arrangement of a dasher, as well as to certain details of construction, all of which will be hereinafter more fully set forth, and specifically pointed out in the claims.

To enable others skilled in the art to make and use my invention, I will proceed to describe the exact manner in which I have carried it out.

In the said drawings, A represents a frame of any suitable construction, provided with an upright, B, in the top of which is mounted a shaft, *a*, having crank *b*, to which is connected a connecting-rod, C, for a purpose to be hereinafter more fully set forth.

D represents a wheel which is mounted on the shaft *a*, and by means of which motion may be imparted to the dasher, as shown in Fig. 1.

E represents the receptacle for the milk, and this may be of any form or size, and it is provided with a suitable cover having a perforation through which passes the stem F of the dasher. It will be noticed that this stem is provided in its upper end with a series of holes, *c*, by means of which the throw of the dasher may be varied.

On the lower end of the stem F is attached, by any well-known means, the dasher, which consists of a solid head-block, G, having open-

ings *g* made in its sides for the vertically-swinging blades *h h'*, two of which are located on each side of the head-block G, as shown in Fig. 2, and although I can use a greater or lesser number of these blades when necessary, I prefer to use the number shown, and arrange the lower ones at right angles to the upper ones. I do not wish to be limited to this exact construction, as the blades may be secured to the head on two sides only, and will work just as well.

As before stated, the head-block G is provided on each side with an opening consisting of a semicircular slot, *k*, and a straight portion, *l*, against which one side of the swinging blades *h h'* abut during the upward movement of the dasher. At *m* the head-block G is cut away to form an inclined surface, which acts as a seat for the blades which remain inactive during the fall or rise of the dasher, as the case may be. Each blade is also provided with openings *n*, to permit the passage of the milk and to assist in its manipulation.

Secured to the receptacle E and extending upwardly, is an arm or support, H, in which is fulcrumed a suitable operating-lever, I, as shown in Fig. 1. This lever is also attached to the dasher-stem F and to the connecting-rod C, so that these two latter parts move simultaneously. The arm H, before referred to, is supplied with a series of holes, by means of which the lever is made adjustable on said arm.

In operating my improved churn, the upward movement of the operating-lever will raise the dasher, and the resistance offered by the milk in the receptacle will force the upper blades, *h*, against the portion *l* of the head-block G, while the milk contained above the blades is forced out through the openings *n*. At the same time the peculiar construction and hanging of the blades, which are passed endwise into the semicircular openings *k*, permit the lower pair or series of blades to swing down against the inclined surface *m*, thereby allowing the milk to pass around and beneath them. The condition of the blades is reversed when the dasher commences its descent, the lower pair or series straightening out, the upper pair inclining upward.

Thus I am enabled to not only produce a

dasher that greatly assists in the production of the butter, but I am enabled by the construction shown and described to remove any or all of the blades by simply drawing them
 5 endwise from the head, and this permits me with but little trouble to remove all particles of cream or butter from the different parts.

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

1. In a reciprocating churn, the receptacle E and operating-lever I, in combination with a dasher provided with a stem, and a head-block grooved on all sides to receive a series
 15 of swinging blades engaging the grooves in such manner that each series of blades is alternately raised and lowered, substantially as herein set forth.

2. In a churn, the combination, with a re-
 20 ceptacle, E, of a stem, F, a head-block, G, having openings on all sides and provided with semicircular slots *k*, and two or more swinging blades with enlargements adapted to engage the slots, substantially as herein de-
 25 scribed.

3. In a churn, the combination, with swing-
 ing blades provided with enlargements, as shown, of a head-block, G, having openings on all sides, said openings consisting of semi-
 30 circular slots *k*, adapted to engage and hold

the blades, bearings *l*, against which the blades rest, and inclined surfaces *m*, substantially as described.

4. In a churn, the combination, with an ad-
 justable stem, F, of a head-block having por-
 35 tions cut away on all sides and provided with semicircular slots *k*, of the blades *h* and *h'*, adapted to be passed endwise into the slots, within which they are held, but allowed to have a swinging movement, as herein de-
 40 scribed.

5. In a churn, the head-block G, slotted as shown, and the blades *h*, in combination with blades *h'*, arranged at right angles to the blades
 45 *h*, and adapted to have a movement opposite to that of said blades *h*, substantially as described.

6. A churn comprising a frame, A, shaft *a*, connecting-rod C, an adjustable lever, I, stem F, arm H, receptacle E, and head-block G, cut
 50 away on all sides and formed with semicircular slots adapted to engage and hold swinging blades, the said rod C, stem F, and arm H being provided with a series of perforations, all constructed and arranged to operate as herein
 55 set forth.

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Witnesses:

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