

L. W. Lewis,

Squeezer for Puddlers Balls,

N^o 85,457-

Patented Dec. 29, 1868-

Fig. 1

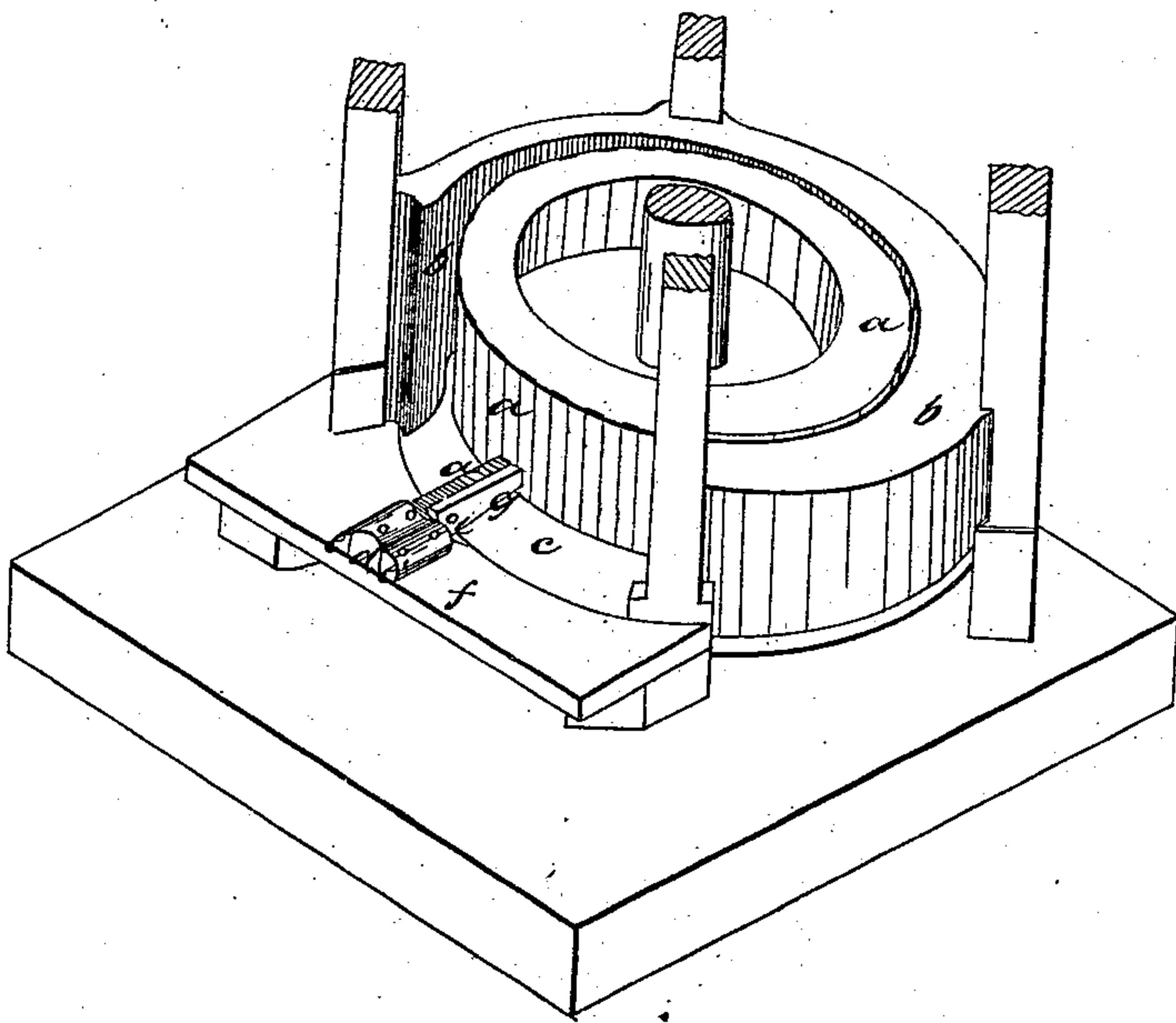


Fig. 3

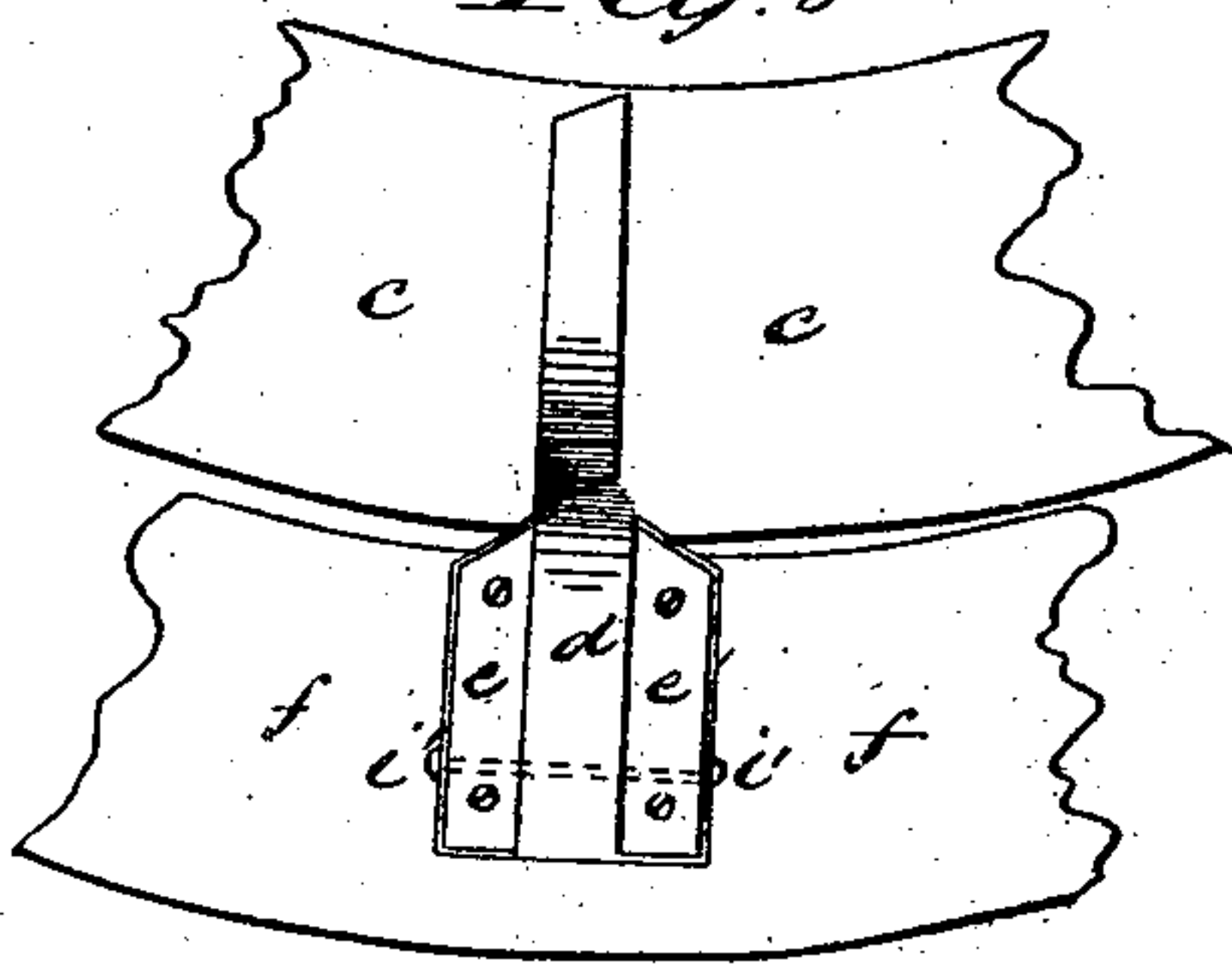
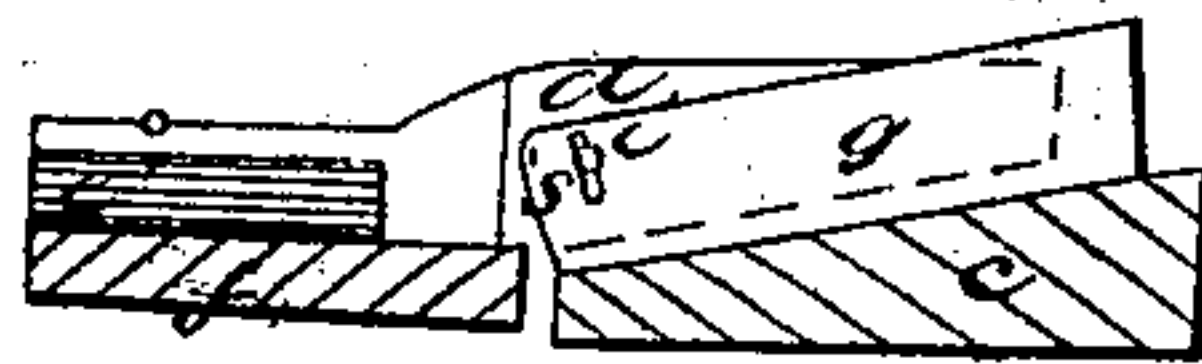


Fig. 2



Witnesses.
R. Wrenshall
Thos. B. Kerr

Inventor.
Lewis W. Lewis
by Bakewell & Christy
his Attys

United States Patent Office.

LEWIS W. LEWIS, OF SHARPSBURG, PENNSYLVANIA.

Letters Patent No. 85,457, dated December 29, 1868.

IMPROVEMENT IN METAL-SQUEEZERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, LEWIS W. LEWIS, of Sharpsburg, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Squeezers; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 shows, in perspective, the lower working-parts of a squeezer, with my improvement attached;

Figure 2 illustrates my improvement by a side view; and

Figure 3, by a plan view, a modification thereof.

Like letters of reference indicate like parts in each.

In squeezers, as ordinarily constructed, the guard or guard-bar, by which the bloom is stopped and thrown out of the squeezer, is made fixed and stationary, and so set that its lower edge shall stand from three-fourths of an inch to two inches above the upper face of the bottom upset or upsetting-plate.

As the puddle-ball passes around the squeezer, and is reduced to a bloom, pieces of iron are detached, some small, and some large. The larger pieces are, of course, thrown off by the guard, while the small pieces often get caught between the guard and bottom upset, where, becoming chilled, they are tightly wedged in, and, as the squeezer continues to operate, they soon score or cut deep cuts or grooves in the face of the bottom upset. These ruts or grooves, in a short time, become so numerous that the bottom upset, or, as it is sometimes called, the bottom upsetting-plate, is spoiled. Sometimes the small lumps of iron pass under the guard, and are carried around till they get under the outside rim of the squeezer, where they work still further injury to the machinery, or clog it, so that it is stopped altogether; or, sometimes, they get wedged in under the guard till they bend or break it.

In either of the two latter cases, all work must be suspended till the squeezer can be put in order; and, as in all large and well-regulated iron-mills, the puddling goes on continuously, and puddle-balls are being constantly prepared for the squeezer, the stopping of the squeezer necessitates the stopping of the puddling-furnaces, with the loss of time of the puddlers who may be working them, and sometimes a loss of or serious injury to the material in process of preparation. When the bottom upsetting-plate is spoiled, considerable time, labor, and expense are involved in replacing it.

My invention is designed to obviate the difficulties thus caused, and the nature of it consists in hinging the guard, or bringing a swinging bar to the guard, so that the guard, or its bar, as the case may be, shall rest, by its own weight, on the bottom upset, and throw off small pieces of iron, as well as large ones,

and so that, when fine scale or pieces of iron, too small to be thrown off, get caught under it, the guard or bar, as the case may be, shall rise and let them pass through.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and mode of operation.

a is the squeezer-drum;

b is the outside rim; and

c is the bottom upset or upsetting-plate.

d is the stationary guard, rigidly fastened to the fore plate *f*.

The outer end of this guard is fastened, by being bolted to the fore plate *f*, or, more commonly, by being inserted between two long projecting lugs or shoulders *e e*, the bar and lugs being united somewhat like a dovetail joint. Between these it is firmly bolted.

To this guard, on the side against which the bloom strikes, on coming out, I hinge a bar, *g*, so that its lower edge shall rest on the face of the bottom upset *c* and extend across it.

Any convenient mode of hanging may be adopted, but I prefer to use a bolt, *i*, passing through it and through the guard *d*.

By making a slot, *s*, in either the bar *g*, or, if so preferred, in the guard *d*, for the bolt *i* to pass through, I provide for the rise and fall of the whole bar *g*, or of either end of it, as may be required; or, if so desired, the bar and guard may be loosely bolted to each other at both ends, or at the middle, vertical slots being made in one or the other, for the bolts to play in, as the bar rises and falls; or the bar *g* may be set in dovetail slides on the guard *d*, and slide up and down, instead of swinging, as above described.

The bar *g*, then resting on the face of the bottom upset *c*, leaves no aperture of fixed breadth, into which small pieces of iron can become wedged. All pieces are thrown off, unless it be fine pieces of scale, or very small pieces of iron, with sharp, angular points, which may, in some cases, get caught under the bar *g*. In such cases, the bar *g* rises and lets them pass under, and all such pieces are too small to do injury by being caught between the bottom upset *c* and the outer rim.

As a modification of this improvement, I also hinge the guard *d*, at or near its outer end, by a bolt, *i*, passing loosely through it, and through the lugs *e e*. Its lower edge then, instead of standing in a fixed position, a little above the bottom upset, will rest by its own weight thereon. Its operation will be substantially the same as that already described.

My invention is chiefly valuable in saving the loss of or injury to the bottom upset, which is an expensive part of the machinery, and in the saving of time and expense, caused by delay in an iron-mill by a stoppage of puddling-operations till the squeezer is repaired.

It is simple in its construction, easily applied and used, and is found to be effective in accomplishing the desired object.

By its use two or three bottom upsetting-plates may be saved each year for every squeezer.

What I claim as my invention, and desire to secure by Letters Patent, is—

Hinging the guard, or hinging a bar to the guard, of a squeezer, in the manner described, so that the bar or its guard, as the case may be, shall rest with

its lower edge on the upper face of the bottom upset, substantially as and for the purposes hereinbefore set forth.

In testimony whereof, I, the said LEWIS W. LEWIS, have hereunto set my hand.

LEWIS W. LEWIS.

Witnesses:

W. A. LEWIS,
ELL TORRANCE.