2 Sheets—Sheet 1.

L. F. DEAN.
Fluting-Iron.

No. 219,390. Patented Sept. 9, 1879.

Fig. 1.

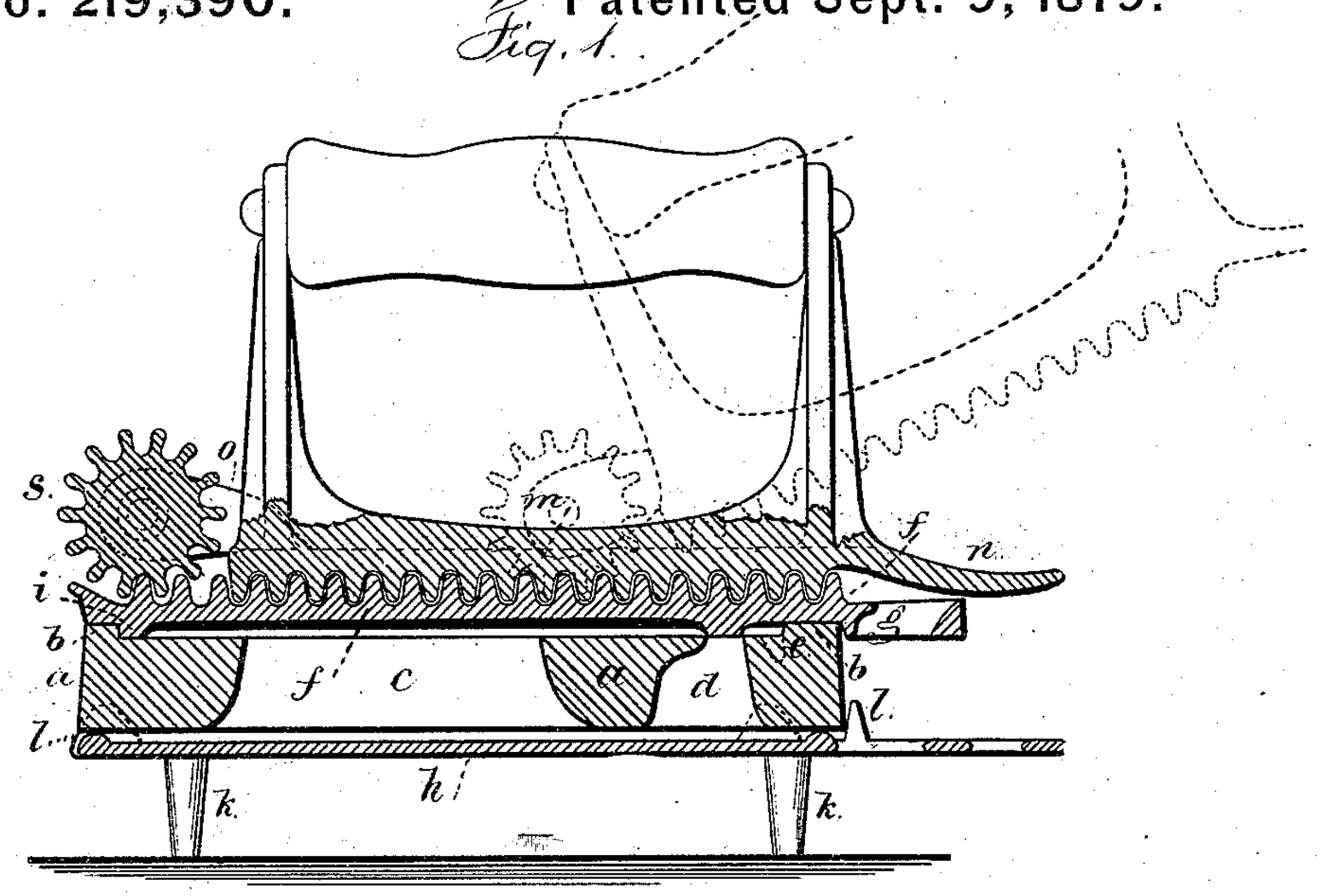


Fig. 4.

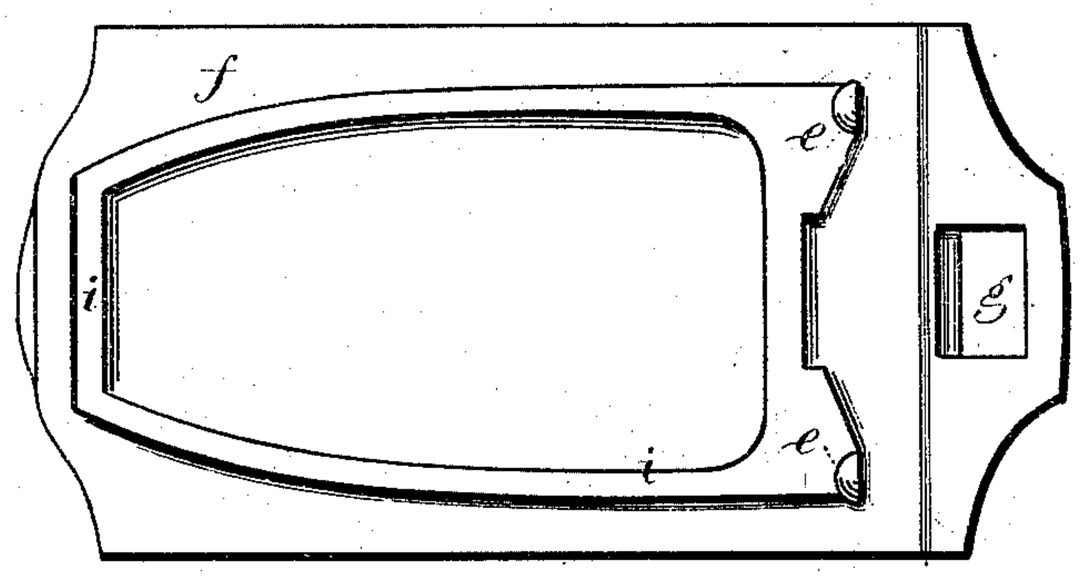
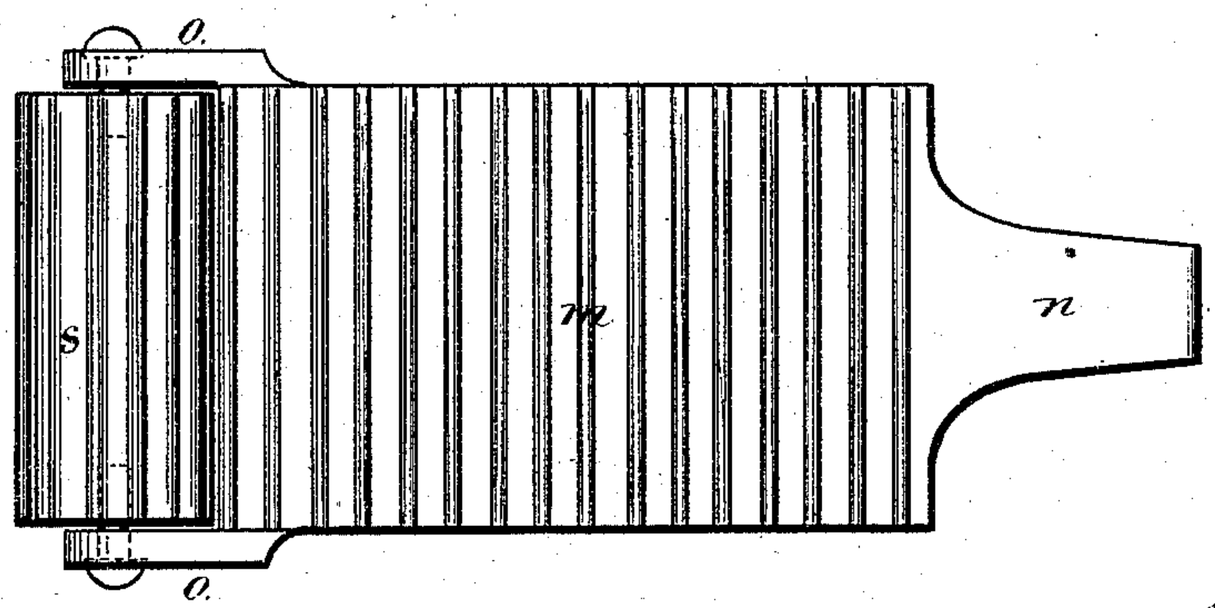


Fig. 5



Witnesses

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2 Sheets—Sheet 2.

L. F. DEAN.
Fluting-Iron.

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Fig. 2.

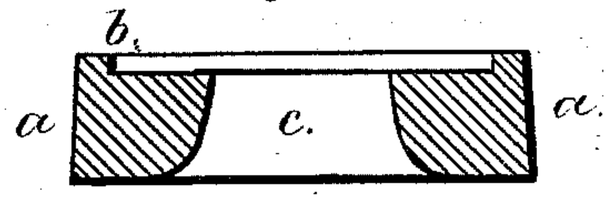


Fig. 3.

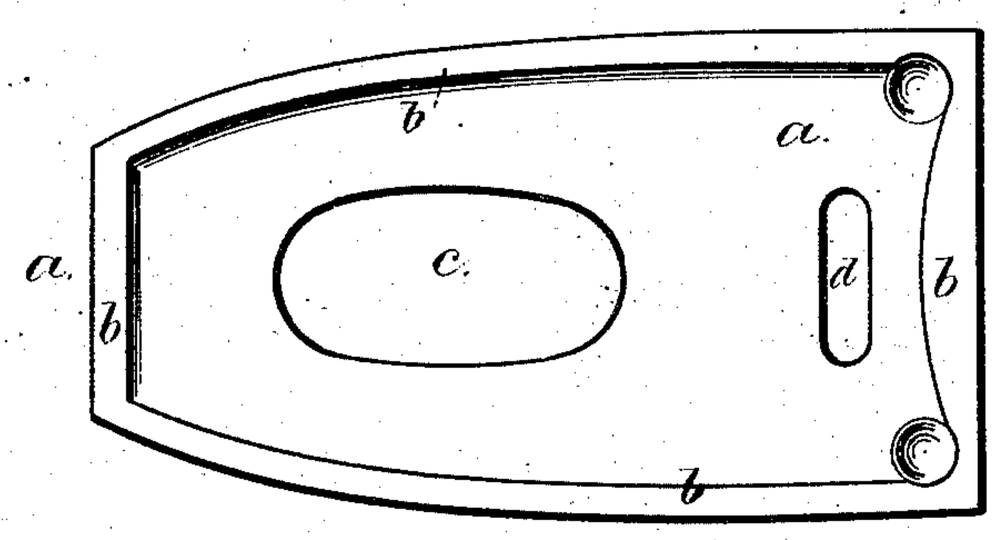
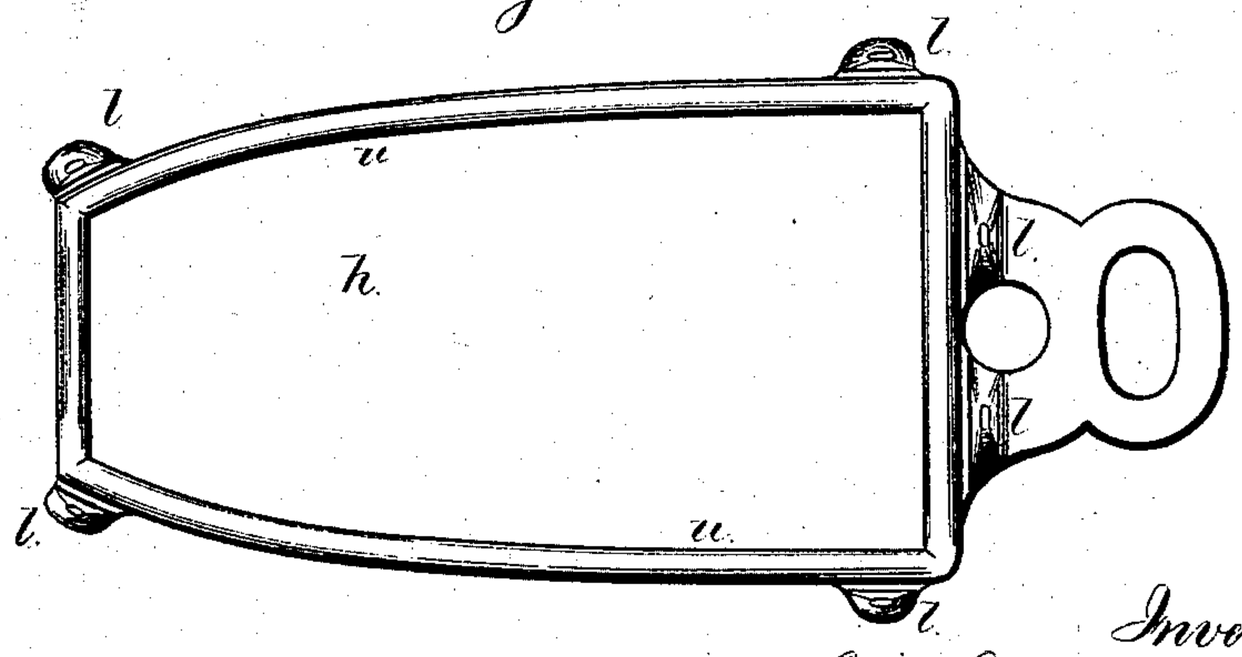


Fig. 6



Witnesses
Chas. F. Smith
Geo. J. Pinckney

Inventor
Levi F. Dean
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UNITED STATES PATENT OFFICE.

LEVI F. DEAN, OF NEW MILFORD, PENNSYLVANIA.

IMPROVEMENT IN FLUTING-IRONS.

Specification forming part of Letters Patent No. **219,390,** dated September 9, 1879; application filed February 24, 1879.

To all whom it may concern:

Be it known that I, LEVI F. DEAN, of New Milford, in the county of Susquehanna and State of Pennsylvania, have invented an Improvement in Fluting and Smoothing Irons, of which the following is a specification.

Fluting-irons have been made with a fluted plate, over which a roller is passed, the fabric being pressed into the plate by the ribs of the roller, and this plate has been heated by a slug of cast-iron or other metal, upon which the plate rests. In fluting-irons, and also in smoothing-irons, there is but little difficulty in heating the middle portion of the ironing-surface; but there is considerable difficulty in heating the outer portions of such surface, because these outer portions or edges are the most exposed to cooling influences, and they are the farthest from the place of the greatest heat.

My improvements relate to a slug for heating, in which there is a rim for the ironing-plate to come in contact with. Thereby the heat of the ironing-surface is rendered more uniform than heretofore. I also combine with the corrugated fluting-plate a roller and a fluted ironing-surface, so that the fabric after it is fluted can be held until dry and stiff and the surface polished.

In the drawings, Figure 1 is a longitudinal section of the fluting-iron complete. Fig. 2 is a cross-section of the heating-slug, and Fig. 3 is a face view of such slug. Fig. 4 is an inverted plan of the fluting-plate. Fig. 5 is an inverted plan of the fluting-roller and ironing-plate, and Fig. 6 is a plan of the slug-holder.

The slug *a* is of the proper size and shape; but the surface that is to be in contact with the ironing-plate is not flat, but it is formed with a rim, *b*, so that the surface contact is only around the outer portions of the ironing-plate, and there is an opening through this slug, as at *c*, so that the heat may act through that opening with uniformity by radiation and atmospheric circulation within the air-chamber formed between the ironing-plate and the surface of the heater or slug. At *d* there is an opening for the insertion of a lifter to take the slug from the fire to the iron.

It will be apparent that this slug acts to render the heat uniform, whether the same rests upon the ironing-plate, as in a box smoothing-iron, or whether the ironing-plate rests upon the slug, as shown in the drawings.

f is the ironing-plate, having a fluted surface on the top and pins *e* at the bottom, to enter recesses in the surface of the slug, so that the parts are held in their proper relative position, and there is a slight offset at *i*, forming a shoulder that sets within the rim *b* to steady the parts; and the under side of this plate is concave, to increase the size of the air-chamber between the slug and the plate, the surface that comes into contact with the heated slug being flat, or nearly so, and near the edges of the ironing-plate, the middle portion being concave or recessed, so as not to come directly into contact with the heated slug. This insures the most heat near the edges of the ironing-plate.

At one end of the fluting-plate there is a mortise, *g*, for the insertion of a lifter to move the plate when in a heated condition.

The stand upon which the slug *a* rests is made as a plate, *h*, supported by the feet *k*, similar to an ironing-stand, and there are lugs or fingers *l* at different places around the same, to prevent the slug slipping off the stand, and there are ribs or lugs at *u* upon the top surface of *h*, that raise the heated slug sufficiently to lessen the heat that is conducted to the stand *h*, and to allow air to circulate around the heating-slug, as aforesaid.

The fluted iron *m* is provided with a handle similar to a smoothing-iron. It is preferable to provide the lifter *n* at one end of said fluted iron, and at the other end there are the arms *o o*, sustaining the fluting-roller *s*.

The fluted or corrugated surfaces correspond, and are adapted to receive between them the material to be fluted. In using this fluter the fabric is to be laid upon the plate *f*, and the roller *s* passed over the same, the iron *m* being held in the position shown in Fig. 1 by dotted lines, so that the roller only is operative to crimp the fabric. Then the iron *m* is pressed down upon the fabric to hold the flutes or crimps between the corrugated surfaces of plate *f* and iron *m* until it is dry, or nearly so,

and thereby the material is finished in a more perfect manner than it would be by the action of a fluted roller only. The iron is furthermore to be moved across the material lengthwise of the flutes, so as to act like a flat-iron.

In cases where the material to be fluted is an insertion or gathered fabric between two plain fabrics, the portion to be fluted is to be laid upon the plate *f*, and the roller *s* run over the portion only that is to be fluted, and then the ironing operation will be performed between the fluted plates, between the edge of the top plate, *m*, above the plate *f*, and the edge of that plate *f* which comes below said plate *m*.

I claim as my invention—

1. The fluted iron *m*, provided with a handle and arms, *o o*, in combination with the fluting-roller *s*, sustained by such arms, and the heater and fluted plate *f*, substantially as set forth.

2. The heating-slug for smoothing-irons, having a rim around its heating-face, to rest against the ironing-plate and form its only surface of contact, leaving an air-chamber between the central portion of the slug and the ironing-plate, substantially as set forth.

3. An ironing-plate in which the surface that comes in contact with the heating-slug is flat, or nearly so, and is near the edges of the ironing-plate, and the middle portion of the ironing-plate is recessed, so as not to come into contact with such slug, as and for the purposes set forth.

Signed by me this 20th day of February, A. D. 1879.

LEVI F. DEAN.

Witnesses:

HAROLD SERRELL,

GEO. T. PINCKNEY.