

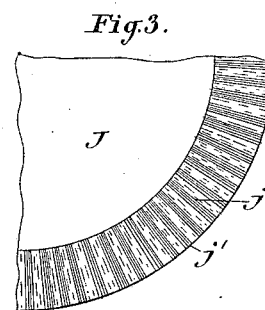
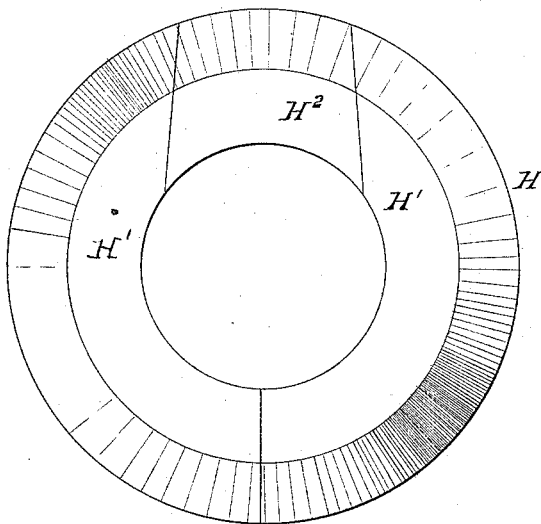
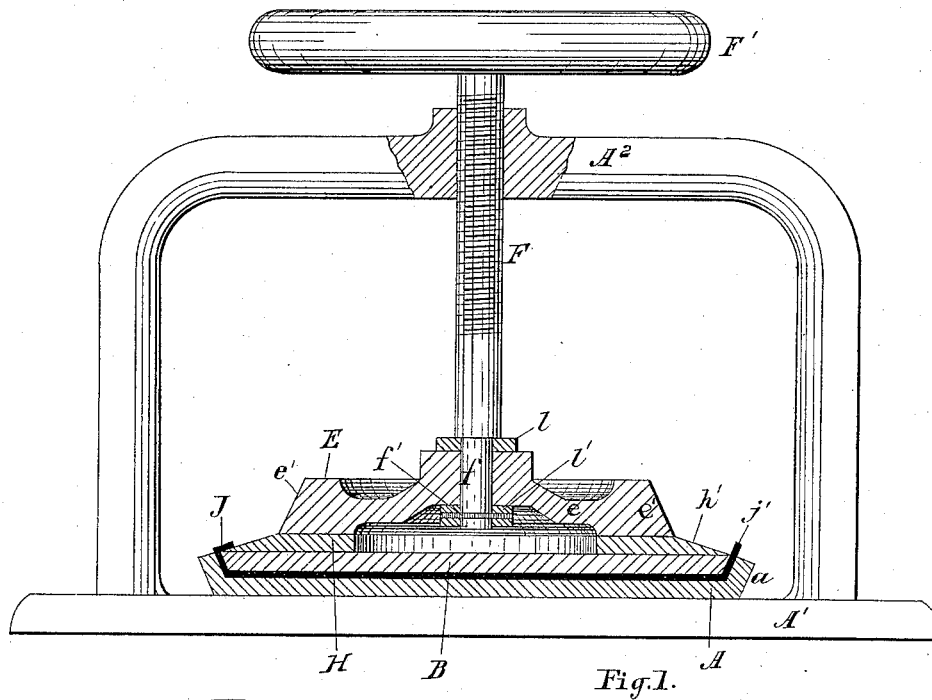
(No Model.)

I. VAN HAGEN.

MACHINE FOR COVERING STOVE BOARDS.

No. 307,605.

Patented Nov. 4, 1884.



Witnesses

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# UNITED STATES PATENT OFFICE.

ISAAC VAN HAGEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE ADAMS & WESTLAKE MANUFACTURING COMPANY, OF SAME PLACE.

## MACHINE FOR COVERING STOVE-BOARDS.

SPECIFICATION forming part of Letters Patent No. 307,605, dated November 4, 1884.

Application filed December 9, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC VAN HAGEN, a citizen of the United States, residing in the city of Chicago, in the county of Cook, in the State of Illinois, have invented certain new and useful Improvements in Machines for Covering Stove-Boards, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a view of my improvements, the hand-wheel, shaft, and frame (except where the shaft passes through it) being shown in elevation and the rest in vertical section. Fig. 2 is a plan view of the shield or facing for the stove-board. Fig. 3 is a plan view of a part of the sheet-metal top, crimped on the margin in order to facilitate bending over the edge of the board.

The same letters denote the same parts in all the figures.

My invention relates to apparatus for turning the sheet-metal cover of a stove board or platform over the edges of the board, and particularly to machines provided with a hollow chuck, into which the board and its cover are set, with a shield or facing for the protection of the edges of the board during the operation of turning the edge of the cover on the bottom of the board, on the principle which I have set forth in an application for Letters Patent of the United States, filed at the same time with this.

The invention which is the subject of the present application consists in the particular combination of devices, which will be fully described hereinafter, and definitely pointed out in the claim, the object being to provide for bending the cover, particularly when made of tin-plate or other hard metal, on the bottom of the board without breaking or bruising the latter.

In the drawings, A denotes the chuck, which is of a shape and size to contain the board B, with an excess of breadth and depth sufficient to admit the metal cover J also. Its rim *a* flares to correspond with the slope of the edge of the board. The chuck rests on a horizontal platform, A', to which it may be secured in any convenient way. A yoke-shaped frame, A<sup>2</sup>, rising from this platform, affords a bear-

ing for the perpendicular revolving shaft F, the shaft and the hole in the frame through which it passes being threaded, so as to admit of raising and lowering the shaft by turning the hand-wheel F', which is rigidly set on its upper end. The lower part, *f*, of this shaft has a journal-bearing in the central part of the retainer E, so as to turn freely therein, while it is restrained from any vertical motion relatively to the retainer by the upper and lower collars, *l* and *l'*, which surround it immediately above and below the retainer. A pin, *f'*, fastens it to the lower collar, *l'*. By this construction the raising and lowering of the shaft raises and lowers the retainer. The retainer E is arranged horizontally, so as to be parallel and concentric with the chuck. Its precise form is not essential, though it preferably conforms in plane outline to that of the chuck and board. When the latter is circular the retainer may advantageously be a wheel or disk having a broad and flat lower surface for the purpose of communicating a uniform pressure; but to secure lightness of construction it may be partly cut away around the center, so as to consist of spokes *c* and a felly, *c'*. Its horizontal area must be so much less than that of the board B as to leave room all around the retainer for the turned margin of the cover. A shield or facing, H, (preferably of metal,) is interposed between the retainer and the board B. Its lower surface is flat and its outer boundary corresponds exactly to that of the lower surface of the board B, which is placed uppermost when in the chuck. That part of its upper surface which is directly under the retainer fits exactly the lower surface of the latter. That part, *H'*, which is beyond the periphery of the retainer tapers uniformly outward to a thin edge. This part is at least equal in breadth to that part *j'* of the metal covering J which is to be turned under the board. The facing H is represented in Fig. 2 of the drawings as an annular disk, adapted to a circular board and as composed of three or more separate pieces for convenience of placing and removing. In the particular construction shown, the two larger pieces, *H'*, are exactly equal, each containing about one hundred and sixty degrees of the

outer circumference. The smaller piece,  $H^2$ , including about forty degrees of the outer circumference, is divided from them by two straight lines, which diverge very slightly as they approach the inner circumference, the divergence giving this piece a wedge-like form, which serves to hold the three plates together. Either plate being laid down in any position, the others are readily placed in their proper relative situations.

All the parts of the apparatus are preferably made of metal.

Before being subjected to the operation of this machine the cover has its margin crimped and turned at an angle to the rest, equal to the inclination of the edge of the board, as shown at the right end of the board in Fig. 1. In an application filed the same day with this I have shown and described means for doing this. The board is then set in the cover, and the two are set bottom upward in the chuck; the retainer E being first lifted out of the way by turning the threaded shaft F. The shield H is then laid concentrically on the board. The retainer E, being lowered, presses the board smoothly into the cover. The portion  $j'$  of the margin which projects beyond the outer surface of the board is then bent down,

by any convenient means, over the chamfered margin  $h'$  of the shield H, the edge of which protects the edge of the board, and is so thin that the cover is fitted to the board with practical accuracy at that edge. The retainer serves to hold the shield in place during this operation. The retainer being then raised, the plates  $H'$  and  $H^2$ , which compose the shield, are successively withdrawn and the margin  $j'$  is pressed close on the outer surface of the board by any convenient means. In this way a cover of crystallized tin or other hard metal can be turned accurately and neatly under the board without any damage to the latter.

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

The hollow chuck A, retainer E, and threaded shaft F, having a journal-bearing in the retainer, and provided with the collars  $l$  and  $l'$ , all constructed and arranged as described, in combination with the shield H, substantially as and for the purpose specified.

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Witnesses:

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