

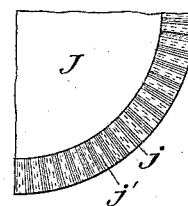
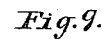
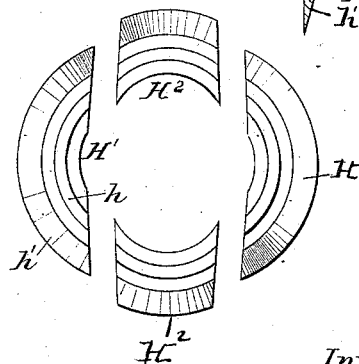
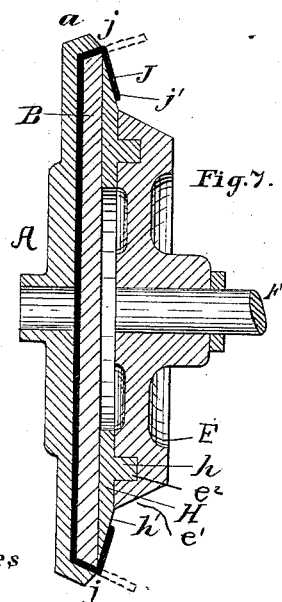
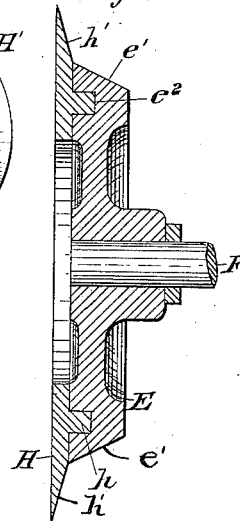
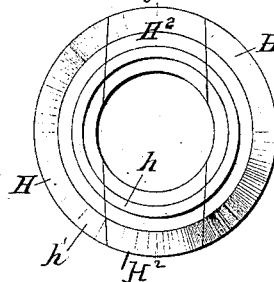
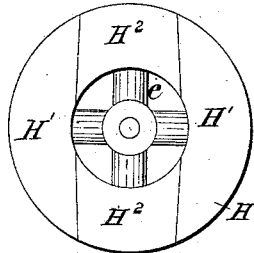
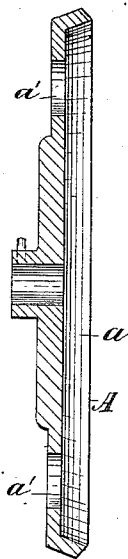
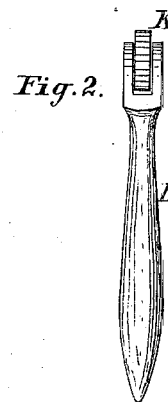
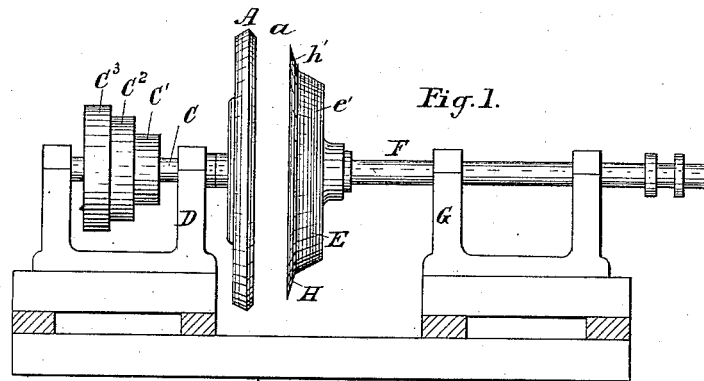
(No Model.)

I. VAN HAGEN.

MACHINE FOR COVERING STOVE BOARDS.

No. 307,604.

Patented Nov. 4, 1884.



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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. 307,604, 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 side elevation of my improved machine. Fig. 2 is an edge elevation of the finishing-tool. Fig. 3 is an enlarged longitudinal section of the chuck, which forms part of the machine. Fig. 4 is an enlarged front elevation of the shield-facing and the retainer in which it is set. Fig. 5 is an enlarged rear elevation of the shield alone. Fig. 6 is an enlarged longitudinal section of the retainer with the shield set in it. Fig. 7 is a similar section of the chuck with the stove-board and cover set in it, and the shield resting in the retainer and set close against the board. Fig. 8 is an enlarged rear elevation of the shield, the plates of which it is made up being separated from each other. Fig. 9 is a plan view of part of a circular metal cover for a stove-board with a crimped boarder.

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

My invention relates to appliances for placing sheet-metal covers on stove-boards or platforms, so that the edge of the cover shall be turned under the board, and has more particular reference to circular platforms and covers, and to covers of crystallized tin or other hard metal. The wooden platforms in general use vary in thickness from half to seven-eighths of an inch, and the metal top has to be bent on the margin so as to cover the edge of the board and extend under it for about three-eighths of an inch, which requires a turned edge of a total breadth ranging from three-quarters of an inch to an inch and an eighth. Such an edge of hard metal cannot be turned on an unprotected wood platform without breaking the wood.

The object of my invention is to provide for turning the requisite edge of hard metal as readily and with as little damage to the wood as an edge of zinc; and it consists in certain

special features in the construction and arrangement of apparatus for this purpose, and combinations of devices which will be fully described hereinafter, and definitely pointed out in the claim.

In the drawings, A denotes the chuck, in which the board and cover are set during the process of turning the edge of the cover under the board. It is a dished disk of suitable area and depth to contain the board and cover. Its rim *a* flares outwardly to correspond with the slope in the edge of the board B. The chuck is rigidly set on the forward end of a revolving shaft, C, which is mounted on the frame D, and turned by a band passing over one or other of the wheels C', C'', and C''', according as a greater or less degree of speed is required. The retainer E, which forms a frame or support for the shield, is set parallel with the chuck on the nearer end of a shaft, F, whose axis is in the same line with that of C. The shaft F is mounted in the frame G, so as to be capable of a longitudinal motion. The retainer is in form a wheel having the spokes or arms *e* and the broad felly *e'*, on which the shield is set. This felly has in its outer face a circular groove, *e''*. The diameter of the retainer is somewhat less than the inside diameter of the chuck A, the difference being about twice the breadth of the metal edge which is to be turned under the stove-board. The shield or facing H rests against the front of the retainer and extends beyond its circumference not quite far enough to touch the inner margin of the rim *a* of the chuck when brought up to it by the forward motion of the retainer, the intervening space being reserved for the metal cover J. The shield is made in three or more separate plates, so as to be readily adjustable in its place on the retainer and readily detachable therefrom.

In the particular construction shown in the drawings there are four plates, made in pairs, the two larger, H', being formed by cutting off from the outer circumference of H two opposite and equal arcs of about one hundred and thirty degrees each, each arc being cut off not by a single chord, but by two secants, each diverging very slightly from the chord of the arc toward the circumference of the circle. Each

secant intersecting the inner circumference of H also, the two smaller pieces, H<sup>2</sup>, are separated by the same operation, each containing about fifty degrees of the outer circumference.

5 Any one of these pieces being set in the retainer, all the others readily arrange themselves in corresponding places, if only care be taken to put in next an adjacent and then an opposite part, the difference of shapes making it obvious at a glance which is which. The shield H is flat on the outer surface. A circular ridge, *h*, on its inner surface fits snugly into the groove *e*<sup>2</sup> of the retainer. That part *h'* of the inner surface which is beyond the outer circumference of the retainer tapers uniformly all around to a thin edge.

In operation, the margin *j* of the metal cover is first crimped or corrugated to the desired breadth and turned at an angle to the rest of the cover corresponding to the inclination of the edge of the board, as shown partly by full and partly by dotted lines in Fig. 7.

In an application for patent filed at the same time with this I have shown means for performing this preliminary operation on a circular cover. The cover, its edge having been bent so as to contain the board, is placed in the receiver and the board B is set within it. The shield H being set in its places on the retainer, the latter is slowly driven forward by the application of power to the farther end of its shaft F, pressing the board uniformly on its whole surface and thus fitting it into the cover J. The part *j* of the bent edge of the cover which projects beyond the edge of the board is then bent down by any convenient means (preferably by the finishing-tool herein-after described) on the chamfered part *h'* of the shield, as shown by full lines in Fig. 7, the shield protecting the edge as well as the back of the board from being cut or bruised by the metal cover. The shield also operates to press to a uniform level the peripheral strips of wood which mainly constitute the bottom of the

board, and thus to level the entire board—an important result, inasmuch as it is almost impossible to put together the several pieces of which a stove-board is usually constructed so that there shall not be more or less difference of level between them. The retainer E is then withdrawn by means of its shaft F, the shield H being at the same time held so that it shall not be drawn away. The retainer being drawn back the shield is taken off, which is easily done by beginning with one of the smaller pieces, H<sup>2</sup>, the part *j'* of the crimped margin being left at a small angle with the bottom or outside of the board B. The finishing-tool, (shown in Fig. 2,) consisting of a toothed wheel, K, revolving on the end of a handle, L, the toothed edge corresponding in conformation to the corrugations on the margin of the metal cover, is then pressed steadily against the part *j'* of the margin, while the chuck A is made to revolve by connecting one or other of the wheels C', C<sup>2</sup>, and C<sup>3</sup> with the driving machinery. The margin *j'* is thus accurately fitted to the bottom of the board without any cutting or bruising of the board. When thus finished, the board may be pushed out of the chuck by means of the holes *a'* in the back of the latter.

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

In apparatus for covering stove-boards, a hollow chuck adapted to hold the covered boards, a retainer, E, arranged at the end of a longitudinally-movable shaft concentrically opposite the chuck, a shield of periphery equal to the board, made in separate sections, as described, and detachably set in the retainer, and means for giving the shaft of the retainer a backward and forward motion in the line of its axis, all in combination, substantially as and for the purpose described.

ISAAC VAN HAGEN.

Witnesses:

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