L. H. Allen,

Wire-Working Tool,

No. 32,457, Patented June 4, 1861.

Fig. 1.

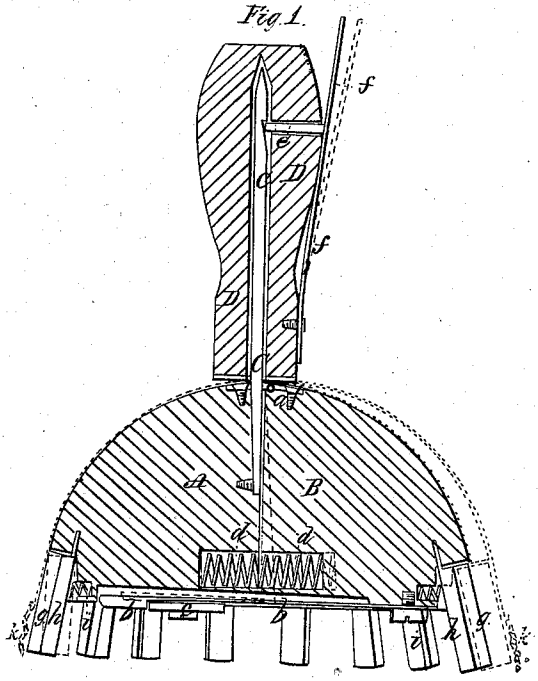


Fig. 2.

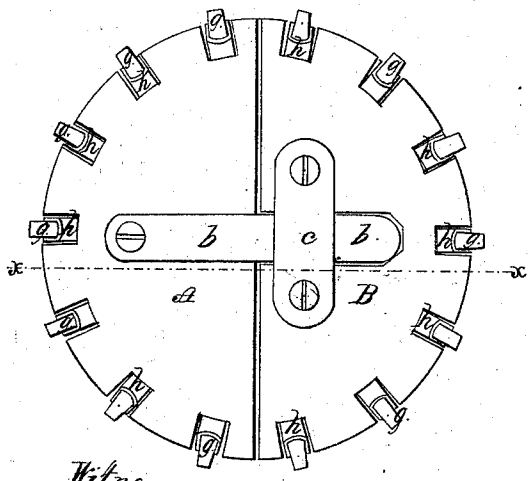
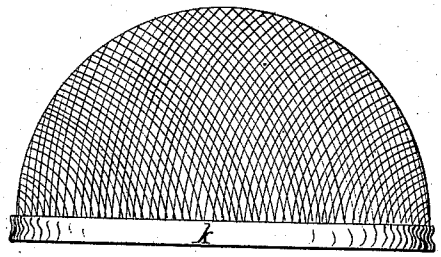


Fig. 3.



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UNITED STATES PATENT OFFICE.

L. H. ALLEN, OF AMHERST, MASSACHUSETTS.

IMPROVEMENT IN FORMING WIRE-CLOTH DISH-COVERS.

Specification forming part of Letters Patent No. 32,157, dated June 4, 1861.

To all whom it may concern:

Be it known that I, L. H. ALLEN, of Amherst, in the county of Hampshire and State of Massachusetts, have invented a new and Improved Machine for Making Wire-Cloth Dish-Covers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical middle section through the die-block and handle thereof, representing by the aid of red lines the halves of the die-block in two positions. Fig. 2 is a view of the bottom of the die-block on which the covers are formed into shape. Fig. 3 represents the wire-cloth dish-cover when finished.

Similar letters of reference indicate corresponding parts in the three figures.

This invention relates to a new and useful tool for making woven-wire dish-covers in a more simple and expeditious manner than hitherto.

The nature of my invention consists, first, in an expanding hemispherical die-block provided with springs and a suitable latch, substantially as will be hereinafter described, over which the sheets of woven wire are shaped and finished; secondly, in arranging around the circumference of the base of the die-block a series of spring-fingers constructed of a material to which the solder used in making the covers will not adhere, as will be hereinafter explained; thirdly, in combining a central rod projecting from the crown of the die-block with a holder or handle, which may be secured to or detached from said rod or axis, as will be hereinafter described.

To enable those skilled in the art to make and use my invention, I will proceed to describe it.

In the accompanying drawings, A B represent the two halves of a hemispherical block, which, when together, form the die-block on which the covers represented in Fig. 1 are formed. The two halves A and B of this die-block are hinged together by the crown-hinge *a*, (shown in Fig. 1,) which allows the lower parts or bases of the portion A B to be opened or closed, and when these parts A B are closed they are fastened together by the flat-hooked spring-plate *b*, which catches over the edge of the fixed plate *c;* or any other suitable spring may be employed for holding the parts A B together when desirable.

Between the two portions A B a strong helical spring, *d*, is introduced for expanding these two portions. The ends of this spring *d* are inserted in recesses formed in each portion A B, and the spring *c* is of such a length that it will be forcibly compressed when the portions A B are held together by the spring catch-plate *b*. Thus when this catch *b* is released from plate *c* the spring *d* will separate the two parts A B, as represented in red lines in Fig. 1 of the drawings. If it is found desirable, one, two, or more springs may be used to separate the blocks, and rubber springs or any other suitable force may be employed to forcibly separate the two blocks A B when the catch-plate *b* is released.

C is a rod which is secured to one of the blocks A or B, and which projects from the crown of the die-block a suitable distance to receive a handle, D. The end of rod C is tapered to a point, and a notch is formed in this rod C near its tapering point to receive a spring-latch, *e*, which passes transversely into a hole through one-half of the handle. The handle D has a hole through its axis, into which passes the rod C, and the tapering end of this rod forces the spring-latch *e* out and causes it to catch into the notch in this rod. The spring *f*, which acts upon latch *e*, is on the outside of handle D, and when it is desired to detach the handle D from rod C the spring *f* is forced outward. The spring *f* being on the outside of the handle D, the pressure of the hand on this spring when grasping the handle will prevent any liability of the handle becoming detached from its rod C while using the machine.

Surrounding the lower edge or circumference of the die-block or portions A B, which form the die-block, a series of spring-fingers are arranged at regular intervals apart, as represented in Figs. 1 and 2 of the drawings. These fingers project below the base of the die-block a short distance, and those portions of the fingers which do not project from the base of the block are let into the block (or blocks) flush with the rounded surface thereof. These fingers are each composed of a piece of surpentine, *g*, or other suitable substance, to which tinner's solder will not adhere, which is

strengthened by a metallic shell, *h*, inclosing one-half of the stone, as represented in Figs. 1 and 2 of the drawings. The upper ends of these fingers are suitably pivoted to the die-block, and each finger is acted upon independently by a strong spring, *i*. (Shown in Fig. 1 of the drawings.) These springs *i* behind the fingers allow them to yield and to accommodate themselves to the metal rim *k* (shown in Fig. 3) should this rim not be exactly circular. The rim *k* will thus be properly supported at every point by the elastic fingers, which is necessary to the perfect operation of the machine.

The operation of the machine above described is as follows: The two portions A B are closed and latched by the spring-latch *b*, and the handle D is detached from the machine. A piece of wire-cloth of the proper size and of an octagonal shape is passed over the die-block, the rod C passing through its center. The handle D is now put on and secured by the latch *e*, as before described, and the cloth is drawn over the die-block and formed into a semi-spherical shape on this block. The rim *k* (shown in Fig. 3) is passed over the handle D and drawn down over the wire-cloth, which has now been smoothly drawn over the die. This rim, which is formed of tinned iron or other suitable sheet metal, is forced over the fingers on the die-block until one edge of the rim projects from the ends of these fingers all around a short distance, when the spring-latch *b* is released and the spring *d* allowed to expand the die-block so as to force the wire-cloth out against the rim *k*. That part of the wire-cloth projecting below the rim *k* is now removed with a pair of shears, and the edge of the wire-cloth is suitably soldered to the edge of the rim *k*, thus completing the cover. The die-block is now pressed together again and latched, the handle D is taken off, and the cover can be removed from the machine.

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

1. The expanding die-block A B, in combination with its handle-rod C and a suitable spring-latch, *b*, as and for the purposes herein set forth.

2. The spring-fingers herein described, composed of a piece, *g*, of stone, and a metallic shell, *h*, when said fingers are arranged so as to operate as herein set forth.

3. The handle D, with its latch *e* and spring-plate *f*, in combination with the notched rod C, all arranged and combined as and for the purposes set forth.

L. H. ALLEN.

Witnesses:
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