

H. GÄRTNER.

CUTTER BOX FOR MAKING THE POINTS OF WIRE NAILS AND THE LIKE.

APPLICATION FILED MAY 23, 1912.

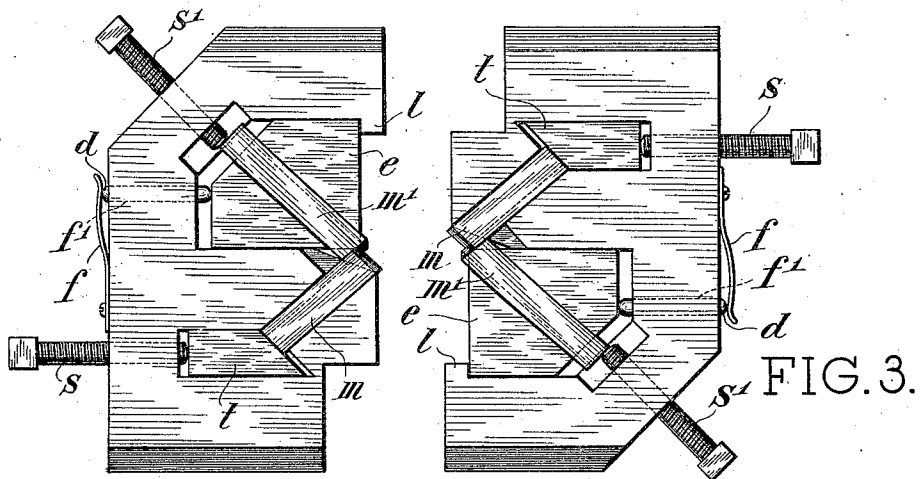
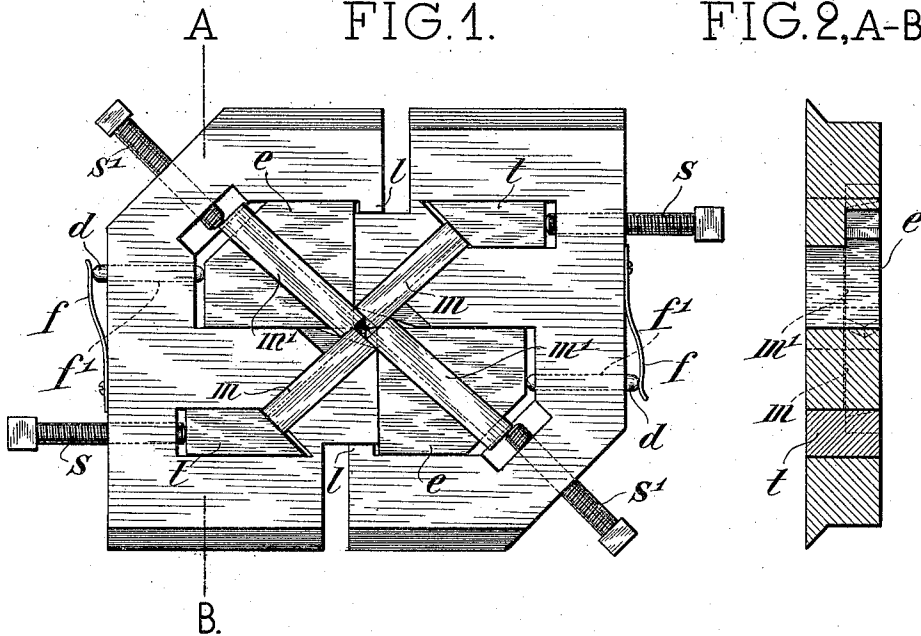
Patented May 20, 1913.

2 SHEETS—SHEET 1.

1,062,394.

FIG. 1.

FIG. 2, A-B.



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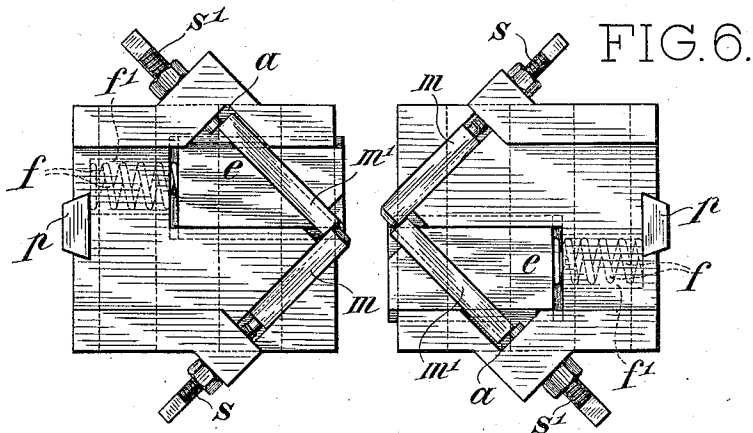
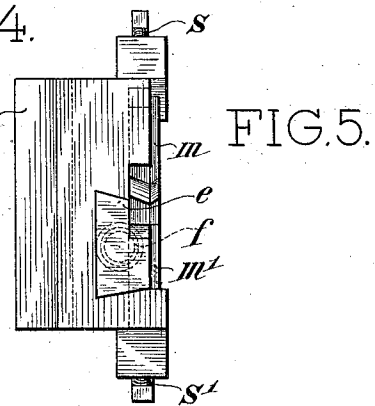
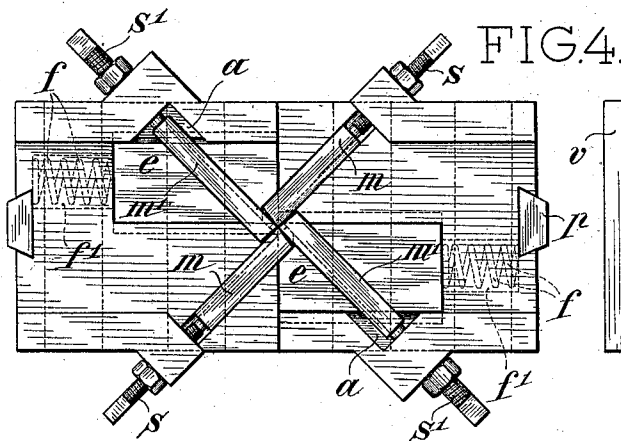
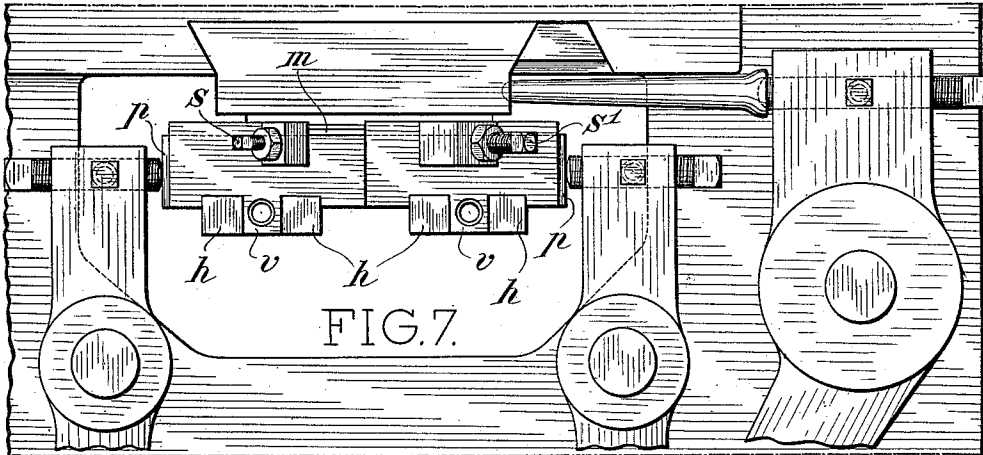
CUTTER BOX FOR MAKING THE POINTS OF WIRE NAILS AND THE LIKE.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

HERMANN GÄRTNER, OF LINTORF, NEAR DUSSELDORF, GERMANY.

CUTTER-BOX FOR MAKING THE POINTS OF WIRE NAILS AND THE LIKE.

1,062,394.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed May 23, 1912. Serial No. 699,102.

To all whom it may concern:

Be it known that I, HERMANN GÄRTNER, a subject of the German Emperor, and residing at Lintorf, near Dusseldorf, Germany, have invented certain new and useful Improvements in Cutter-Boxes for Making the Points of Wire Nails and the Like, of which the following is a specification.

The present invention relates to a four-jaw press for wire-nail machines, in which of the pairs of cutters in the opposite holders only one each is adjustable.

The invention is particularly characterized by the fact that the cutters are adjustably arranged in special members which are displaceable to a limited extent in the box-halves and are held in their innermost position by the pressure of springs or the like; during the operation of pressing the points these members are touched and forced backward by the otherwise free, opposite half of the cutter-box, whereby the cutters are displaced and when the cutter-box halves again open, they will under action of the springs be moved with their cutters back into their old position. In consequence of this arrangement, even a small opening movement of the box-halves, will cause the cutters to be spread to an extent sufficient to accommodate the nailhead forming die.

In the accompanying drawing a constructional form of the cutter-box is exemplified.

Figures 1 and 3 are front elevations in closed and opened positions respectively and Fig. 2 is a section on the line A—B in Fig. 1; Figs. 4, 5 and 6 are a second constructional form in front and side elevation; and Fig. 7 is the arrangement of the new cutter-box on a wire-nail machine with shear-levers.

As the drawing shows, two cutters *m* are adjustable in the two cutter-box halves, but are generally in a fixed position. At right angles to these are cutters *m*¹ which are displaceable each in a block *e* which are adjustable in a corresponding guide of their box-half in the direction in which the latter moves. The adjustability of the cutters *m* is obtained by the set-screws *s* and the wedges *t*, against which the cutters *m* bear, and the adjustability of the cutters *m*¹ is effected by the set-screws *s*¹, on the point of which they glide with their rear end when the blocks *e* are displaced. Through a corresponding bore *f*¹ in each jaw projects a pressure pin *d*, which is under action of a flat spring *f* attached to the said jaw, and thus

holds the guide blocks *e* in their innermost position, in which they bear against the lugs *l* of the cutter-box halves. That part of each cutter-box half which contains the cutters *m*, projects to some extent, so that when the two cutter-block halves are moved together, said projecting part will strike directly against the block *e* of the opposite cutter-box half, and will displace the said block in its cutter-box. The cutters *m*¹ therewith abut with their outer faces against the screws *s*¹ and are thereby displaced in their blocks in such a manner, that the cutter-heads of all four cutters *m*, *m*¹ are moved so far toward each other as will be necessary for producing one point, or if the cutters are accordingly shaped, for producing two points. The blocks *e* are returned to their innermost position by springs *f* and pins *d*, entirely independently of the opposite cutter-box half, which carries out this operation with the ordinary kinds of cutters used. When the two cutter-box halves separate, a small outward movement only will spread them sufficiently for the accommodation of the head-forming die between the cutters.

By making the cutter-block according to the second constructional form, Figs. 4, 5 and 6 it is rendered possible, to fit the new cutter-box also to any of the known wire-nail machines or presses, which work with shear-levers. Here the blocks *e* that receive and guide the displaceable cutters *m*¹, are advanced by springs *f*, accommodated within recesses of the cutter box halves. The screws *s*, *s*¹ are arranged in substantially axial alinement with the cutters *m*, *m*¹ which they respectively engage. Cutters *m*¹ have a free lateral play in the recesses *a* of the box halves, said recesses being of such a size that the cutters will strike the inner walls of said recesses, when the box halves are separated, so that in this way the recesses limit the lateral play of the cutters. With this construction, the lugs *l* are dispensed with, each box half facing directly the opposed block *e*. At the rear of each of the two cutter-box halves a projection *v* carrying a set-screw is provided, with which they are coupled in known manner to the shear levers (see Fig. 7). On the outer side of the cutter box are further arranged the hardened steel prisms *p* for the pressure levers to act on. The operation of the cutter-box is the same as with the first constructional form, only the two halves do not move to-

ward each other in a rectilinear direction but on a slightly curved circular line of the radius of the shear lever.

I claim:

5 1. In a nail making machine, a pair of box halves, a fixed cutter and a movable cutter fitted within each box half, means for automatically pushing back the movable cutters upon a closing of the box halves and
10 for automatically advancing said movable cutters upon an opening of the box halves.

2. In a nail making machine, a pair of box halves, a fixed cutter and a movable cutter fitted within each box half, the fixed cutter of one box half being adapted to push
15 back the movable cutter of the other box half, and springs for advancing the movable cutters.

3. In a nail making machine, a pair of
20 box halves, blocks laterally movable therein,

cutters slidable within the blocks, and a pair of coacting fixed cutters fitted within the box halves.

4. In a nail making machine, a pair of box halves, blocks laterally movable therein, 25 yielding members engaging the blocks, cutters slidable within the blocks, and a pair of coacting fixed cutters fitted within the box halves.

5. In a nail making machine, a pair of 30 box halves, blocks laterally movable therein, pins engaging the blocks, springs engaging the pins, cutters slidable within the blocks, and a pair of coacting fixed cutters fitted within the box halves.

HERMANN GÄRTNER. [L. s.]

Witnesses:

HELEN NUFER,
ALBERT NUFER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents.
Washington, D. C."