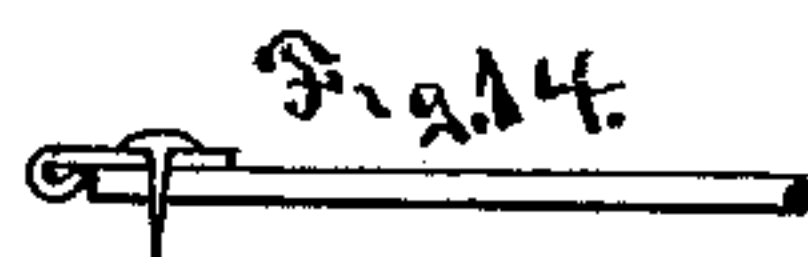
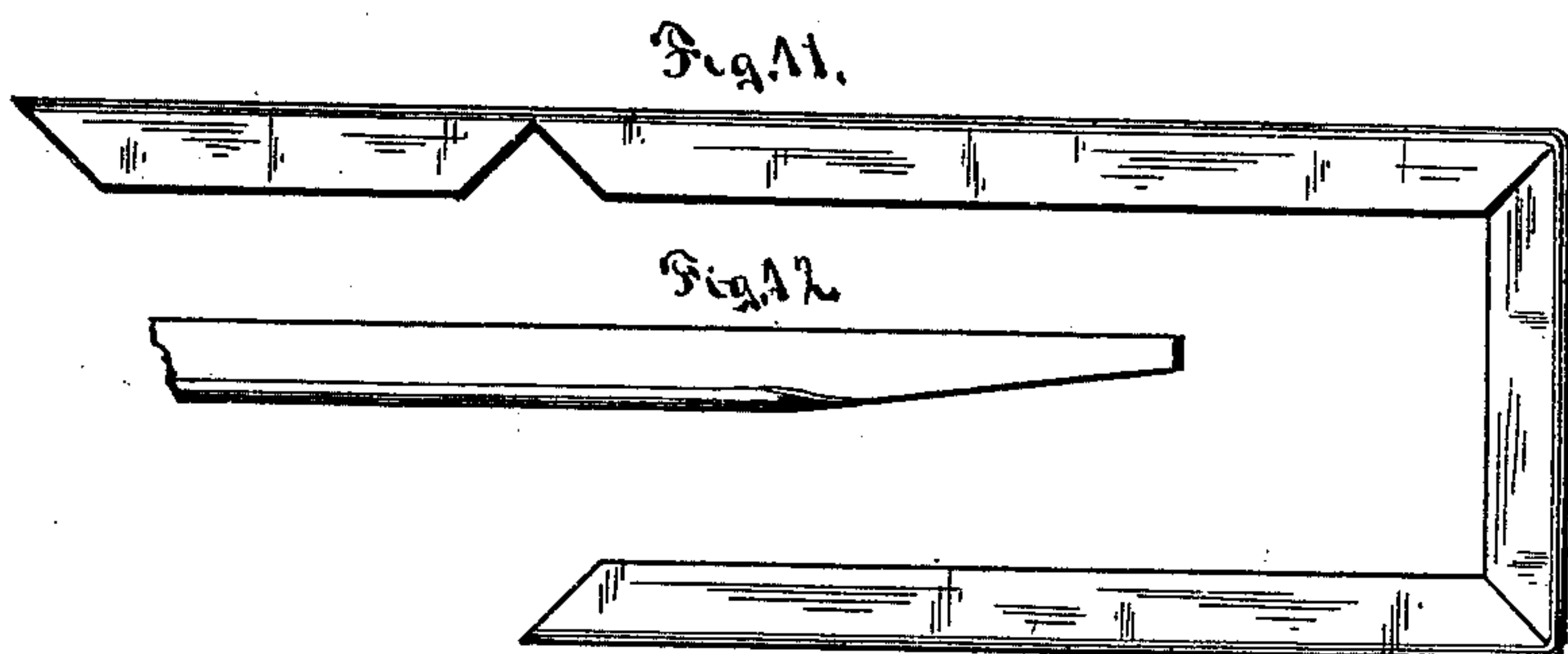
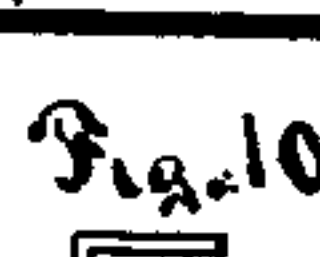
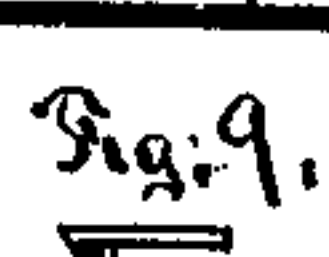
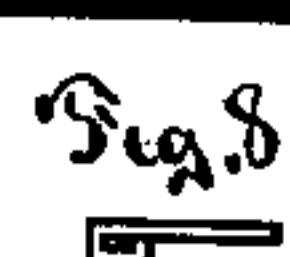
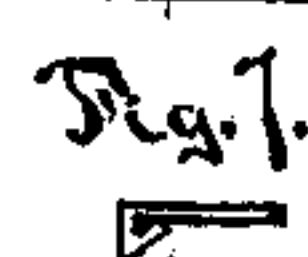
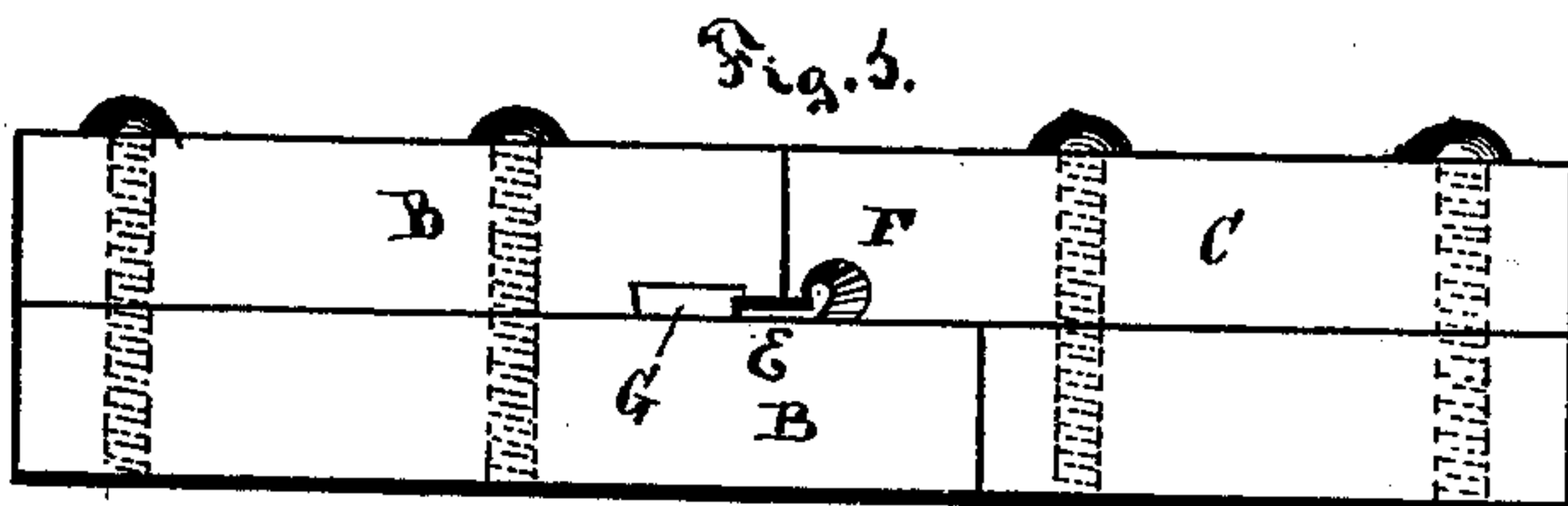
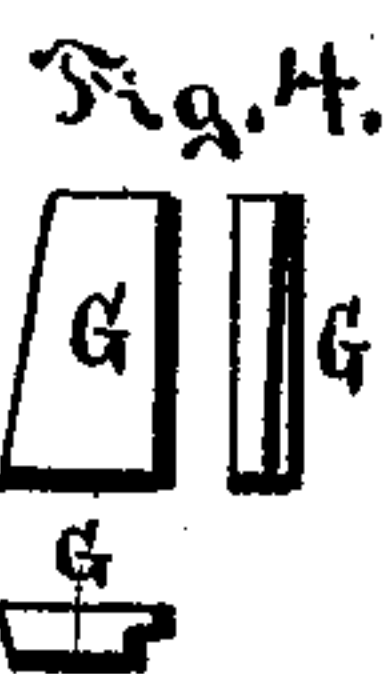
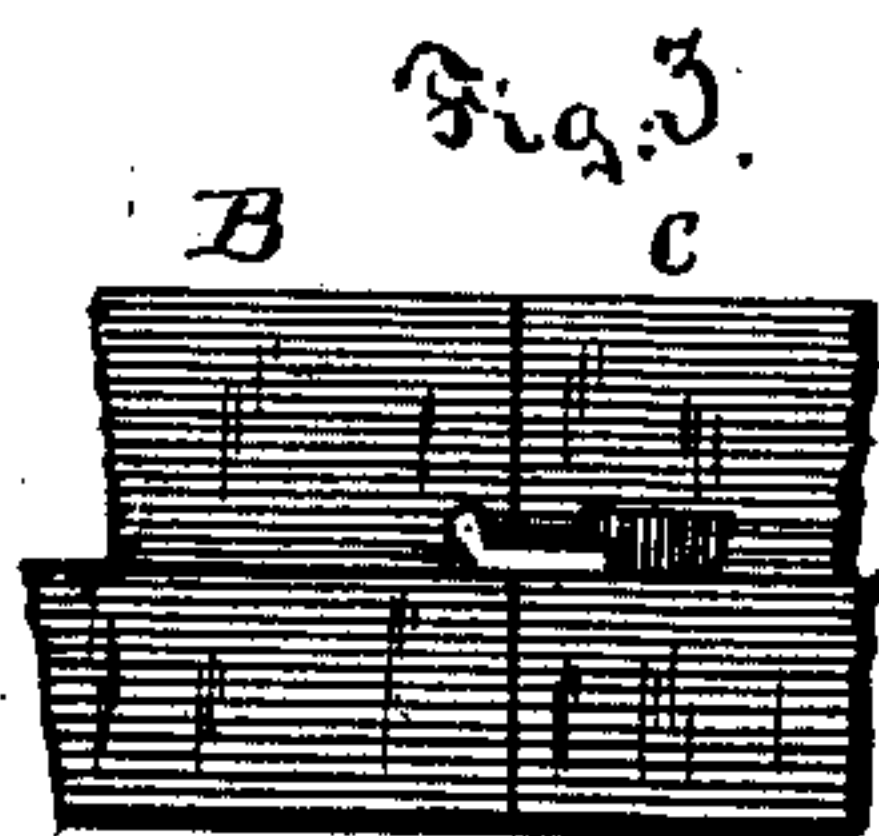
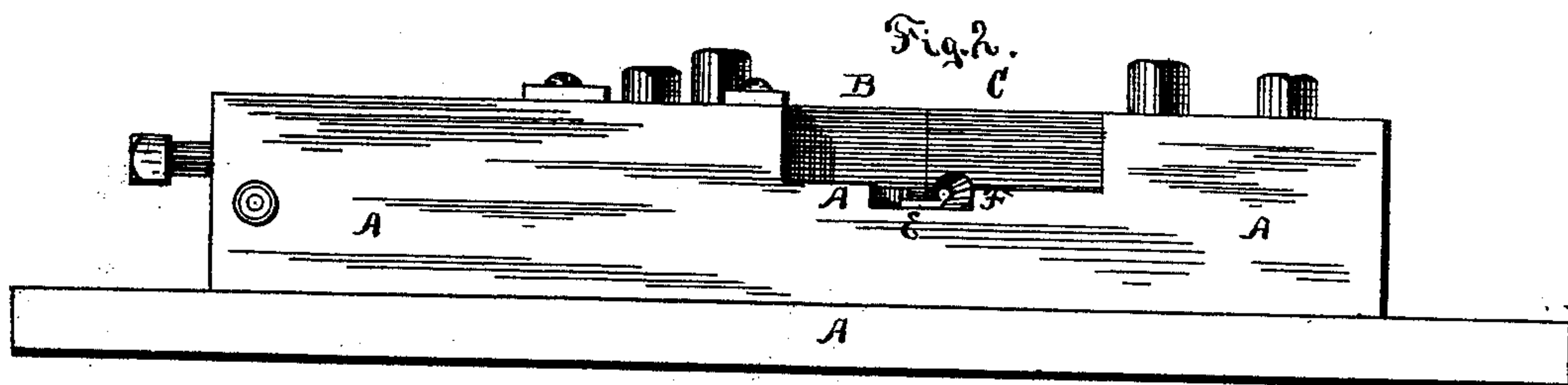
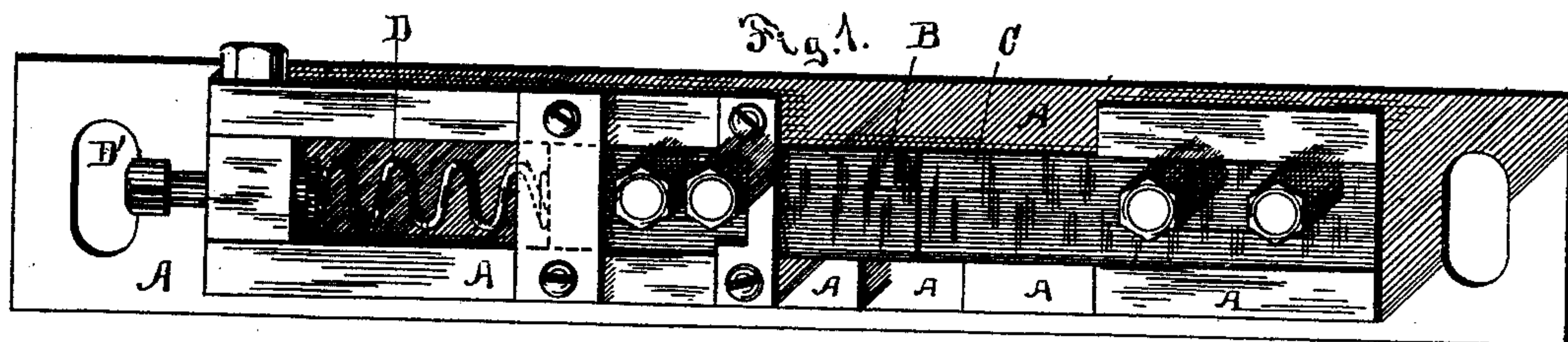


E. E. JOHNSON.
Die for Edging Sheet-Metal Strips.

No. 229,418.

Patented June 29, 1880.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD E. JOHNSON, OF PAINESVILLE, OHIO.

DIE FOR EDGING SHEET-METAL STRIPS.

SPECIFICATION forming part of Letters Patent No. 229,418, dated June 29, 1880.

Application filed November 21, 1879.

To all whom it may concern:

Be it known that I, EDWARD E. JOHNSON, of Painesville, in the county of Lake and State of Ohio, have invented certain new and useful
5 Improvements in Mechanism for Bending the Edges of Metallic Binding-Strips; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which
10 it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to mechanism for bending the edges of metallic binding-strips, adapted
15 for use with carpets, rugs, &c.; and it consists in the following parts and combinations, as hereinafter specified and claimed.

In the drawings, Figure 1 is a plan view of a device according to my invention. Fig. 2 is
20 a view, in side elevation, thereof. Fig. 3 is a detail view, in elevation, of the die, showing the side opposite to that in Fig. 2. Fig. 4 represents a top, side, and end view of a detachably-attached portion of my die. Fig. 5 is a
25 modification view, showing the dies with broken joints. Figs. 6, 7, 8, 9, and 10 are a few of many forms into which a zinc strip may have its end bent or turned over by a device constructed according to my invention. Fig. 11
30 is a plan view of a binding-strip ready to be applied, one end being unfolded to show the manner of cutting the body and turning the outside edge so that an outside edge will be presented. Fig. 12 is a plan view of a zinc strip
35 as it is prepared to enter the dies and to be drawn through the same. Fig. 13 is a view, in horizontal longitudinal section, of the turning or folding portion of the die. Fig. 14 is a view, in longitudinal vertical section, of a carpet or rug with a metallic binding-strip attached.

In the said drawings, A is a frame, preferably metallic, within which rests the dies. The dies are constructed from two, three, or more
45 component parts or blocks. I prefer, however, to construct them in three parts, for reasons that will hereinafter appear.

In Figs. 1 and 2, B and C represent, respectively, the movable and stationary component
50 parts of a die. The part B is backed up and kept in position by a spring, D, the tension of

which may be adjusted, if desired, by a tension-screw, D'. The use of the spring D is to permit the die-section B to yield longitudinally, in order to accommodate varying widths
55 of zinc strips that may be passed through the die, as the width of these strips is apt to vary from a sixteenth to a thirty-second of an inch, and it is desired that the die should be constructed to accommodate itself to these differences. This is accomplished by allowing
60 the section B, under spring-pressure, to have its longitudinal movement, as already specified.

Instead of constructing the die of two parts, 65 it may be made from four parts, and these parts may be jointed either equally, or said joints may be broken.

The die proper consists of an opening made through or between the blocks B C. This
70 opening consists, essentially, of a flat portion, E, and a folding or hemming portion, F. The exact shape of the turning or hemming portion F is a matter in which I do not strictly limit myself, as the conformation of this part of my
75 device must depend upon the fashion of product to be made.

Figs. 6, 7, 8, 9, and 10 indicate but few of various manners in which the edge of a metallic strip can be turned upon itself, and the
80 portion F of the die should be made of a form to bend the metal into the desired shape.

In order to enable the metallic strip to be first inserted within the die, its end should be cut tapering, as indicated in Fig. 12. This is
85 a plainly apparent necessity, as the width of the unbent strip is greater than the width of the die through which it must pass. As the tapering strip is drawn through the die one of its edges is gradually turned upon itself by
90 the action of the portion F of said die. Of course, the wearing portions of the die should be made of hardened metal that will resist as far as possible any wearing action. I have found, however, that a portion of the die prob-
95 ably the most apt to wear is that edge of the part E opposite the portion F, and have therefore provided a detachably-attached wall for this portion of my die, and this is represented in the drawings at G.

100 Figs. 2 to 5, inclusive, show the wall G and its method of attachment, Fig. 4 being a rep-

resentation of said wall removed and shown in three positions—to wit, a face, side, and end view. It may be made of any shape desired, although I have found the wedge shape and the general conformation shown in Fig. 4 to answer a useful purpose. When worn or broken the part G can be removed and repaired or replaced with new material.

The operation of my device has already been quite clearly indicated. It may, however, be briefly described as follows:

When the parts are united, as shown in Figs. 1, 2, 3, or 5, a metal strip, first having its end tapered, as indicated in Fig. 12, is inserted into that side of the die shown in Figs. 2 and 5 with its tapering edge turned toward the hemming portion F of the die. As it is passed through this edge will be turned, as indicated in Figs. 6 to 10, inclusive, according to the conformation of the die through which it has passed. Thus formed, the metal strip is fitted for bordering a carpet, rug, or the like, as indicated in Fig. 14, and when thus applied it affords not only an ornamental edg-

ing, but a protection to the fabric to which it is attached.

What I claim is—

1. In a machine for bending the edges of metallic strips, a die formed with a folding portion and a flat portion, the end wall of the latter being provided with a recess, and a removable wearing-wall fitted therein, substantially as set forth.

2. In a machine for bending the edges of metallic strips, the combination, with a die formed with a movable section, of an elastic adjusting device connected to the latter and adapted to cause the die to automatically conform to strips of varying width, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD E. JOHNSON.

Witnesses:

A. A. AMIDON,
THOS. L. CHILDS.