

(No Model.)

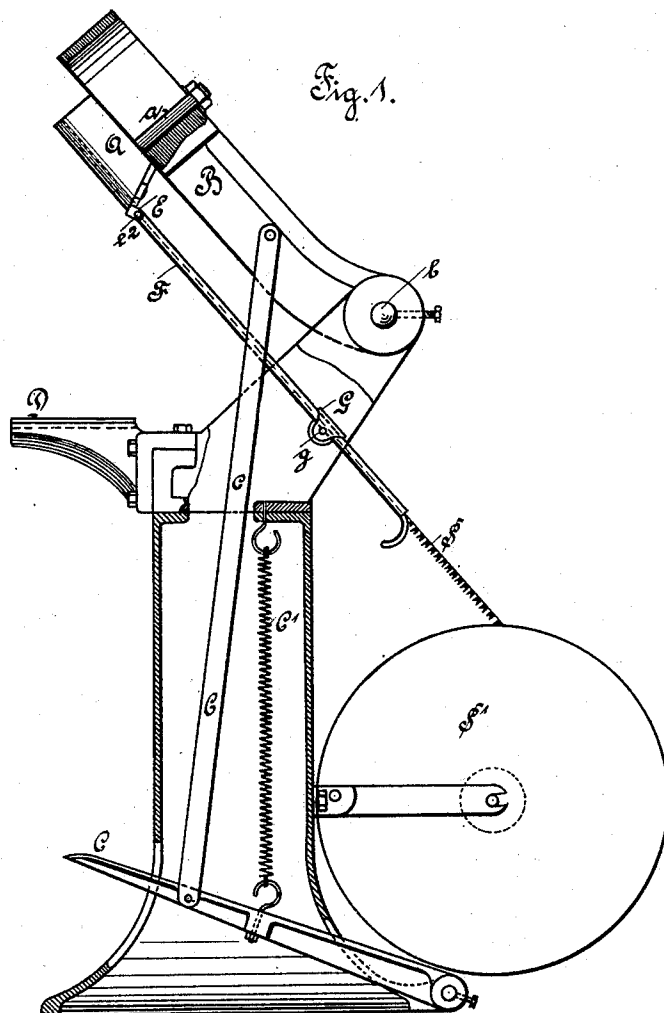
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M. R. PARTZSCH.

MACHINE FOR FASTENING SHEET METAL CLAMPS TO BOXES.

No. 580,799.

Patented Apr. 13, 1897.



Witnesses:

C. Gruppik
A. Kelly

Inventor:

Max R. Partzsch.

by Church & Church
his attys.

(No Model.)

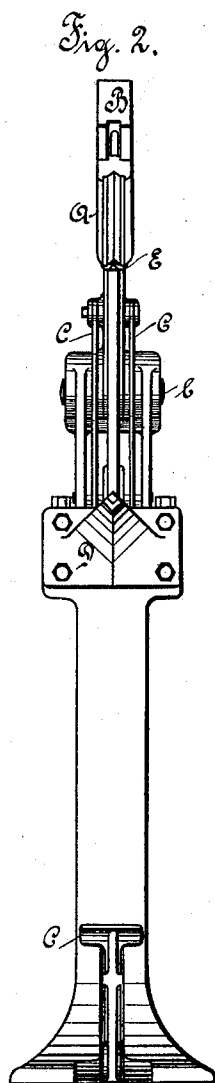
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M. R. PARTZSCH.

MACHINE FOR FASTENING SHEET METAL CLAMPS TO BOXES.

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Witnesses:

E. Griffut
A. Kelly

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(No Model.)

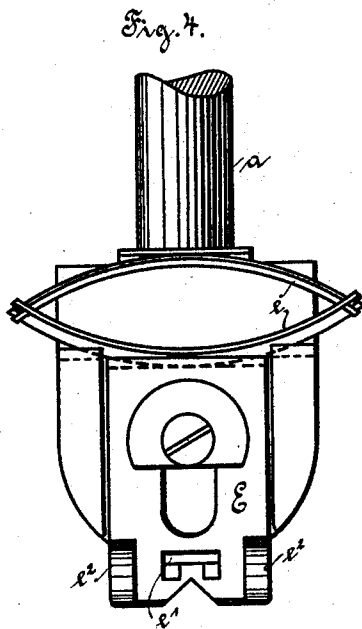
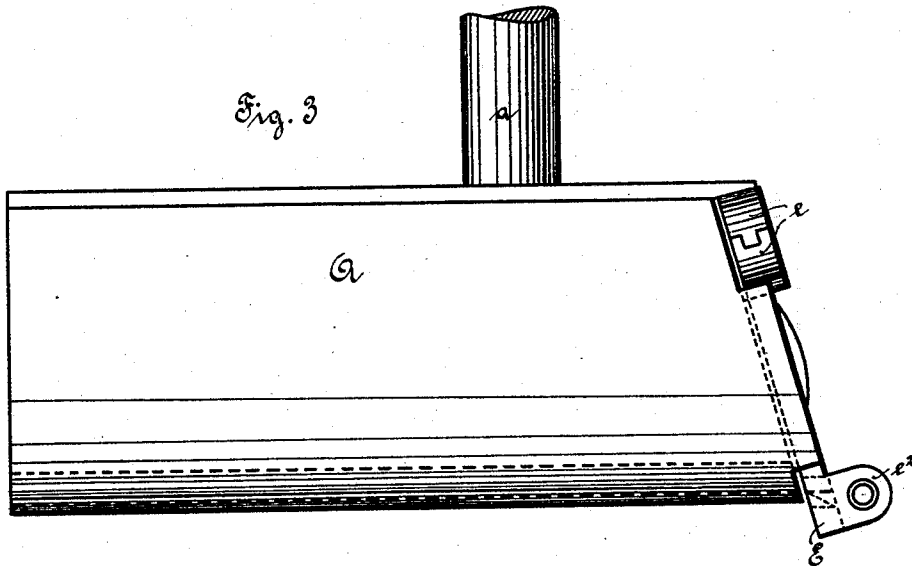
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M. R. PARTZSCH.

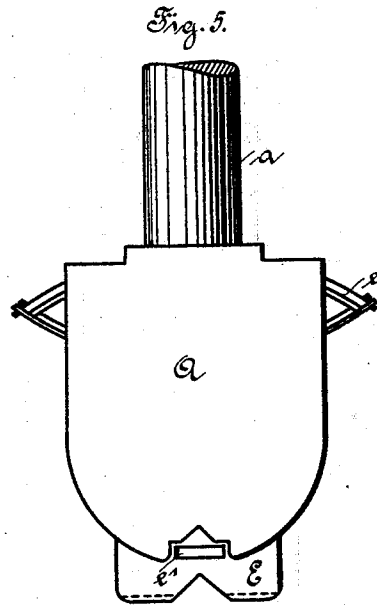
MACHINE FOR FASTENING SHEET METAL CLAMPS TO BOXES.

No. 580,799.

Patented Apr. 13, 1897.



Witnesses:
E. Clapp
A. Kelly



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(No Model.)

5 Sheets—Sheet 4.

M. R. PARTZSCH.

MACHINE FOR FASTENING SHEET METAL CLAMPS TO BOXES.

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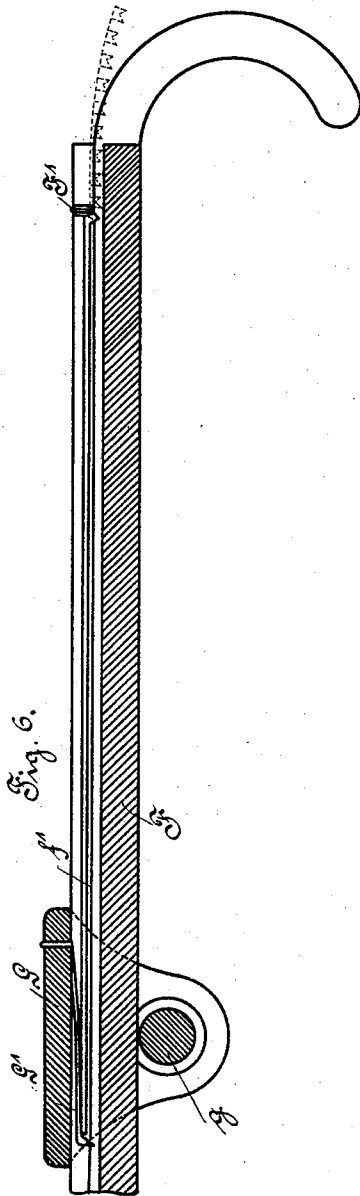


Fig. 6.

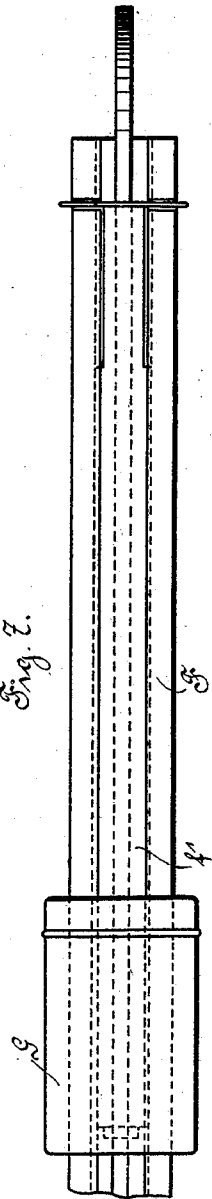


Fig. 7.

Witnesses:
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A. Kelly

Inventor:
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by Church & Church
his Atty.

(No Model.)

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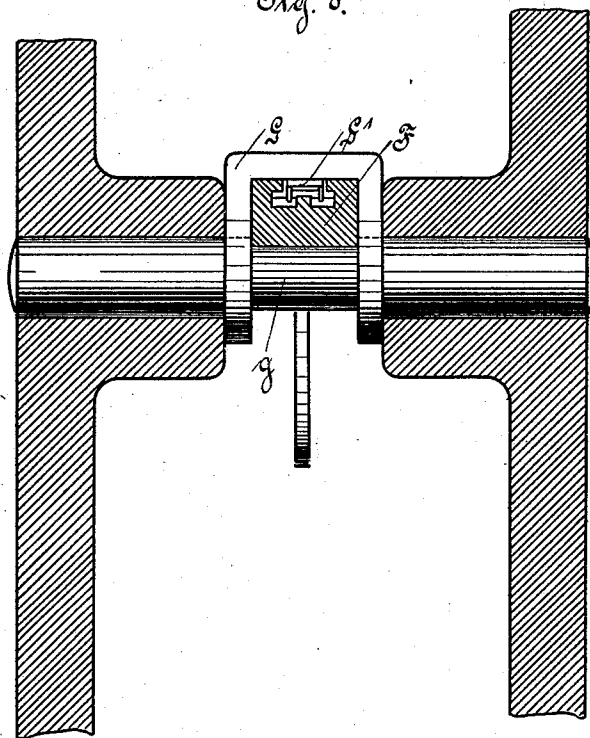
M. R. PARTZSCH.

MACHINE FOR FASTENING SHEET METAL CLAMPS TO BOXES.

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Patented Apr. 13, 1897.

Fig. 8.



Witnesses:
E. Cripps
A. Kelly

Inventor:
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UNITED STATES PATENT OFFICE.

MAX RICHARD PARTZSCH, OF DRESDEN, GERMANY.

MACHINE FOR FASTENING SHEET-METAL CLAMPS TO BOXES.

SPECIFICATION forming part of Letters Patent No. 580,799, dated April 13, 1897.

Application filed July 6, 1896. Serial No. 598,197. (No model.)

To all whom it may concern

Be it known that I, MAX RICHARD PARTZSCH, a subject of the King of Saxony, residing at Dresden, Saxony, German Empire, have invented certain new and useful Improvements in or Relating to Machines for Fastening Sheet-Metal Clamps to Boxes and the Like, of which the following is a specification.

The object of the present invention is to apply pieces of a continuous toothed or serrated strip of metal to articles made of cardboard, leather, wood, &c., for the purpose of fastening these objects together. The present machine differs from previous machines in the manner of automatic feed of the endless metal strip, which comes from the swinging hammer or from a cutter adjustable on that hammer.

In the accompanying drawings, Figure 1 is a side elevation, partially in section; Fig. 2, a front view of the machine. Fig. 3 shows in elevation the hammer carrying a movable cutter; Figs. 4 and 5, end views of the same. Fig. 6 shows in longitudinal section a part of the grooved guide belonging to the feed arrangement, with a guide-yoke which can turn. Fig. 7 is a plan of the same; and Fig. 8, a cross-section through the frame, grooved guide, and yoke in the plane of the axis of the yoke.

The hammer A, the shape of which may be seen from Figs. 3 to 5, is adjustable on an arm B, Figs. 1 and 2, and can be fixed in any position by a bolt *a*. This arm B swings round the pin *b* and can be moved downward to the anvil D, against the action of the spring C', by means of a treadle C and connecting-rods *c*.

On the rear surface of the hammer is a cutter E, which can move under the influence of a spring *e*, Figs. 3 to 5. This cutter projects beyond the hammer, so that when the hammer descends the cutter touches the anvil first and is moved relatively to the hammer till the latter strikes the anvil, the sharp edges of the recess *e'* of the cutter in coöperation with the edge of the hammer cutting off the piece of the metal strip which has passed.

To the lug *e''* on the cutter is articulated a grooved guide F, which passes through a yoke G, in which it is movable, and is supported by a pin *g*. As *g* does not coincide with *b*, there must take place a relative movement of

the parts F and G when the hammer swings, G oscillating upon *g*. This movement is utilized for step-by-step feeding of the strip S in the following manner: The strip S, which is unwound from a drum S', is guided through the grooved guide F and through the recess *e'* in the cutter E. It has either lateral projections or apertures from which project spikes or teeth bent downward at right angles. The strip is placed in the grooved guide with its teeth downward, and the grooved guide is formed accordingly with recesses for the teeth, Fig. 8. The strip is capable of movement relatively to the guide, but the yoke G and guide F are provided, respectively, with spring-pawls G' and F'. The teeth of the pawls F', Fig. 6, engage with the recesses between the lateral projections or holes of the strip, and owing to the way in which they are tapered they engage only in one direction, whereas in the other direction they slide past or over the projections. When the hammer descends, the pawl G' engages with the strip which then is held fast at the yoke G, whereas the grooved guide F passes backward along the strip; but as the hammer-head, swinging round *b*, approaches toward the fixed yoke G the end of the strip passing through E comes into the path of the hammer. The feeding of the strip is therefore caused by the movement of the hammer and of the grooved guide relatively to the then stationary strip. In that movement F' slides over the projections or teeth on the strip in order to engage with them at the change of stroke and to move the strip through G and G' when the hammer rises. In this manner during the upward movement of the hammer a piece of the strip is unwound from S' and moved by F' in order to come under the hammer in the latter's downward movement to be cut and fixed. If pieces of different length have to be employed, the feed must be adjustable. The movement of the guide F is smaller the nearer the pin *g* is to the pin *b*. The feed can therefore be made adjustable by making *g* movable toward *b*; but as the hammer itself must be adjusted in a forward direction when using short pieces that method would require two adjustments. Therefore it is preferable to have an arrangement by which the hammer is adjusted at the same time without any fur-

ther operation. For this purpose instead of the whole of the guide F only a variable part of it is utilized for the forward movement of the strip. There is in the groove of the guide F a plate f' , which may be, as shown in Figs. 6 and 7, in one piece with the pawl F' . As long as in the return movement of the grooved guide F the end of that plate is under the pawl G' the latter cannot act on the strip, and so the strip is caused by the pawl F' to move back with the guide. Only after the left-hand edge of f' , Fig. 6, has passed under the teeth of G' the strip will be held fast. The strip therefore will be moved forward to an extent less than before to an extent equal to the return movement which the strip made with the guide F before the pawl G' came into operation. The farther the hammer A, with the guide, is moved on B the farther f' will move relatively to G' . Therefore the pawl G' will come into operation on its return so much later and the piece of strip moved forward will be correspondingly shorter; but apart from the adjustment of the feed it is advisable to make the way of the guide F ample and to utilize for the above purpose only a part of it, because if the pawl G' were to engage at the beginning of the downstroke of the hammer then each slight movement or oscillation of the hammer would cause the strip to move forward. When the hammer rises, the arm B will generally swing a little to and fro until stopped by the spring C' ; but as the pawl G' is inoperative in that position of the hammer the to-and-fro movement of the arm B has no influence on the forward movement of the strip.

In order to prevent the relative movement of the cutter E and hammer A when the former strikes the anvil from having any influence on the strip, the guide of the cutter E is arranged tangentially to a circle with b as center in such manner that after E descends to the anvil D the said relative movement does not cause any movement of the grooved guide F. With such arrangements of the guide the cutter passes the edge of the object to be operated upon and its striking against it is avoided.

I claim—

1. In a machine for fastening metal edges or clamps to boxes and the like the combination with the frame the anvil carried thereby, the hammer-head carried by an arm pivoted to the frame, the guide for the fastening-strip pivotally connected at its forward end to the hammer-head, the yoke through which

the guide passes, pivotally connected to the frame at a point outside the axis of rotation of the hammer-arm, the pawl carried by the yoke for holding the strip as the hammer-arm descends, while the guide is moved backward, and the pawl carried by the guide for holding the strip as the hammer-arm ascends to feed the fastening-strip forward; substantially as described.

2. In a machine such as described, the combination with the frame, the anvil carried thereby, the hammer-head carried by an arm pivotally connected to the frame, the guide for the fastening-strip pivotally connected to the hammer-head the yoke for supporting the guide, the pawl carried by the guide for holding the strip as the hammer descends, to permit the guide to move backward independently of the strip, the pawl carried by the guide for holding the strip as the hammer ascends, and mechanism for holding the yoke-pawl out of operation to permit the strip to be drawn back with the guide until the yoke-pawl again becomes operative, whereby the feed of the strip may be varied; substantially as set forth.

3. In a machine, such as described, the combination with the frame, the anvil carried thereby, the hammer-head carried by an arm pivotally connected to the frame, the guide for the fastening-strip pivotally connected to the hammer-head, the yoke for supporting the guide, the pawls carried by the yoke and guide and the plate carried in the guide for holding the yoke-pawl intermittently out of operation; substantially as and for the purpose described.

4. In a machine such as described, the combination with the frame, the anvil, the pivoted hammer-arm, the cutter mounted on the hammer and movable relatively thereto, the guide pivotally connected to the cutter, said cutter being guided to move tangentially to a circle having the hammer-arm pivot as a center, whereby movement of the guide and strip will be prevented when the hammer strikes the anvil and the relative movement between the hammer and cutter takes place; substantially as described.

In witness whereof I have hereto set my hand in the presence of the two subscribing witnesses.

MAX RICHARD PARTZSCH.

Witnesses:

OTTO WOLFF,
HUGO GUMMER.