

(No Model.)

2 Sheets—Sheet 1.

J. TEMLER.

AUTOMATIC FEED DEVICE FOR RIVETING MACHINES.

No. 582,704.

Patented May 18, 1897.

Fig:1



Fig:2



Fig:4



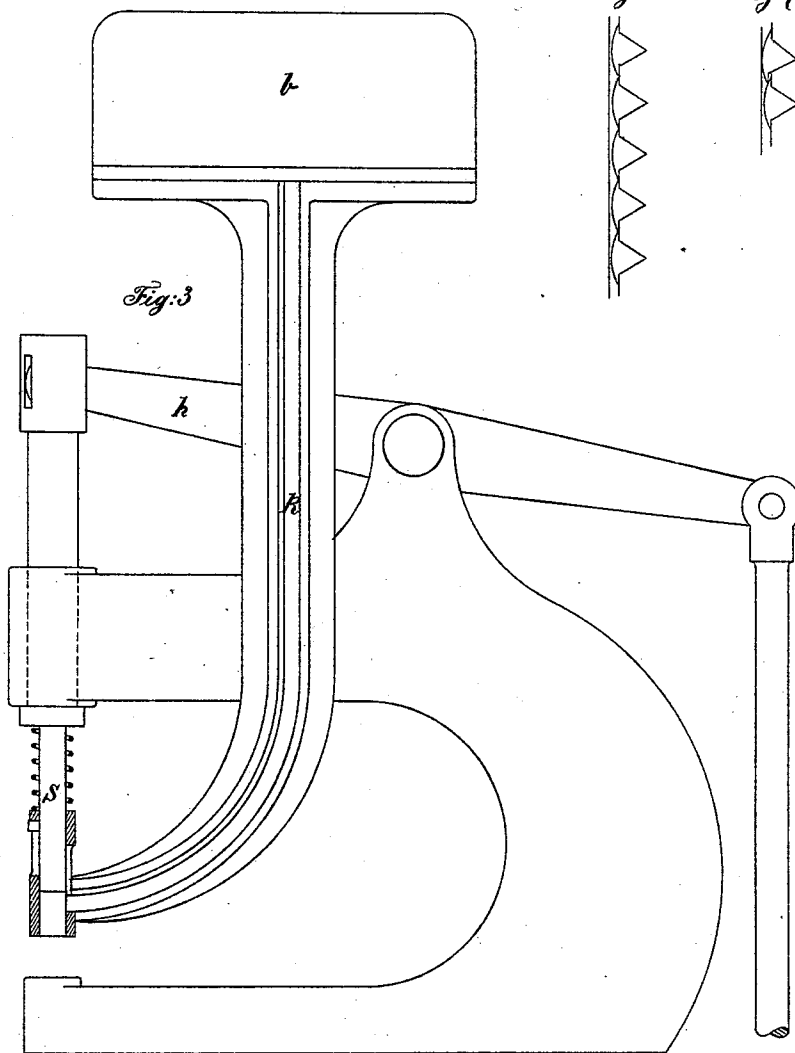
Fig:5



Fig:6



Fig:7



Witnesses:

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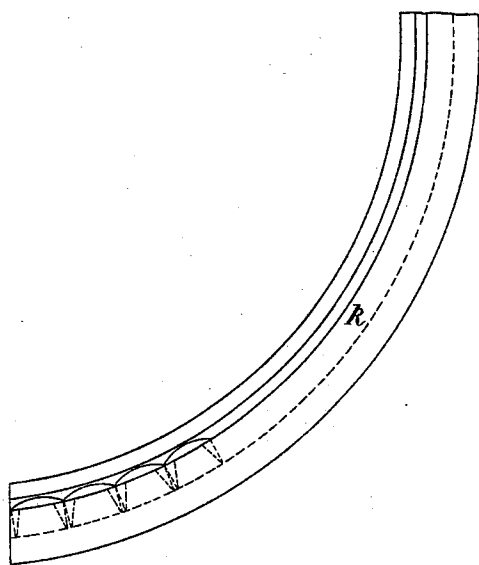
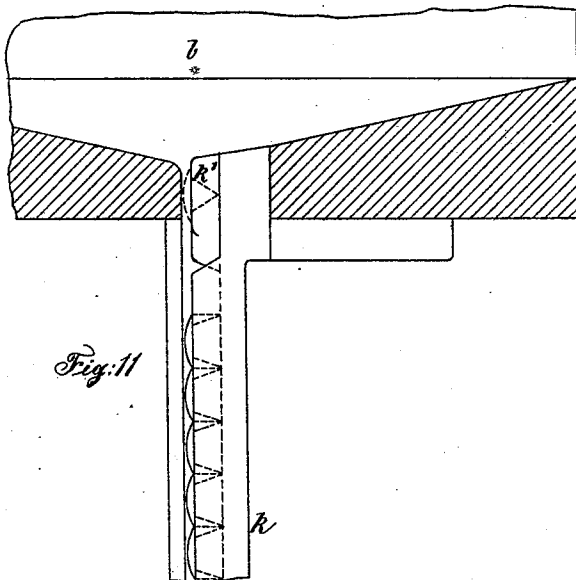
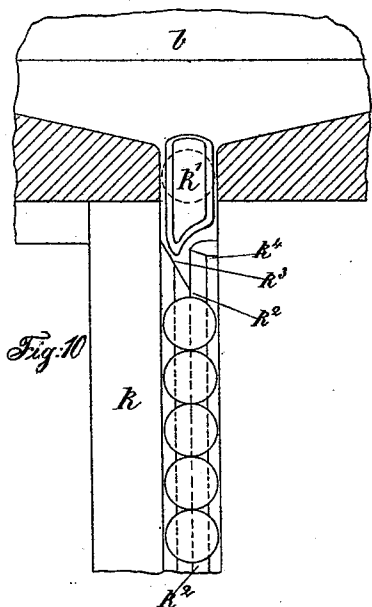
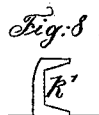
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UNITED STATES PATENT OFFICE.

JOSEF TEMLER, OF LONDON, ENGLAND.

AUTOMATIC FEED DEVICE FOR RIVETING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 582,704, dated May 18, 1897.

Application filed September 3, 1896. Serial No. 604,781. (No model.) Patented in England August 14, 1896, No. 18,074.

To all whom it may concern:

Be it known that I, JOSEF TEMLER, a subject of the Emperor of Russia, residing at 30 to 34 Tabernacle Street, London, England, have invented a new and useful Improved Automatic Feed Device for Riveting-Machines, (for which I have applied for a patent in Great Britain, No. 18,074, to bear date August 14, 1896,) of which the following is a specification.

The present invention relates to an improvement in the feed device of that class of riveting-machines by which sheet-metal rivets of the kind hereinafter mentioned are used for uniting cardboard, leather, and the like, the rivets being driven into and riveted over the parts to be united.

In the accompanying sheet of drawings, Figure 1 is a side and Fig. 2 an end elevation of a sheet-metal rivet of the kind referred to in this specification. Fig. 3 represents one of the simplest forms of the class of machines to which this invention is applicable. Fig. 4 is a perspective representation of one of the rivets lying on its head, and Fig. 5 is a like representation of a similar rivet lying on its side. Fig. 6 shows the positions assumed by such rivets in the chute as hitherto constructed, and Fig. 7 shows the way in which they become jammed. Fig. 8 is a diagram of the mouth of the rivet-channel. Fig. 9 is a horizontal section of the body of the rivet-channel. Fig. 10 is a front view of a part of the rivet-channel with the feed-plate removed, the rivet-receptacle being shown in section. Fig. 11 is a side view of the rivet-channel, the rivet-receptacle being shown in section.

In such machines the feeding of the rivets—i. e., their introduction to the place where they are used (under the riveting-plunger)—is usually done in such manner that a considerable number of rivets is poured into a dish or receptacle, whence a mechanical contrivance, such as a vibrating mechanism, an oscillating brush, or the like, moves the rivets into a channel, wherein all the rivets assume the same position. In the said channel the rivets move onward under the force of gravitation, and finally arrive under the riveting-plunger.

In Fig. 3 of the drawings the simplest form of this construction is shown. S is the plunger for driving home and riveting over the

rivets. The plunger is actuated by a lever *h*. *b* is the receptacle for the rivets. *k* is the channel opening from the receptacle and conducting the rivets under the plunger S.

The device serving to introduce the rivets from the receptacle *b* to the channel *k* is omitted in the drawings, partly because it may be made in various well-known ways and partly because it does not affect the present invention.

All the rivets when touching the bottom of the receptacle will, as soon as they are free to follow gravitation, lie either on their heads (see Fig. 4) or rest on their points and the edge of the head, as seen in Fig. 5. Experience has shown that only the last-named position allows a sufficient number of rivets to be passed into the channel. In that case the rivets are in position in the channel as seen in Fig. 6—that is to say, the edges of their heads touch one another. In this position it frequently occurs that the edges of the heads of two rivets are pushed one over the other, as shown in Fig. 7. This causes them to jam in the channel and prevents further movement of the rivets behind these, and then no rivets reach the plunger and the machine cannot work.

The object of the present improvements in the feed mechanism is to prevent such stoppages in the working of the riveting-machine.

The improvement consists in the following: The channel *k*, at the point where it opens into the bottom of receptacle *b*, has the shape shown in Fig. 8, corresponding with the position of the rivet shown in Fig. 5. The channel is continued with the sectional configuration shown in Fig. 9 until it terminates at the plunger S. Fig. 10 shows the channel seen from the front, the cover being removed. Fig. 11 is a side view of the same. At its mouth the channel *k* has a raised part *k'* at the center, corresponding to that position of the rivets (see Fig. 5) in which they are admitted from the receptacle to the channel. The rivets ride on said central part, the points being guided by the sides of the raised part *k'*, as the dotted lines in Figs. 10 and 11 clearly show. Below the raised part *k'* terminates in a bevel. Thence forward the channel has the gutter-like or prismatic form shown in Fig. 9. The prismatic part *k²* in dimensions and con-

figuration corresponds to the faces of the rivet-points.

That side of the prismatic channel k^2 which adjoins the blunt-pointed end of the projection k' is beveled off inwardly at k^3 , as shown in Fig. 10. The other side k^4 of the channel is inclined forward to correspond to the shape of the rivet-points. The operation of this arrangement is as follows: The rivet which, in the position shown in Fig. 5, falls into the channel when arriving at the point where the break is—that is to say, at the commencement of the gutter-like or prismatic portion shown in Fig. 9—meets the inclined surface k^4 of the channel. This checks the forward movement of the rivet-point, while the other point proceeds by reason of the incline at k^3 in the channel. The movement is around the point of the rivet resting on k^4 acting as a center. This movement of one part of the rivet around the other causes rotation of the rivet on its own axis. This causes the rivet-point resting on k^4 to be inclined to the surface supporting it. Ultimately this point, moving on k^4 and assisting the rotary motion of the rivet, passes into the channel k^2 . Now both points have reached the prismatic channel k^2 , so that each rivet touches the one above and below by the flat sides of its points, as shown in Fig. 11. In this position the rivets cannot slip one over the other.

Having fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A sheet-metal rivet-machine having, in combination, a rivet-receptacle, and a rivet-channel leading therefrom, said rivet-channel having an upper and a lower section, said up-

per section conforming in horizontal section to a section passing through the two points and head of the rivet, and said lower section conforming in horizontal section to the shape of the side of the rivet, (that is, when looking at the external face of one of the rivet-points,) and said channel having between said sections means for turning or rotating the rivets, substantially as set forth, whereby each rivet travels in the lower section with the external face of its forward point seated against the like face of the rearward point of the preceding rivet.

2. A sheet-metal rivet-machine having, in combination, a rivet-receptacle, and a rivet-channel leading therefrom, said rivet-channel having an upper and a lower section, said upper section k' , conforming in horizontal section to a section passing through the two points and head of the rivet, and said lower section k^2 , conforming in horizontal section to the shape of the side of the rivet, (that is, when looking at the external face of one of the rivet-points,) and said channel having between said sections means for turning or rotating the rivets, said means consisting of the stop or check k^4 , which retards the forward movement of one of the rivet-points, and of the bevel k^3 , in the path of the other rivet-point, substantially as set forth, whereby each rivet travels in the lower section with the external face of its forward point seated against the like face of the rearward point of the preceding rivet.

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Witnesses:

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