

Staple making. B.anks & processes.

No. 712,422.

Patented Oct. 28, 1902.

J. S. STOKES.

RIVET STRIP.

(Application filed July 11, 1902.)

(No Model.)

Fig. 1.

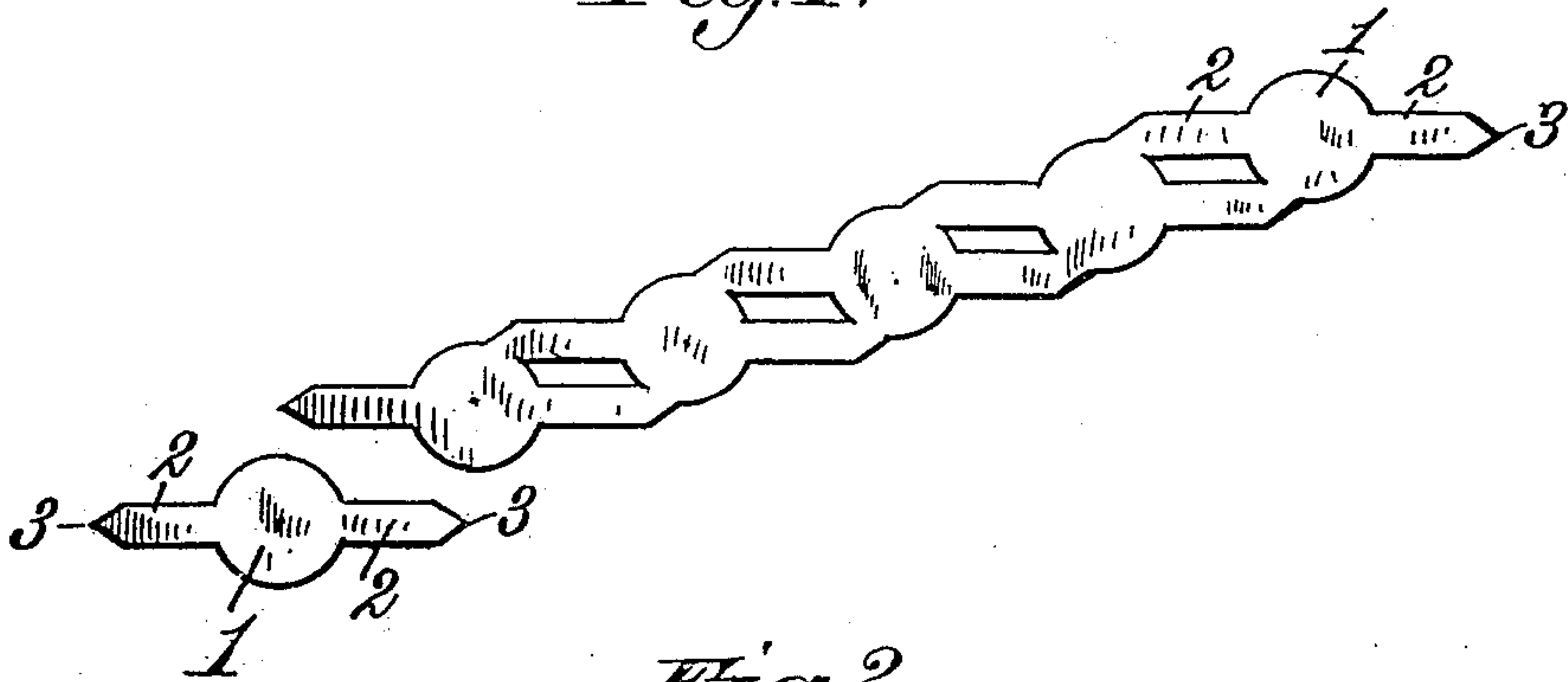
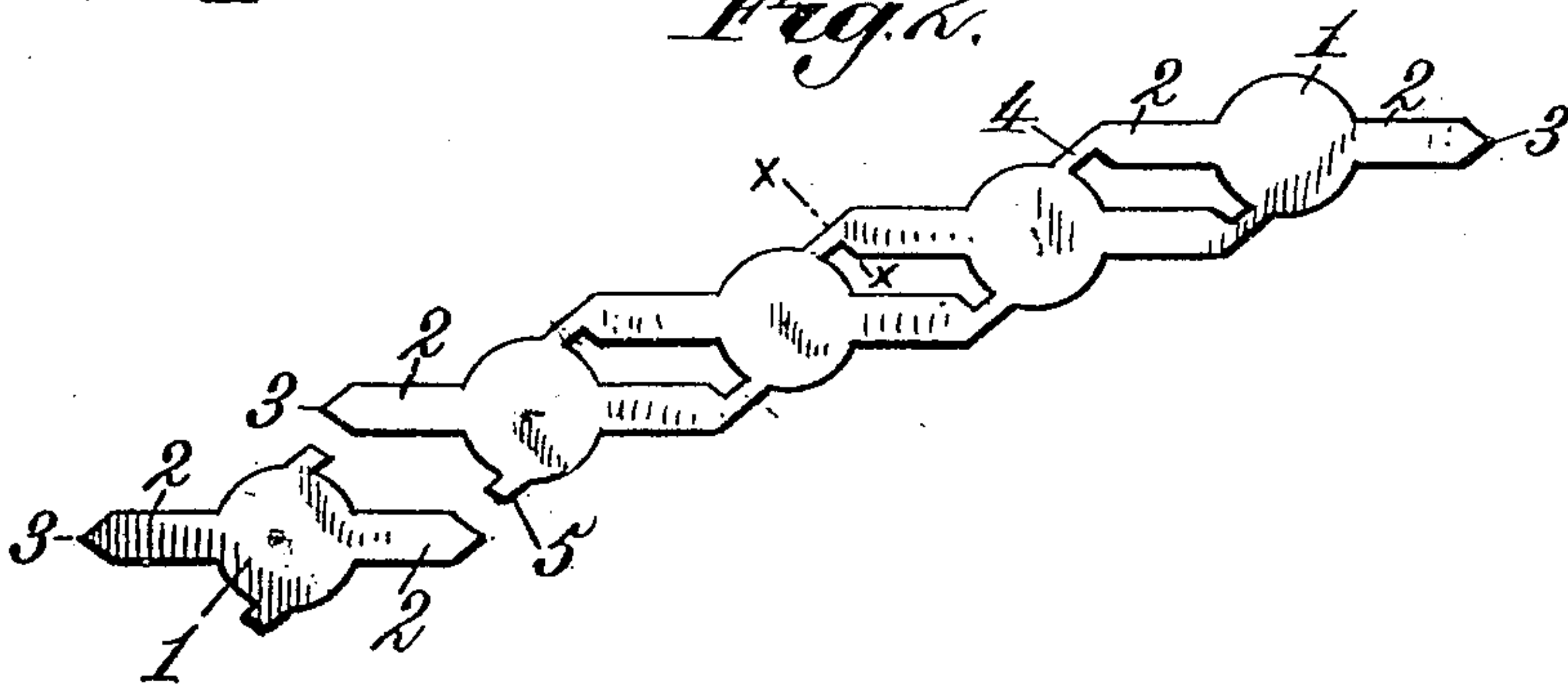


Fig. 2.



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JOHN S. STOKES, OF MOORESTOWN, NEW JERSEY.

RIVET-STRIP.

SPECIFICATION forming part of Letters Patent No. 712,422, dated October 28, 1902.

Application filed July 11, 1902. Serial No. 115,172. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. STOKES, a citizen of the United States, residing at Moorestown, in the county of Burlington and State of New Jersey, have invented new and useful Improvements in Rivet-Strips, of which the following is a specification.

My present invention relates to metallic rivet strips or fasteners, such as are especially adapted to connector bind together the meeting edges of boxes or other similar receptacles made of thin wood, pasteboard, or other equivalent material.

In machines for riveting or staying boxes now in general use certain forms of rivets or fasteners are employed and are fed into the machine in strip form—that is, a plurality of rivets are formed in a continuous strip of indefinite length and the strip is fed into a staying-machine, where the rivets are severed from the strip one at a time, shaped to proper form and applied to the box or other receptacles, the operation of severing, forming, and applying being continuous.

It is the purpose of the present invention to improve the construction of the rivet-strip, reduce the cost of manufacture by providing a construction wherein practically little or no metal is wasted in cutting the strip, and wherein the points or prongs of the rivets are connected or joined in such manner that they will be protected against accidental rupture or breakage.

Briefly and generally stated, the invention comprises a rivet-strip formed of a series of rivets joined together in a continuous strip of indefinite length, each rivet comprising a head and two prongs extending outward from the head at diametrically opposite sides thereof, the points of the prongs of one rivet being connected to the heads of adjacent rivets, and all the rivets of the strip being disposed at an angle to a line taken longitudinally and centrally of the strip.

In order to enable others skilled in the art to make and use my said invention, I will now proceed to describe the same in detail, reference being had for this purpose to the accompanying drawings, in which—

Figure 1 is a plan view of a rivet-strip made according to my invention, and Fig. 2 is a

similar view of a slightly-modified form of strip.

The rivet-strip, as shown in Fig. 1 of the drawings, consists of a plurality of connected rivets, each rivet comprising a head 1 and two shanks or prongs 2, formed integral with and extending outward at diametrically opposite sides of the head, the ends of the said shanks or prongs being beveled or pointed, as at 3, to provide penetrating ends. As will be seen by referring to the drawings, the ends or points 3 of the prongs of each rivet are connected to the heads 1 of the adjacent rivets, the points of connection being only along the inclined walls or beveled ends forming one side of each point of the prong, the other sides of such points being approximately tangential to the heads. By this construction it will be seen that no sharp points are present in the structure to injure the hands of the operators when handling the strips or to catch in their clothing or the machine; and, furthermore, the prongs by reason of their attachment to the heads in the manner described and shown will be supported against bending or breakage.

In practice the strip is fed into the machine and the rivets are successively severed, the prongs bent at right angles to the head and then driven into the box to be stayed or fastened and the points clenched, the said operations being carried out successively in the machine in the order stated. One of the rivets is shown severed from the strip in Fig. 1 of the drawings, said illustration showing the rivet before its prongs have been bent for insertion in the box-carrier.

It will be seen by referring to the drawings that the prongs of adjacent rivets are slightly separated from each other, thus providing equidistant holes or openings in the strip, which holes or openings aid materially in feeding the strip into and through the setting and shaping machine, a feeding-pawl that enters said holes or openings being usually employed for this purpose. Thus the strip is fed forward with a uniform step-by-step movement. It will also be noted that the end of each prong is beveled on one side and that the prongs are severed from the strip on an inclined or diagonal line corresponding to the

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said beveled ends just referred to. Hence it will be seen that the prongs of the rivets when severed and by the act of severing will be formed with sharp penetrating-points.

5 In Fig. 2 of the drawings I have illustrated a slightly-modified form of rivet-strip. Instead of joining the pointed ends 3 of the prongs 2 directly to the heads 1, as shown in Fig. 1 and as above described, the pointed
10 ends of said prongs may be connected to or united with the heads by means of narrow webs 4, which are integral with the prongs and heads. One side of each of the webs 4 forms a continuation of one of the beveled
15 sides of the point of the attached prong, and by severing the prongs and webs along the line $x x$ the other beveled side of such point is completed.

The same advantages attach to both forms
20 of the rivet-strip shown in the drawings, excepting that in the form shown in Fig. 1 less metal is wasted, and no projecting nibs or spurs 5 are formed which have to be turned down and forced into the box material with
25 the prongs, thus weakening the material, as is the case in the form shown in Fig. 2.

In both forms of rivet-strips shown it will be noted that the prongs are disposed at an angle to a line projected centrally and longitudinally of the strip. This results in a decided advantage. The metallic blanks from which the rivet-strips are formed consist of continuous strips of thin sheet metal of indefinite length, forming practically metallic
35 ribbons. These strips or ribbons in practice are formed by passing the blanks between rolls, which operation imparts to the strips a decided grain, the fibers of the metal being distributed lengthwise longitudinally of the
40 strips. Practice has demonstrated that when the prongs are disposed at right angles to the strips, or, in other words, at right angles to the grain of the metal, when the prongs are bent at right angles to the heads for insertion in the box, said prongs are very apt to
45 break off at the point of bending or at the points where they are joined to the heads. By disposing the prongs at an angle to a line projected centrally and longitudinally of the
50 strip the lines on which said prongs are bent up are diagonal relatively to the grain of the metal, and the danger of rupturing or breaking the prongs is greatly, if not wholly, reduced.

55 While I have shown and described the prongs as extending from diametrically opposite sides of the head of the rivet, it will be apparent that such a construction or arrangement is not absolutely essential. It will also
60 be obvious that each head may be formed with more than two prongs.

Having described my invention, what I claim is—

65 1. A rivet-strip comprising a plurality of completely-formed connected rivets, each consisting of a head having two prongs projecting therefrom in different directions, a

prong of one rivet being joined at its point only to the head of an adjacent rivet.

2. A rivet-strip comprising a plurality of
70 connected rivets each consisting of a head and two prongs projecting from diametrically opposite sides of the head, the prongs of one rivet being joined at their points only to the heads of the adjacent rivets. 75

3. A rivet-strip comprising a plurality of completely-formed connected rivets each consisting of a head and two prongs projecting from diametrically opposite sides of the head, the prongs of one rivet being joined at their
80 points only to the heads of adjacent rivets, and said prongs being disposed at an angle to a line projected longitudinally and centrally of the strip.

4. A rivet-strip comprising a plurality of
85 connected rivets each consisting of a head and two prongs projecting from diametrically opposite sides of the head, the adjacent prongs being separated from each other and attached at their points or ends only to the
90 heads.

5. A rivet-strip comprising a plurality of completely-formed connected rivets, each rivet consisting of a head and two prongs, the prongs projecting from diametrically opposite sides of the head, and the points of the
95 prongs of one rivet being directly joined to the heads of adjacent rivets.

6. A rivet-strip comprising a plurality of completely-formed connected rivets each consisting of a head and a plurality of prongs
100 projecting from opposite sides of the head, a prong of one rivet being joined at its point only to the head of an adjacent rivet.

7. A rivet-strip comprising a plurality of
105 completely-formed connected rivets each consisting of a head having prongs that project from opposite sides thereof, said heads and prongs being joined to one another by connections only between the heads and points
110 of the prongs.

8. A metallic rivet-strip constructed for use in a rivet shaping and setting machine, said strip comprising a plurality of completely-formed connected rivets, each rivet consisting of a head and prongs projecting therefrom in different directions, the strip having
115 openings throughout its length between the prongs of adjacent rivets, and the metal forming a prong of one rivet being joined at its
120 end to the metal forming the head of an adjacent rivet before the cutting-off operation takes place.

9. A metallic rivet-strip constructed for use in a rivet shaping and setting machine, said
125 strip comprising a plurality of completely-formed connected rivets each consisting of a head and prongs projecting from opposite sides of the head with an opening between each two adjacent prongs of companion rivets, the metal forming the prong of one rivet being joined to the metal forming the head of
130 an adjacent rivet.

10. A metallic rivet-strip prepared for use

- in a rivet shaping and setting machine, said strip comprising a plurality of connected rivets each consisting of a head and two prongs, the opposite edges of the strip being so shaped
- 5 that the head of each rivet is partly rounded out and the one side of each prong is formed, the metal forming the prong of one rivet being joined to the metal forming the head of an adjacent rivet.
- 10 11. A metallic rivet-strip prepared for use in a rivet shaping and setting machine, said strip comprising a plurality of completely-formed connected rivets, each consisting of a head and two prongs extending therefrom
- 15 in different directions, the portion of metal forming the prong of one rivet overlapping the portion of metal forming the prong of an adjacent rivet and the said prongs being separated from each other, and attached at their
- 20 points to the heads of adjacent rivets.
12. A metallic rivet-strip prepared for use

in a rivet shaping and setting machine, said strip comprising a plurality of completely-formed connected rivets, each consisting of a head and two prongs extending therefrom in 25 different directions, said prongs being disposed at an angle to a line projected longitudinally and centrally of the strip, the portion of metal forming the prong of one rivet overlapping the portion of metal forming the 30 prong of an adjacent rivet and the said prongs being separated from each other and attached at their points only to the heads of adjacent rivets.

In testimony whereof I have hereunto set 35 my hand in presence of two subscribing witnesses.

JOHN S. STOKES.

Witnesses:

HARRY PEW,
ALBERT S. PETTIT.