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LEWIS CROOKE.

Improvement in Manufacture of Hinges.

No. 122,516.

Fig. 1.

Patented Jan. 9, 1872.

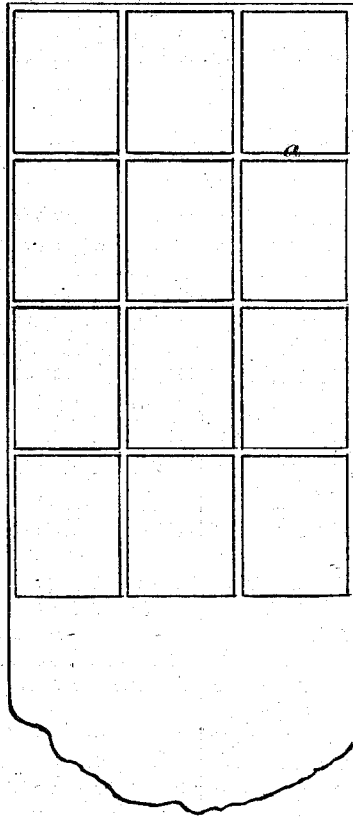
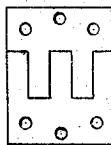


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

LEWIS CROOKE, OF NEW YORK, N. Y.

IMPROVEMENT IN THE MANUFACTURE OF HINGES.

Specification forming part of Letters Patent No. 122,516, dated January 9, 1872.

Specification of certain Improvements in the Manufacture of Hinges, invented by LEWIS CROOKE, of the city, county, and State of New York.

Nature and Object of the Invention.

In the manufacture of hinges from sheet-iron and other sheet metals prior to this invention, a sheet of metal has been first slit up into strips of the proper width to form a hinge; and the metal being, by this operation, very considerably bent and warped, these strips were straightened, as far as practicable, by rolling, and the blanks to form the hinges then cut from these strips. It has been found, however, impracticable to straighten these strips perfectly, and in consequence of this and other difficulties it has been found impossible to get the blanks entirely true and square by this mode of manufacture, and the hinges made therefrom were, therefore, out of square and the edges would not correspond, but had to be reduced to a perfect square and even finish by the slow and expensive process of grinding, and this has been the mode chiefly heretofore practiced. The necessity of grinding the hinge after it was put together, to make it true, involved not only great expense in the manufacture, but rendered it almost an impossibility to finish the hinge without grinding off the opposite ends of the "pintles." It has also been suggested to cut a blank for the hinge from one corner of a sheet of metal, cutting two sides, and two only, of the blank in severing it from the sheet, and then to make up the hinge by the ordinary further operations; but this manner of cutting out the blanks is open to the same objections as those just above described. My invention is designed to obviate these difficulties and to so construct the hinge as to avoid the expensive process of grinding, and, at the same time, secure a true and square hinge and the correspondence of its sides or wings with each other, and allow the pintles to remain riveted or headed on the outside of the ends of the hinge undisturbed. My invention consists in constructing a hinge by the operations hereinafter described and in the order hereinafter stated—that is to say, by first cutting the entire blank, from which to form a hinge, of the size required for the two wings of

a hinge out of a plate or sheet of metal, leaving a margin, *a*, on all four sides, and with a die cutting all around the sides of this blank at the same operation; then cutting this blank apart, as shown in Fig. 2, to form the two wings and straps for the joints; then or afterward making the holes for the screws; then forming the joint and putting the hinges together, substantially as hereinafter more fully set forth.

Description of the Accompanying Drawing.

Figure 1 is a side view of a plate of metal from which some of the blanks to form hinges have been cut, showing a margin of metal all around the places from which the blank for the hinge has been removed. Fig. 2 shows the two parts of the hinge cut apart, though not removed from each other, and the holes made for the screws.

General Description.

In making hinges according to my present invention, I take a sheet of metal in the state in which it comes from the rolling-mill; or, for plated or finished-faced hinges, finish the entire plate or sheet by any of the means now known, and instead of cutting the metal into strips, as heretofore practiced, I cut out from the plate a piece of the proper size for the entire hinge with a die of that size, the sides of which are at perfect right angles to each other, leaving at all times a margin, *a*, of metal entirely around the cutting-edge of the die, so as to insure the blank being the full size and form of the die. This margin need not be large. A sixteenth of an inch may be sufficient, or perhaps a thirty-second of an inch might answer. By this means I make the blank for the entire hinge perfectly true and the edges at right angles to each other, and then, by means of another die furnished with proper gauges, which shall insure the proper division of this entire blank in the proper place, divide this blank so as to form the blank for the two parts of the hinge, as shown in Fig. 2, and the holes in one wing of the hinge may be punched at the same time, or may be done at any future stage of the operation. The holes in the other wing of the hinge may also be punched afterward at any stage of the manufacture which may be convenient. The entire blank being thus divided

so as to form the blank for the two parts of the hinge and the holes for the screws punched or not, the blanks are ready for the machine which turns the joints and puts the hinge together; and this may be done by any of the machines in use for and adapted to that purpose.

When the hinge is thus constructed no grinding is necessary to make the wings of the hinge correspond with each other, and a very great saving is thus effected in the cost of manufacture. When this mode of construction is adopted the pintles of the hinge may be allowed to extend out beyond the ends of the hinge and

riveted or headed down so as to prevent its working out of the hinge when in use, which was impracticable in the previous mode of manufacture.

What I claim, and desire to secure by Letters Patent, is—

As an improvement in the art of making hinges, the method hereinbefore described.

LEWIS CROOKE.

Witnesses:

THOS. P. HOW,
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