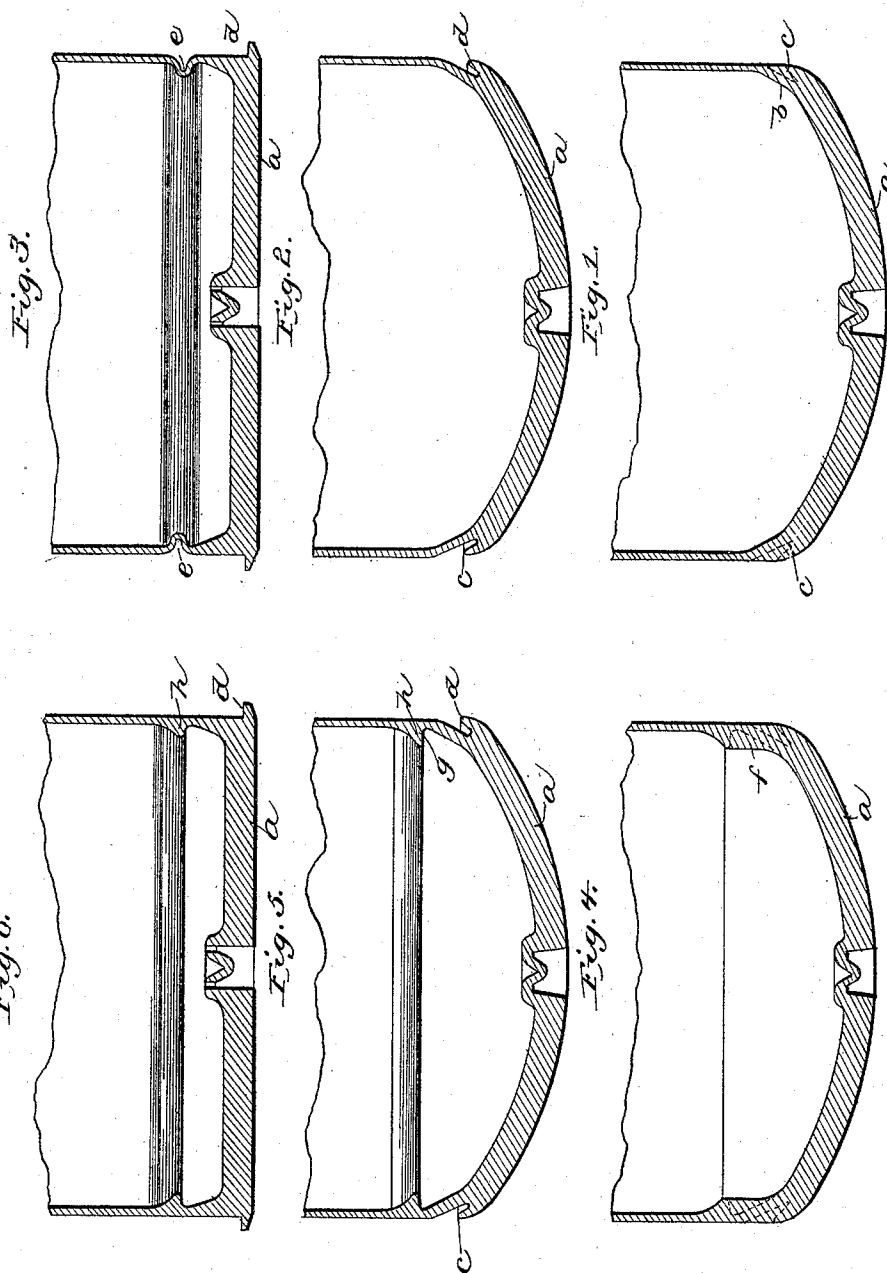


(No Model.)

F. MOHR.
MANUFACTURE OF CARTRIDGE CASES.

No. 497,192.

Patented May 9, 1893.



Witnesses:
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UNITED STATES PATENT OFFICE.

FREDERIK MOHR, OF MAGDEBURG-BUCKAU, GERMANY, ASSIGNOR TO THE GRUSONWERK, OF SAME PLACE.

MANUFACTURE OF CARTRIDGE-CASES.

SPECIFICATION forming part of Letters Patent No. 497,192, dated May 9, 1893.

Application filed October 5, 1892. Serial No. 447,895. (No model.)

To all whom it may concern:

Be it known that I, FREDERIK MOHR, a subject of the King of Denmark, and a resident of Magdeburg-Buckau, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in the Manufacture of Cartridge-Cases, of which the following is a specification.

My invention relates to the manufacture of cartridge cases, and has for its object to simplify such manufacture chiefly with reference to the method of forming the rim.

In the manufacture of cartridge-cases as heretofore practiced special difficulties were met with in pressing out the rim; these difficulties are entirely overcome by the present invention.

According to this invention, the cartridge-case is worked as heretofore described, while the bottom or end of the case is vaulted or curved and the case is then pressed to its finished shape.

In the accompanying drawings:—Figure 1 represents in central section a form to which the lower end of the case is first brought in any suitable or well-known manner, as for example by pressing, drawing or casting. Fig. 2 shows an intermediate stage of the process of manufacture, and Fig. 3 shows the end of the finished case. Figs. 4, 5 and 6 are similar views illustrating a slight modification.

Referring to Fig. 1 it will be seen that the bottom *a* is made with a considerable curvature, and the angle or corner *b* between the cylindrical part and the end is thickened for a purpose hereinafter explained. In the outer side of the case at *c* is now formed either by turning, or by rolling by means of an inclined disk of a suitable shape, an undercut annular groove somewhat of the section shown, so that the case is brought to the shape represented in Fig. 2. *d* is a thin rim of metal left at the end of the case after the groove *c* is formed. Next, the bottom or end *a* is pressed flat by means of suitable stamps and dies, whereby the rim *d* is caused to assume the form shown in Fig. 3. The thick or full portion *b* previously referred to is to provide

ample strength in the corner of the case after the end is flattened. Where it is necessary that the case shall have a contraction *e* as shown in Fig. 3 such contraction may be subsequently produced by suitably rolling the case under a die.

If the case, after it has been finished, is to have a full, annular swelling in its interior as shown in Fig. 6 instead of the groove *e*, Fig. 3 the reinforcement *f* in the bottom corner of the cylinder must, in the original form Fig. 4, extend some distance up to the cylinder to allow of the formation of an internal annular groove *g* Fig. 5 in the said thickened portion. The annular rib *h* thus produced, remains standing when the end of the cylinder is pressed flat as shown in Fig. 6.

As compared with the methods heretofore used, in which the metal in the cylinder ends is forced by enormous pressure to flow into the required shape for the rim, the herein described method has the advantage that the rim can be produced in a simple manner at a low pressure.

Having now particularly described my invention, what I claim is—

1. The herein described method of forming the rim of a cartridge-case which consists in first producing a cylinder with a vaulted or curved end thickened in the corner, then providing said cylinder with an external annular groove, and finally pressing the bottom flat, substantially as, and for the purpose specified.

2. The herein described method of forming cartridge-cases, with external rims and internal swells, which consists in forming cylinders with the vaulted or curved ends and thickened edges and sides adjacent to the edges, then forming the external and internal annular grooves *d* and *g*, and then compressing the vaulted ends, substantially in the manner and for the purpose set forth.

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Witnesses:

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