

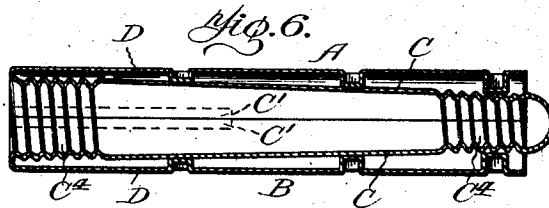
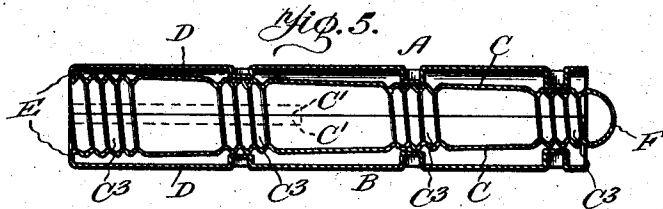
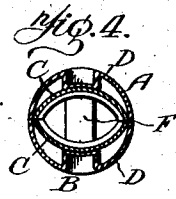
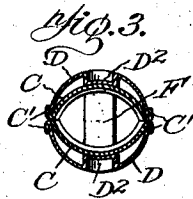
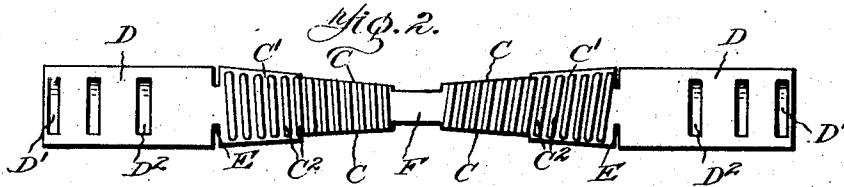
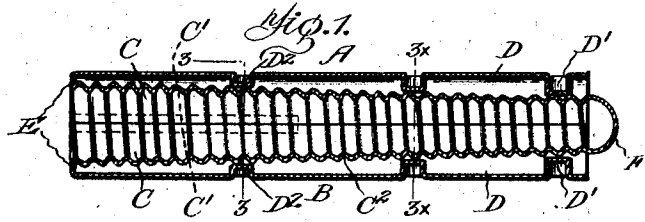
H. B. NEWHALL, JR. & H. W. PLEISTER.

ONE PART EXPANSION SHIELD.

APPLICATION FILED MAR. 12, 1912.

1,062,992.

Patented May 27, 1913.



WITNESSES

H. J. Basse
Helen Tate.

Henry B. Newhall, Jr.,
Henry W. Pleister,
INVENTORS

BY *Myron G. Allen*

ATTORNEYS

UNITED STATES PATENT OFFICE.

HENRY B. NEWHALL, JR., OF PLAINFIELD, AND HENRY W. PLEISTER, OF WESTFIELD,
NEW JERSEY, ASSIGNORS TO HENRY B. NEWHALL, OF PLAINFIELD, NEW JERSEY.

ONE-PART EXPANSION-SHIELD.

1,062,992.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed March 12, 1912. Serial No. 683,256.

To all whom it may concern:

Be it known that we, HENRY B. NEWHALL, Jr., and HENRY W. PLEISTER, citizens of the United States, residing, respectively, at Plainfield and Westfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in One-Part Expansion-Shields, of which the following is a specification.

Our present invention has to do with expansion shields formed of sheet metal and generally similar to the shield described and claimed in our copending application, Serial No. 683,257, filed of even date herewith, and covering a shield formed in two separate parts which are expansible in diametrically opposite directions by the action of a bolt working therebetween.

Our present object consists of forming, from a single piece of sheet metal, a bolt shield comprising two parts which are expansible in diametrically opposite directions by the action of a bolt working therebetween. Each of these parts comprises an outer section adapted to grip the wall of an opening, and an inner section which is so formed as to constitute an advancing screw to cooperate with the threads of a bolt. The sections are also provided with cooperating means which space and support them in proper relation, for ready disposition within an opening in which they are to be expanded.

Our invention further contemplates the provision of an inner section for each shield part which may have a continuous thread from end to end or the thread of which may be interrupted and in spaced series throughout, or even a single thread series at each end, each form having its particular advantages.

In the accompanying drawing, Figure 1 is a longitudinal section through both parts of a "one-part" shield. Fig. 2 is a plan view of the blank before concaving, Fig. 3 is a transverse section taken on line 3-3 of Fig. 1, Fig. 4 is a similar view taken on line 3*-3* of Fig. 1, Fig. 5 is a view similar to Fig. 1, through a shield having an interrupted thread, and Fig. 6 is another similar view showing another form of interrupted thread.

It is apparent that "one-part" and "two-part" shields each include two parts so that in referring to one or the other of the shield

parts, we desire to be understood as speaking of the parts irrespective of the fact that in one form they are independent, while in the other form they are connected.

Referring now particularly to the figures of the drawing, the shield comprises parts A and B, each of which in turn, consists of an inner section C and an outer section D. The parts A and B are simultaneously stamped from sheet metal in the form shown in Fig. 2, the sections C and D being in end-to-end relation in the same plane, and connected by webs E of the same material and the sections C being connected at their opposite ends by a web F.

Each section C is widened adjacent one end in order to provide projecting side edges C', which need only extend for a portion of its length, and is at the same time formed with a series of transverse corrugations C², extending throughout its length, the ends of which corrugations terminate short of the side edges C'. Each section D is of a width substantially equal to the greatest width of section C, and is provided with spaced depressions D' and D², of which the former is substantially deeper than the latter, both of these depressions being rectangular in shape and so disposed that their direction of greatest length is at right angles to the longitudinal axis of the section. Thus it will be apparent that when the sections C and D of each part are folded upon one another in the manner shown in Fig. 1, with the depressions D' and D² contacting with the outer surface of section C, the latter will, of necessity, assume a position inclined with respect to section D, whereby the two sections D will form a substantially cylindrical outer surface, while the two sections C will form a gradually tapering inner advancing screw. In this manner the two parts of the shield will be gradually forced apart as a bolt is turned inwardly between them.

As will be seen plainly in Figs. 2, 3 and 4, the sections C and D are concaved in such a manner that the curvature of the outer section D is in a greater degree than that of the inner section C, and the side edges C' of the latter are curved inversely with respect to the curvature of its body, so as to extend around portions of the side edges of the section D and thus, with the cooperation of the webs E, firmly unite the sections of each of the shield parts.

As before stated, the thread or the transverse corrugations C^2 may be continuous through the length of the inner sections, as shown in Fig. 1, or it may be interrupted as shown in Figs. 5 and 6, in the former of which the corrugations are shown in spaced series C^3 and in the latter of which the corrugations are shown in single series C^4 arranged at the opposite ends of the inner section.

From the foregoing it is clear that our construction is fully capable of meeting all requirements, and of performing all the functions of the cast metal shields now in common use, and is susceptible of varied forms, of which we wish to be understood as reserving all such as fall within the terms of the claims.

We claim:—

1. An expansion shield formed of a single piece of sheet metal with a connecting web and comprising two parts bent into juxtaposed relation, each of said parts comprising inner and outer sections having connecting webs and bent one upon the other.

2. An expansion shield formed of a single piece of sheet metal with a connecting web and comprising two parts bent into juxtaposed relation, each of said parts comprising inner and outer sections bent one upon the other and having means whereby to maintain their proper relation.

3. An expansion shield formed of a single piece of sheet metal with a connecting web and comprising two parts bent into juxtaposed relation, each of said parts comprising

inner and outer sections bent one upon the other, the former having extended side edges bent about the side edges of the latter.

4. An expansion shield formed of a single piece of sheet metal with a connecting web and comprising two parts, said parts being bent into juxtaposed relation and each comprising transversely curved inner and outer sections, bent one upon the other, the former having extended side edges inversely curved about the side edges of the latter.

5. An expansion shield formed of a single piece of sheet metal with a connecting web and comprising two parts, said parts being bent into juxtaposed relation and each comprising inner and outer sections also bent into juxtaposed relation, the inner sections having transverse corrugations cooperating to form a bolt advancing screw.

6. An expansion shield formed of a single piece of sheet metal with a connecting web and comprising two parts, said parts being bent into juxtaposed relation and each comprising inner and outer sections also bent into juxtaposed relation, the inner sections having transverse corrugations arranged in spaced series and adapted to cooperate to form a bolt advancing screw.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY B. NEWHALL, JR.
HENRY W. PLEISTER.

Witnesses:

C. M. LYONS,
A. M. WILLIAMS.