April 18, 1933. J. S. McCHESNEY 1,904,288

FLANGED CORRUGATED FASTENER

Filed April 26, 1929

Fig. 1

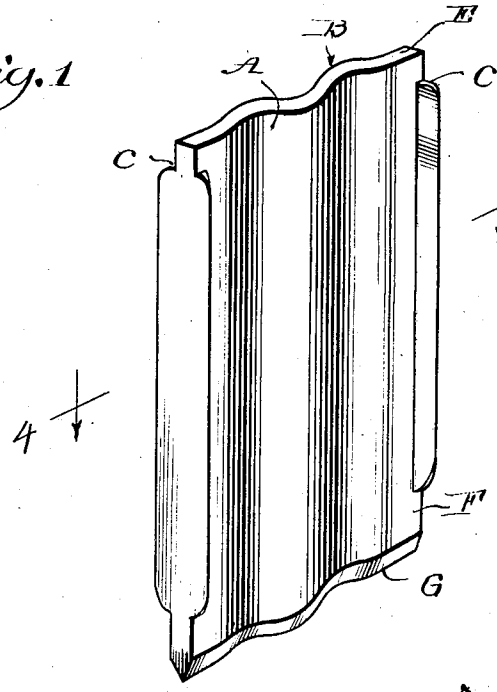
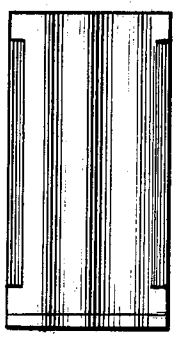


Fig. 4



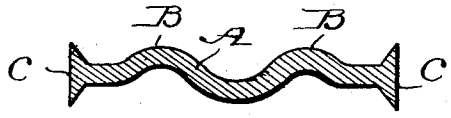
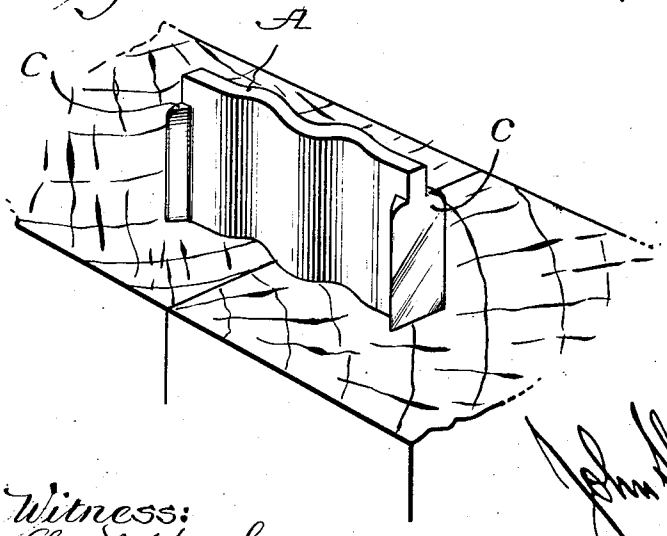


Fig. 2

Fig. 3



Witness:
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Patented Apr. 18, 1933 1,904,288

UNITED STATES PATENT OFFICE

JOHN SHERMAN McCHESNEY, OF CHICAGO, ILLINOIS

FLANGED CORRUGATED FASTENER

Application filed April 26, 1929. Serial No. 358,297.

The object of my present invention is to produce a flanged corrugated metal fastener of the "parallel" type, having certain practical advantages and characteristics hereinafter pointed out.

The invention is a flanged corrugated fastener, the object in view being to improve the construction so as to result in maintaining in fixed relation, two pieces of wood or other materials into which the fastener is adapted to be driven either with or across the grain of the wood and with practically no tendency of deflection from a straight line during the driving operation.

The outstanding feature of my new flanged corrugated fastener is the provision of relatively very thin, smooth, sharp cutting, upset flanges, unitary with and on the outer edges of a corrugated central web and at right angles to the medial plane of the fastener and extending on both faces of the central web intermediate the terminal ends thereof.

More specifically stated, the flanged corrugated fastener of my new invention comprises a single piece of sheet metal so formed as to produce a longitudinally corrugated web, the side edges of which are upset and form relatively very thin sharp cutting edges at right angles to the medial plane of the fastener so as to impart the appearance of I shaped corrugated cross section intermediate the swaged portion thereof. The web is provided with a V shaped penetrating end and a blunt driving end.

In practice the side flanges are swaged by a hammer blow resulting in imparting to the metal forming the thin, sharp cutting, edges a greater density and hardness than the metal comprising the body of the central web, thus imparting to the side flanges a greater resistance against deformation than could be obtained by a process of rolling or by extrusion.

A further result of my combination of a longitudinally corrugated central web and outwardly flared flanges at the sides thereof, projecting at right angles from both faces of the web is to introduce added holding power and anchorage of the fastener against retrograde movement of the parts joined and at the same time produce a flanged fastener which may be driven directly into adjoining pieces of wood or other material without providing kerfs or saw cuts to receive the central web.

The new fastener is illustrated in the accompanying drawing, wherein—

Figure 1 is a perspective view on an enlarged scale of the side flange corrugated fastener.

Fig. 2 is a cross section taken on 4—4 of Fig. 1.

Fig. 3 is a perspective view illustrating the upper portion of the corrugated web and the driving end of the fastener engaging and maintaining two abutting objects in fixed relation.

Fig. 4 represents the improved fastener in side elevation.

The fastener embodies a corrugated web A, corrugations B and relatively very thin smooth sharp cutting upset flanges C. The driving end E and the penetrating end F of the web A extends an appreciable distance beyond side flanges C, the corrugated web A being intermediate said flanges C. The penetrating end F is beveled on the opposite faces thereof of the corrugated web A producing a V shaped cutting edge G.

My fastener is characterized by the use of a comparatively thin corrugated web intermediate of relatively very thin smooth sharp cutting upset side flanges unitary with said web. Said flanges at right angles to the medial plane of the fastener and at the outer edges of the corrugated web. Said flanges terminating short of the entering and penetrating ends of the corrugated web A.

The side flange formations and the corrugations impart to the fastener a characteristic action of maintaining two pieces of wood or other material so that the adjoining or abutting surfaces are held in fixed relation by the act of driving the fastener as shown in Fig. 3. It will be noted that the corrugated web A is intermediate the thin upset side flanges C and in the operation of the driving of the fastener the corrugated V shaped penetrating end F of the corrugated

web A cuts into the material easily and cleanly and the relatively thin corrugated web A and the side flanges C thereafter enter without unnecessarily crowding the fibres.

It has been the practise heretofore where side flanges are employed in fastening devices such as joint nails, clamp nails or the like, to prepare the joint by first cutting a saw kerf or groove to receive the relatively thick web of the nail or fastener. In the fastener of my invention, I employ a comparatively thin corrugated web of the same thickness as that usually employed by the makers of corrugated fasteners. My flanged corrugated fastener may therefore be driven directly into the material to be fastened or secured without previous preparation of the abutting surfaces or objects to be joined.

A still further novel feature will be noted by referring to Fig. 3 in which it is obvious that by the combined corrugated and flanged construction employed in the flanged corrugated fastener of my invention, I am enabled to increase the holding power of the fastener when imbedded in wood or other materials and thereby produce a stronger joint than can be obtained with the use of corrugated fasteners of commercial design provided with side flanges.

The corrugations B of the web A may be formed or bent to produce one, two or more corrugations between the side flanges C.

It is essential that the corrugations B be provided with a sharp V shaped point G which is in the plane of the medial line of the fastener.

The driving end E, penetrating end F and the V shaped knife edge G extending beyond side flange C may be produced in accordance with certain swaging notching, or cutting out processes disclosed in patent application Serial #290,354 of which I am a party. Thus the fastener of my invention may be produced from a continuous length of sheet metal of uniform cross section and width.

Having thus fully described the invention, I claim:

A fastener comprising a central relatively thin web longitudinally corrugated throughout its entire length and having a sharpened penetrating edge extending entirely across one end and a driving surface perpendicular to the axis of the web extending entirely across the other end, sharp thin smooth holding flanges projecting laterally from both sides of the web along the opposed longitudinal edges thereof, the outer edges of the flanges being parallel with each other and in line with the edges of the web and terminating intermediate the ends of the web.

In testimony whereof, I affix my signature hereto.

JOHN SHERMAN McCHESNEY.