C. E. SMITH.

HINGE.

APPLICATION FILED SEPT. 8, 1914.

1,127,933. Patented Feb. 9, 1915.

Fig. 1.

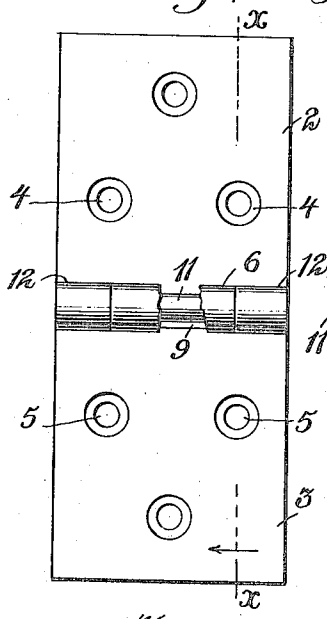


Fig. 2.

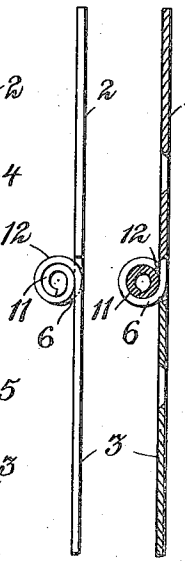


Fig. 3.

Fig. 4.

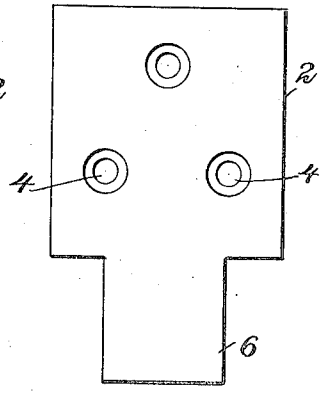


Fig. 5.

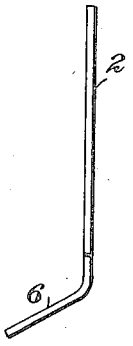


Fig. 6.

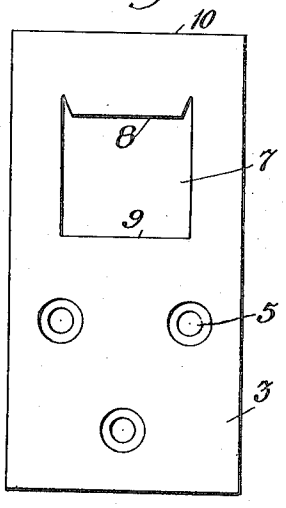


Fig. 7.

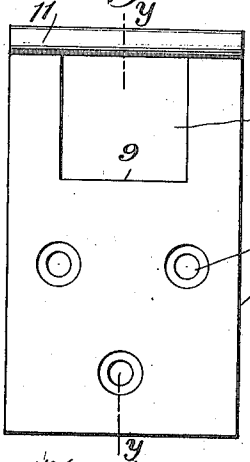


Fig. 8.

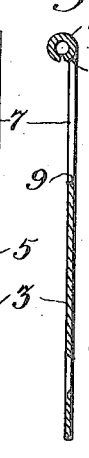


Fig. 9.

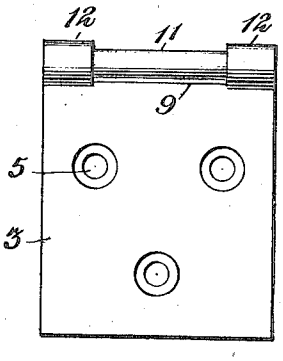
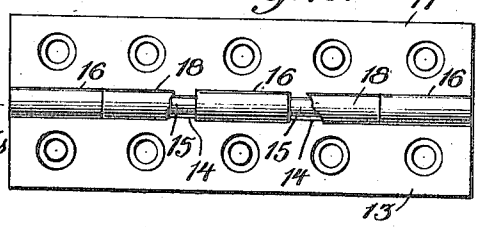


Fig. 10.



WITNESSES

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CLARENCE E. SMITH, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO WORCESTER METAL GOODS COMPANY, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

HINGE.

1,127,933. Specification of Letters Patent. Patented Feb. 9, 1915.

Application filed September 8, 1914. Serial No. 860,587.

To all whom it may concern:

Be it known that I, CLARENCE E. SMITH, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented a certain new and useful Improvement in Hinges, of which the following is a specification.

My invention relates to sheet metal hinges of the type wherein the leaves are joined together without the employment of a separate pintle bar, and its principal object is to provide a hinge of this character in which one of the leaves is provided with a pintle bar and a rolled knuckle or knuckles of greater width than the pintle bar.

A further object is to provide a method of making such leaves.

I attain this and other objects of my invention in the device and method of making the same set forth in the following description and accompanying drawings in which like reference characters refer to corresponding parts.

In the drawings: Figure 1 is a front view of an open hinge; Fig. 2, a side view thereof; Fig. 3, a sectional view taken on line *x*—*x* in Fig. 1; Fig. 4, a face view of the blank from which one of the leaves are made; Fig. 5, a side view of one of the leaves before the parts are assembled; Fig. 6, a face view of the blank from which the other leaf is made; Fig. 7, a front view of the blank shown in Fig. 6 after the first operation has been performed; Fig. 8, a sectional view taken on line *y*—*y* in Fig. 6; Fig. 9, a front view of the blank shown in Fig. 6 after the final operation has been performed, and Fig. 10, a front view of a modification.

The hinge consists of the coöperating leaves 2 and 3 connected by a knuckle joint. The leaf 2 is made out of a blank having screw holes 4, 4 and a projecting tongue 6, as shown in Fig. 4, which tongue is bent at an angle as shown in Fig. 5. The leaf 3 is made out of a blank having screw holes 5, 5 and a rectangular aperture 7, the latter being provided with upper and lower edges 8 and 9, as shown in Fig. 6. The top edge 10 of the leaf 3 is rolled downwardly to the top edge 8 of the aperture to form a cylindrical bead or pintle 11 as shown in Figs. 7 and 8, which latter is rolled further downwardly nearly to the lower edge 9 of the aperture to form cylindrical knuckles 12, 12 as shown in Fig. 9. These rolling or curling operations result in presenting a pair of spaced knuckles on the edge of the leaf 3 having a substantially concentric pintle bar between them.

Referring to Figs. 5 and 9 the leaves are assembled by passing the tongue 6 of the leaf 2 through the opening between the edge 9 and pintle 11 in the leaf 3 and then curling the tongue snugly around the pintle forming a knuckle, as shown in Figs. 1 and 3. All the knuckles are in axial alinement and of the same diameter since the gage of the metal is the same in both leaves and each knuckle is formed by rolling one thickness of the metal around the pintle 11. The tongue 6 being of substantially the same width as the aperture 7 the adjacent ends of the knuckles will abut and prevent any longitudinal movement of the same relative to each other. If desired the hinge may be lengthened and the knuckles multiplied, as shown in Fig. 10. In this modification the leaf 13 is provided with two apertures the lower edges of which are shown at 14, 14. The pintle bars 15, 15 and the spaced knuckles 16 are formed by curling the edge of the leaf in the manner above described. The leaf 17 is provided with projecting tongues properly spaced and rolled around the pintle bars to form knuckles 18, 18. The knuckles may be further multiplied in this same manner so long as the knuckles on one leaf alternate with those on the other to form a flush joint.

While only the preferred embodiment of my invention is disclosed herein yet the same is to be regarded as being susceptible to such modification as may fairly come within the scope of the appended claims.

Having now described my invention what I claim and desire to protect by Letters Patent is:

1. The method of making a leaf for a hinge which consists in forming an opening in a sheet metal plate, then forming a pintle bar by rolling up the metal on one side of the plate until it reaches one side of the opening then forming knuckles of greater diameter than the pintle bar by rolling the pintle bar on the metal on the adjacent sides of the plate until it nearly reaches the opposite side of the opening.

2. A sheet metal hinge comprising a pair of coöperating leaves, one leaf having a pintle bar and spaced knuckles curled around

the pintle bar and formed integral therewith, and the other leaf having a curled knuckle journaled on said pintle bar between the first mentioned knuckles.

3. A sheet metal leaf for a hinge comprehending a pintle and a knuckle curled around said pintle and formed integral therewith.

4. A sheet metal leaf for a hinge comprehending a rolled pintle and a knuckle curled around said pintle and formed integral therewith.

In testimony whereof I have hereunto set my hand at Worcester, in the county of Worcester and Commonwealth of Massachusetts, this 8th day of August, 1914.

CLARENCE E. SMITH.

Witnesses:

GEORGE F. PUTNAM,

WALTER D. GROUT.