No. 746,509. PATENTED DEC. 8, 1903.

S. J. HOGAN.

HINGE.

APPLICATION FILED JULY 21, 1903.

NO MODEL.

Fig. 1.

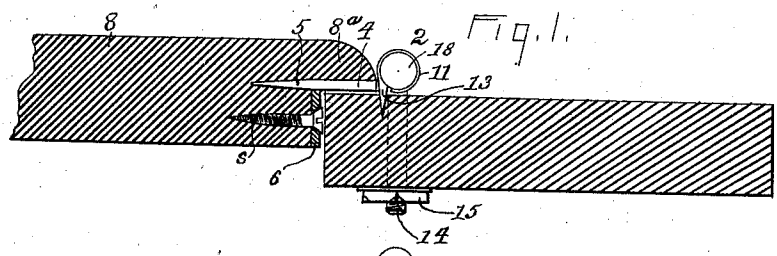


Fig. 2

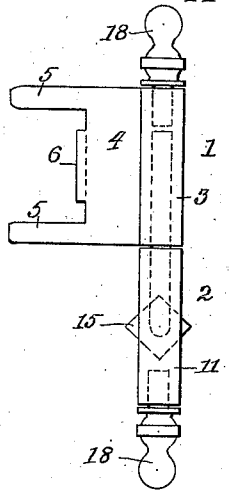


Fig. 6.

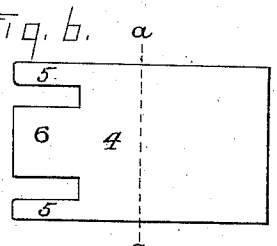


Fig. 7.

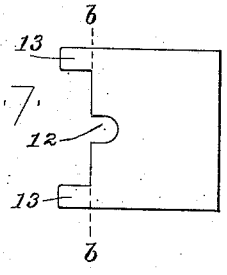


Fig. 3.

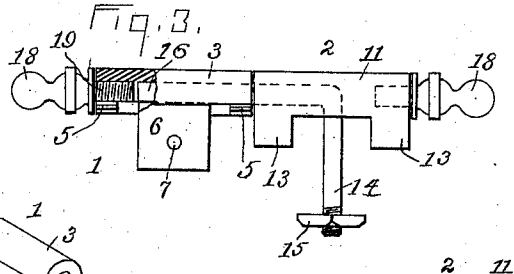
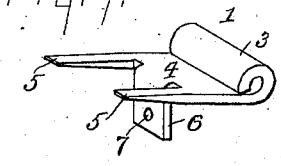


Fig. 4.



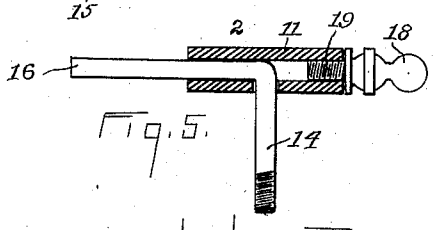


Fig. 5.

Witnesses—

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No. 746,509. Patented December 8, 1903.

UNITED STATES PATENT OFFICE.

SIDNEY JOHNSTON HOGAN, OF CHATTANOOGA, TENNESSEE.

HINGE.

SPECIFICATION forming part of Letters Patent No. 746,509, dated December 8, 1903.

Application filed July 21, 1903. Serial No. 166,499. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY JOHNSTON HOGAN, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented a new and useful Improvement in Hinges, of which the following is a specification, reference being had to the accompanying drawings.

While my improved hinge is adapted for various uses, it is specially intended for the hanging of "overlap" doors in furniture.

The object of the invention is to produce a hinge which may be easily and economically applied and which is at the same time strong and durable and which will to the largest extent avoid the splitting of the wood of the parts to which the hinge is applied.

In the accompanying drawings, Figure 1 is a sectional view of a door stile and pilaster and showing an end view of a hinge applied to said stile and pilaster and embodying my improvement, the view being upward. Fig. 2 is a front elevation of the same hinge. Fig. 3 is a side elevation, the hinge being turned into the horizontal position. Fig. 4 is a perspective of the upper section of the hinge. Fig. 5 is a sectional side elevation of the lower hinge-section turned into the horizontal position. Fig. 6 is a plan of a blank for the upper hinge section. Fig. 7 is a plan of a blank for the lower hinge-section.

Heretofore overlap doors have been secured by hinges comprising two sections, each having a flat leaf penetrated transversely by two or more apertures in proper position to receive screws when the leaf is driven into position in a slot formed transversely into the pilaster or into the edge of the stile parallel to the plane of the latter, said screws extending from one of the side faces of the pilaster or stile through the wood and through the leaf and again into the wood beyond the leaf, so as to serve as a key or pin for the retention of the leaf. In using such hinges the wood is frequently split while the sections are being applied or afterward during the use of the door.

In my improved hinge sections are applied by means involving the application of strains in such manner as to avoid splitting the wood, and the hinge can be applied with less labor than is required for any other hinge which will answer the purpose.

Referring to said drawings, 1 is the upper section of the hinge, and 2 is the lower section. The upper section is composed of a knuckle 3, and a leaf 4, prongs 5 5, and a securing-tongue 6. The several parts constituting said section may be integral, and they are preferably formed by suitably stamping and subsequently bending a single blank of sheet metal. Fig. 6 illustrates such a blank. The knuckle is formed by rolling the rectangular body of the blank from its right-hand edge to the dotted line *a a*. The prongs 5 5 are sharpened sufficiently to permit driving into the wood, and they are so narrow that they can be thus driven without splitting the wood. Thus the prongs are at right angles to said knuckle and are in a plane which is tangential to the space inclosed by the wall of the knuckle. The tongue 6 is bent at right angles to the plane of the leaf, so as to stand at the side of the leaf opposite the knuckle. A transverse screw-hole 7 is formed in said tongue to receive a screw *s*. This section is applied to the stile 8 in the position shown in Fig. 1, the leaf lying against the inner face of the overlapping bead 8^a, the knuckle lying close to the outer edge of said bead, the prongs 5 5 penetrating the wood in a plane parallel to the plane of the door, the tongue 6 bearing flatwise against the edge of the stile behind said bead, and the wood-screw *s* extending through the screw-hole 7 into the stile and firmly binding said tongue to the adjacent face of said stile. For the insertion of said prongs no previous work is needed. They may be driven just as nails are driven. A mortise may be cut sufficiently deep to receive the leaf 4 and bring the outer face of the latter flush with the inner face of said bead. The screw *s* may be started after the wood has been partially bored or otherwise pierced, or the screw may be partially driven with a hammer and then driven home by turning with a screw-driver. The prongs 5 and and the tongue constitute a firm fastening for said section of the hinge. The tongue not only serves to bind, but it also braces its hinge-section, and it will be observed that this section may be

readily removed by the withdrawal of the one screw.

The lower hinge-section 2 in its general features conforms to the upper section. Said section comprises a knuckle 11 and prongs 13 13, corresponding to the prongs 5 5 of the upper section, and a tongue 14, corresponding to the tongue 6 of the upper section. Said section also bears a pin or pintle 16, adapted to enter the knuckle of the upper section in the usual manner. As a preferred form of construction the drawings show the tongue 14 and the pin 16, composed of a single piece of cylindric metal extending downward axially through the upper half of the knuckle and thence laterally through the wall of the knuckle a sufficient distance to form the tongue. The knuckle 11 and the prongs 13 13 are preferably formed from a sheet-metal blank, such as is shown by Fig. 7, by rolling the rectangular body of said blank from its right-hand edge to the line *b b*, the notch 12 intermediate said prongs in said blank forming an aperture 12, through which the tongue 14 may extend. If said tongue and the pin 16 are integral, as has been above described, said tongue and pin must be laid into the knuckle before the latter is closed. The outer or free end of said tongue is screw-threaded and a nut 15 is applied thereto. For the application of said lower section to the pilaster a hole 17 is bored transversely through the pilaster, the tongue extended into said hole, and the prongs 13 13 driven into the wood until the knuckle 11 approximately meets the outer face of said pilaster. Then the nut 15 is placed upon the threaded end of the tongue 14 and tightened. By this means said hinge-section is very firmly and securely held. It will be obsersed that this section may be readily removed by merely unscrewing the nut 15.

The fact that the sections of this hinge may be readily separated after they have been once attached adapts the hinge to use on furniture which is to be handled in knock-down form.

Knobs 18 may be applied to the upper and lower ends of the hinge in any suitable manner. The drawings show each knob provided with a short shaft 19, which is threaded into the inerior of the adjacent end of the knuckle. It will be observed that in the lower section space is left within said knuckle below the tongue 14 to receive the shaft 19 of the adjacent knob.

I claim as my invention—

1. In a hinge, a section comprising a tubular knuckle, two straight prongs at right angles to said knuckle and in a plane which is tangential to the pintle-space inclosed by the wall of said knuckle, and a binding member between and at right angles to said prong, substantially as and for the purpose described.

2. In a hinge, a section comprising a tubular knuckle, two straight prongs at right angles to said knuckle and in a plane which is tangential to the pintle-space inclosed by the wall of said knuckle, and an integral piece constituting a pin and a binding member, said pin being axial to said member and said binding member extending away from the knuckle parallel to and between said prongs, and binding means applied to said binding member, substantially as and for the purpose described.

3. The herein-described sheet-metal blank consisting of a rectangular body and two parallel prongs extending parallel to each other from adjacent corners of said body, and a notch extending into said body midway between said prongs.

In testimony whereof I have signed my name, in presence of two witnesses, this 14th day of July, in the year 1903.

SIDNEY JOHNSTON HOGAN.

Witnesses:
E. L. DE LONG,
W. W. MCGHEE.