(No Model.)

H. E. CURTIS.

HINGE.

No. 457,824. Patented Aug. 18, 1891.

Fig. 1.

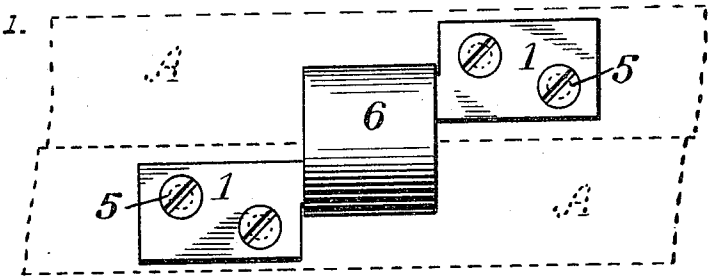


Fig. 2.

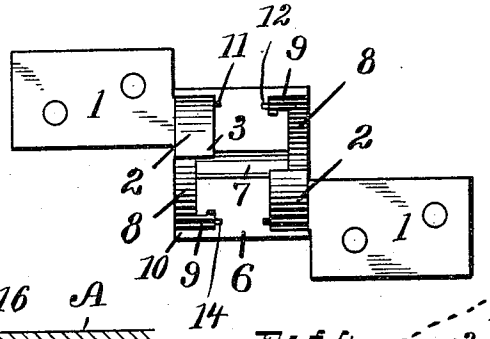


Fig. 3.

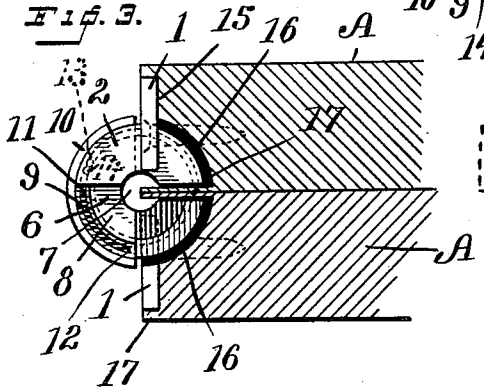


Fig. 4.

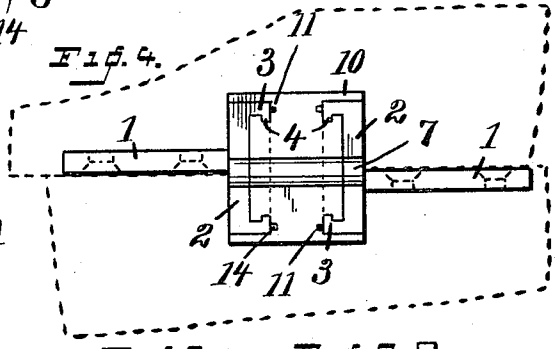


Fig. 5.

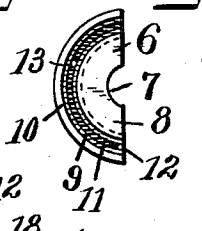


Fig. 6.

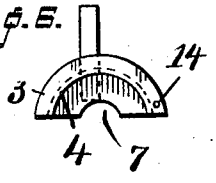
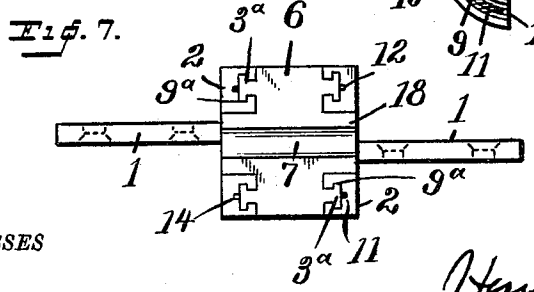


Fig. 7.



WITNESSES

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HINGE.

SPECIFICATION forming part of Letters Patent No. 457,824, dated August 18, 1891.

Application filed March 25, 1891. Serial No. 386,290. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. CURTIS, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Invisible Hinges; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to produce an invisible hinge adapted for general use, but more especially for fine cabinet-work, desks, &c., the requirements being that the hinge shall be invisible in the closed position, simple, strong, and durable, practically impossible to get out of repair, and consisting of few parts capable of being constructed and assembled at a minimum cost. In order to accomplish these results I have devised the simple and novel blind or invisible hinge, which I will now describe, referring by numerals to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of my novel hinge in the open position, wood-work being indicated by dotted lines; Fig. 2, a back view or reverse elevation, the wood-work being removed; Fig. 3, a section of the wood-work as seen in Fig. 1, the hinge being in end elevation; Fig. 4, a view corresponding with Fig. 2, the parts of the hinge being in the closed position, the position of the parts of the wood-work being indicated by dotted lines, the hinge being, in fact, wholly invisible when in this position in use; Fig. 5, an end view of the hub or pintle piece; Fig. 6, an end view of one of the leaves and its engaging plate, and Fig. 7 is a view corresponding with Fig. 4, illustrating a modification in the construction of the hub or pintle piece and the engaging plates of the leaves.

My novel hinge consists of three parts only, two of which are just alike, and six pins which serve as stops.

1 denotes the hinge-leaves, each of which is provided at one end with a segmental engaging plate 2, having upon its outer face a flange 3, the flange being provided with an inwardly-turned lip 4. The leaves are attached to the wood-work (denoted by A) by screws 5 or in any suitable manner. The leaves are in practice made narrower than the wood-work, so as to be wholly invisible in the closed position, as indicated in Fig. 4.

6 denotes the hub or pintle piece. The outer face of this hub is a segment of a circle, the inner face thereof, and in the form shown in Fig. 4 the engaging plate is ordinarily in practice provided with a groove 7, which serves as a clearance and also to lessen the weight of the parts. The metal at the outer ends of the hub is removed to form recesses 8 to receive the engaging plates upon the leaves. At the outer edges of the recesses the metal is removed still deeper to form undercut curved grooves 9, which in practice are engaged by the curved flanges and lips upon the engaging plates, as clearly shown in Fig. 4, the entire engaging plates being inclosed by flanges 10 upon the hub. At the bottoms of grooves 9 are formed still deeper curved grooves 11. At the opposite ends, respectively, of the two grooves 11 in the hub are placed pins 12, and past the central portion of said grooves are placed pins 13, which are adapted to be engaged by pins 14 upon the curved flanges 3 of the engaging plate. These pins serve as stops to limit the movement of the leaves in both directions.

In the position of the parts shown in Fig. 2 pins 14 upon the flanges are in engagement with pins 13 upon the hub to limit the movement of the movable part of the wood-work when placed in the open position, and in the position of the parts shown in Fig. 4 pins 14 upon the flanges are in engagement with pins 12 upon the hub and serve as stops to limit the movement of the parts in this direction, and more especially to hold the parts in operative position after assembling.

In assembling pins 14 are placed in flanges 3 and pins 13 are placed in the hub. The flanges and lips 4 are then engaged with undercut grooves 9. The engaging plates are then turned sufficiently to permit pins 12 to be driven to place.

In attaching the hinge in use the usual recesses 15 are made in the wood-work to receive the hinge-leaves, there being also formed in the two parts of the wood-work contiguous

to each other recesses 16, each of which is of suitable size to receive freely one-half of hub 6. It will be seen (see Fig. 5) that this segmental hub is less than a half-cylinder. This is in order to permit webs 17 of the wood-work to be left on the inner sides of recesses 16. In fact there are webs of wood on both sides of all the recesses. As no strain under any circumstances can come upon these webs of wood-work, but little thickness is required.

My novel hinge is attached in place just as easily as an ordinary simple butt. The parts are placed in the position shown in Fig. 2, in which position the leaves engage recesses 15, where they are secured by screws, as already stated.

In the form illustrated in Fig. 7 the hub or pintle piece is provided at its ends with bosses 18, upon which the engaging plates turn, the engaging plates being provided with T-shaped undercut grooves 9^a, which are engaged by T-shaped flanges 3^a—that is to say, these flanges are provided with lips on both sides to engage the T-shaped under cut grooves. The grooves 11 in this form are in the engaging plates instead of in the pintle-piece, as in the other form. The principle of operation and the mode of assembling are precisely the same as in the other form, the only difference being the reversal of flanges and grooves. It will of course be apparent that various changes and modifications in the details of construction can be made without departing from the principle of my invention.

I claim—

A hinge consisting of leaves having at their inner ends engaging plates provided with segmental flanges having inwardly-turned lips and a segmental hub lying between said leaves, said hub having in its ends recesses 8 to receive said engaging plates and undercut grooves to receive said flanges and lips, said grooves having at their bottoms grooves 11 and pins 12 and 13 and said flanges having pins 14, which lie in said grooves and engage pins 12 and 13, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY E. CURTIS.

Witnesses:
A. M. WOOSTER,
INA M. NICKERSON.