No. 842,593. PATENTED JAN. 29, 1907.

H. J. VALENTINE.

SPRING HINGE.

APPLICATION FILED AUG. 30, 1905.

Fig. 1.

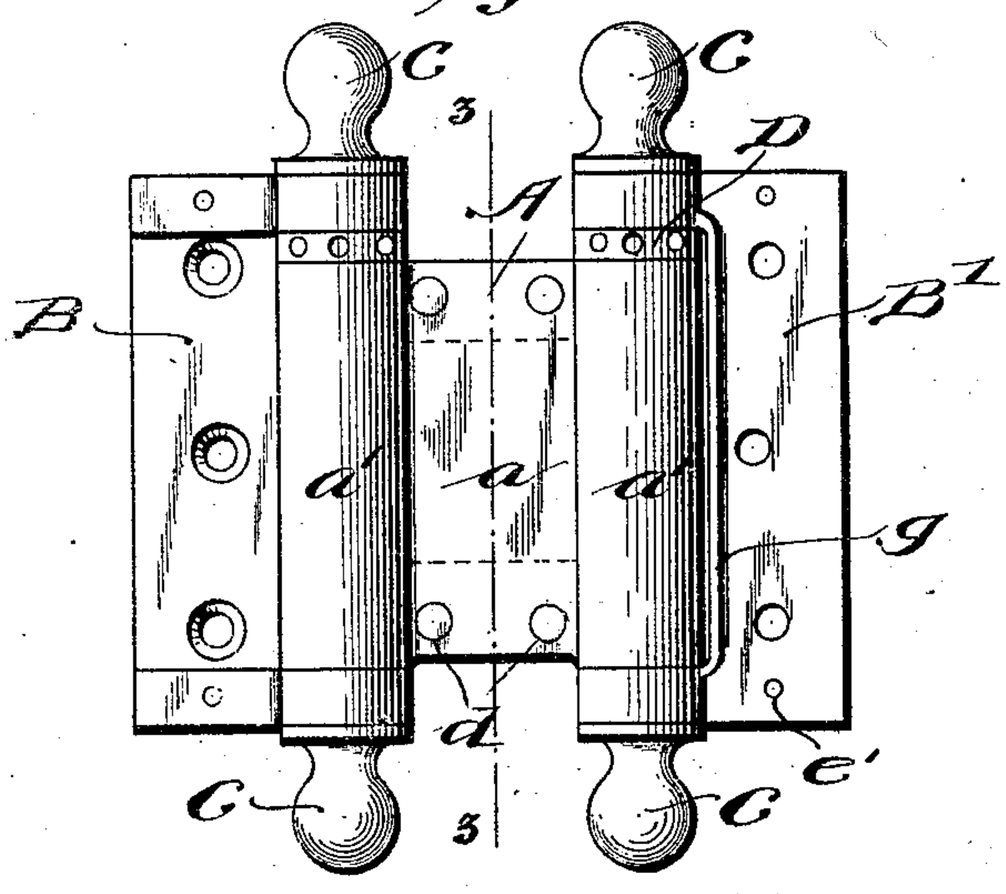


Fig. 3.

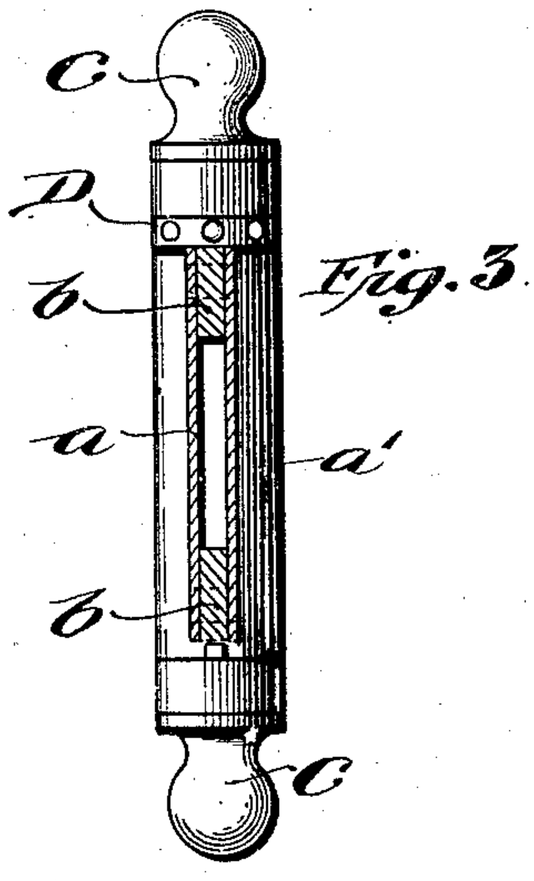


Fig. 2.

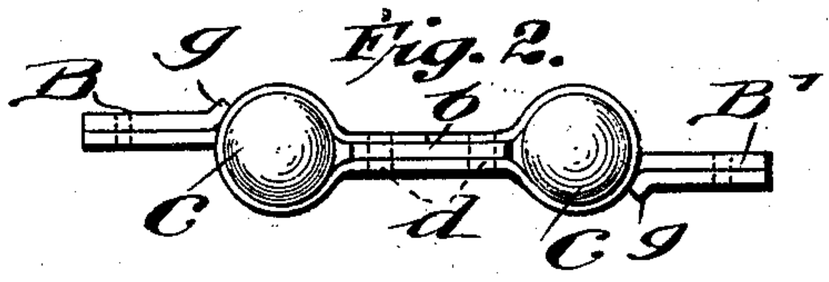


Fig. 4.

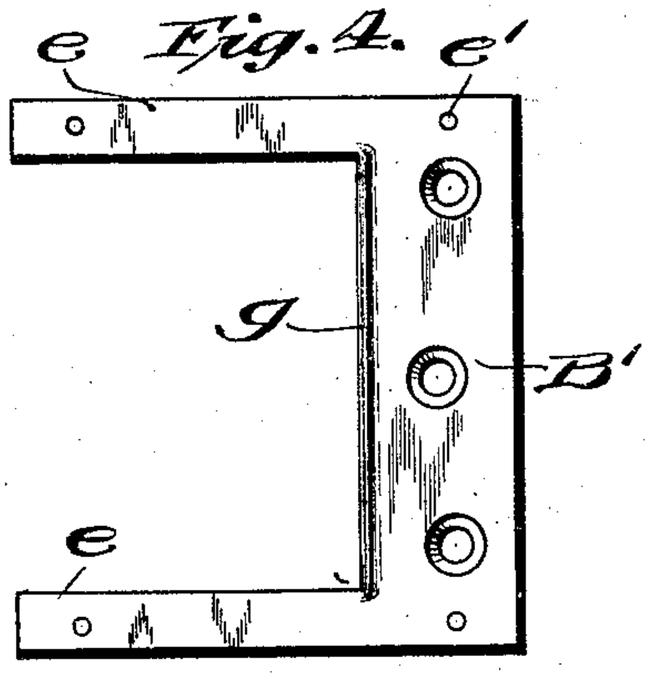


Fig. 5.

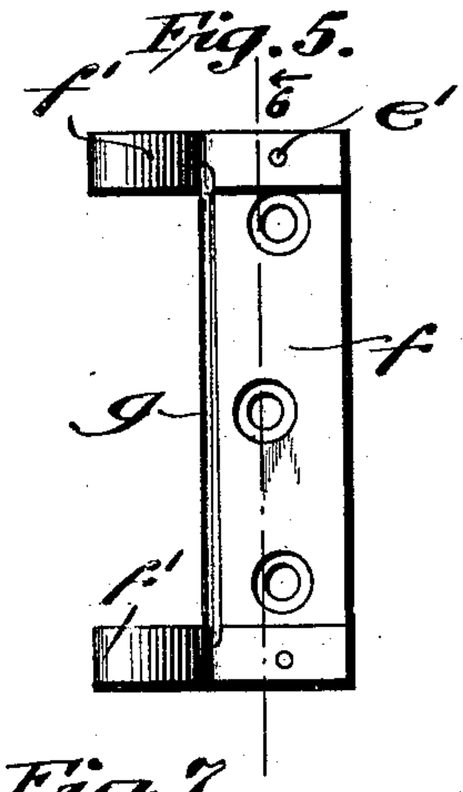


Fig. 6.

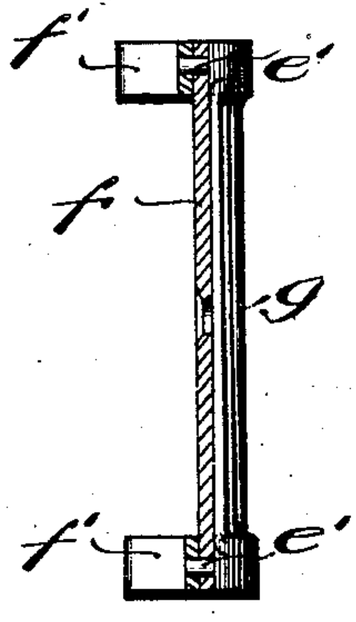
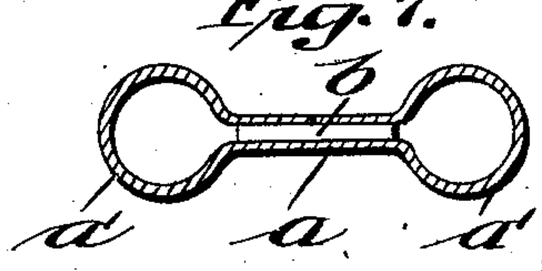


Fig. 7.



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UNITED STATES PATENT OFFICE.

HARRY J. VALENTINE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE COLUMBIA HARDWARE COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

SPRING-HINGE.

No. 842,593. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed August 30, 1905. Serial No. 276,415.

To all whom it may concern:

Be it known that I, HARRY J. VALENTINE, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Spring-Hinges, of which the following is a specification.

The invention relates to spring-hinges of either the double or single acting kind, but more particularly to double-acting hinges.

The objects of the invention are to generally improve the construction of the leaf or equivalent members of spring-hinges, so that they may be durable and efficient and will present a nice appearance.

A further object is to economize in the construction of such hinges.

In order that my invention may be clearly understood, I will now proceed to describe the same with reference to the accompanying drawings, which show a desirable form of spring-hinge embodying my invention, and in which—

Figure 1 is a front elevation of my improved double-acting hinge with the leaves spread out. Fig. 2 is a top view of Fig. 1. Fig. 3 is a section on the line 3 3 of Fig. 1. Fig. 4 is an elevation of a blank from which one of the end leaves of a double-acting hinge in accordance with my invention is made. Fig. 5 is an elevation of one of the end leaves after it has been bent up from the blank shown in Fig. 4 and riveted. Fig. 6 is a section on the line 6 6 of Fig. 5. Fig. 7 is a central horizontal section of the intermediate member of a double-acting hinge constructed in accordance with my invention.

The hinge shown in the drawing comprises an intermediate member A and end leaves B B′, and these parts are combined in any suitable or well-known manner, so as to form a complete hinge, as shown in Fig. 1, which comprises the said parts, end knobs C, capstan or spring-straining nuts D, and suitable springs and pintles. (Not shown.)

The intermediate member A is composed, preferably, of a seamless piece of metal *a a′ a′*, forming the exterior or outer portion of the said member, while the inner portion of the member is composed of a transverse filling piece or pieces *b*. The outer exposed portions of the intermediate members of my improved hinge are preferably formed in short tubular sections from a tube in well-known manner. The tubular section containing the filling-pieces *b*, properly disposed therein, is placed in a suitable press to form the complete intermediate member. The outer portion or cover of the intermediate member is attached, preferably, to the filling-pieces *b* by means of rivets *d*. The middle portion of the intermediate member in which the filling-pieces *b* are located give substantial rigidity and strength to the intermediate member and make the same sufficiently thick at this point without the use of too much metal filling, the intermediate member being hollow throughout and the same being closed between the sleeves above and below the hollow, substantially as shown. By the words "filling-pieces" used in the claims it is the intention to cover any stock or material of the hinge which closes the space or hollow of the intermediate member at the ends, as distinguished from the side portions of the intermediate member at which the sleeves are located, so that the hollow or space extends from sleeve to sleeve. The end parts *a′ a′* of the intermediate member furnish sleeves for the complete hinge to receive the springs and pintles in well-known or suitable manner. The outer portion of exterior or cover of the intermediate member may be made of any high-grade metal or of a metal of suitable variety to receive the finish, while the filling-pieces *b* may be composed of a low grade or cheaper quality of metal.

The end leaves B B′ being each of the same construction, a description of one will suffice for both. A blank, such as shown in Fig. 4, is first formed, and the parallel strips *e*, which are spaced a suitable distance apart, are afterward bent to and against the main body of the blank and are riveted thereto at *e′*, so as to provide an end leaf comprising a body portion *f* and sleeves or knuckles *f′ f′*, located at opposite ends of the substantially flat main body *f* of the leaf. Portions of the original integral strips *e*, which extend as continuations of the knuckles or sleeves *f′*, are riveted down flat and extend transversely of the ends of the body *f*, reinforcing and strengthening the body, also strengthening and supporting the knuckles.

The inner edge of each leaf B B′ is provided with an angularly-extending lip or flange *g*, which not only stiffens that edge of the leaf, but also imparts a finish thereto and makes

the proper sort of joint between the leaf and the adjacent sleeve of the intermediate member. The parts so made or substantially so made as described are assembled in any suitable or well-known manner with the other parts which complete the hinge.

Having thus described my invention and without limiting myself to details, what I claim as new, and desire to secure by Letters Patent, is—

1. In a spring-hinge, an intermediate member provided with sleeves, said member being hollow from sleeve to sleeve, and means for closing the hollow portion of the intermediate member between the ends of the sleeves, substantially for the purposes set forth.

2. A spring-hinge provided with an intermediate member composed of an outer or cover portion for receiving the finish, and two transverse filling-pieces respectively at the upper and lower ends of the intermediate member spaced a suitable distance apart to form a hollow member, substantially for the purposes set forth.

3. A blank for a hinge-leaf, comprising a body portion and spaced parallel strips extending from the same, for substantially the purposes set forth.

Signed at New York, N. Y., this 11th day of August, 1905.

HARRY J. VALENTINE.

Witnesses:
GEO. L. WHEELOCK,
MICHAEL J. O'CONNOR.