(Model.)

L. BOMMER.

SPRING HINGE.

No. 485,366. Patented Nov. 1, 1892.

Fig. I.

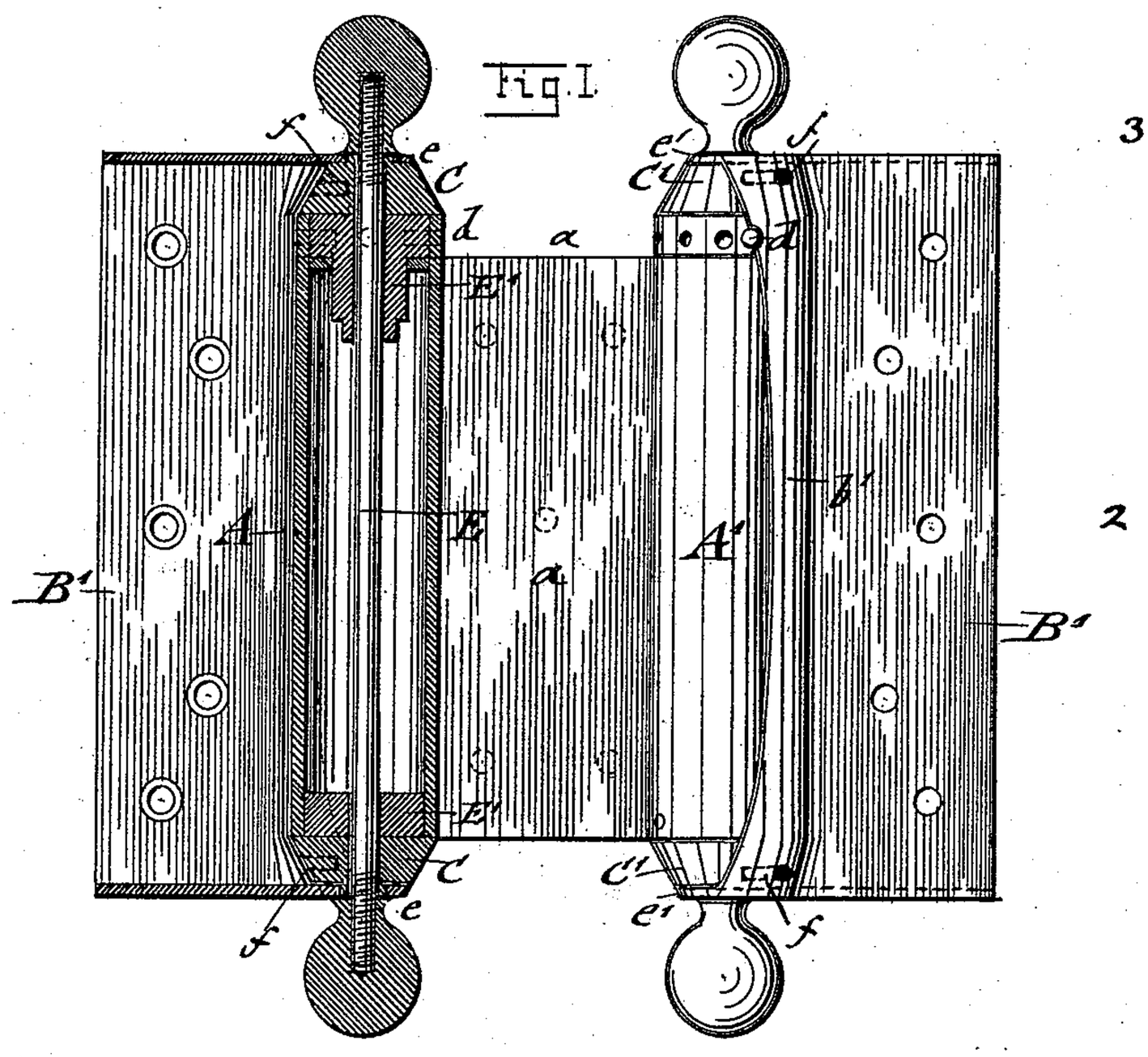


Fig. II.

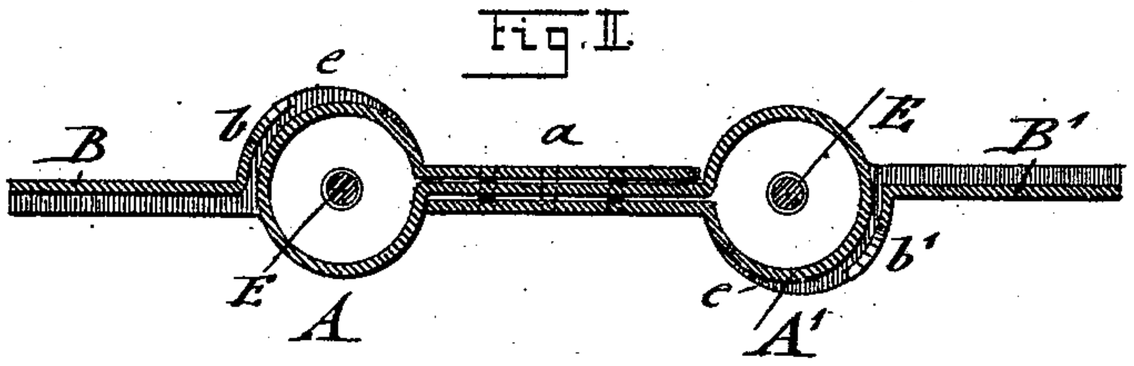


Fig. III.

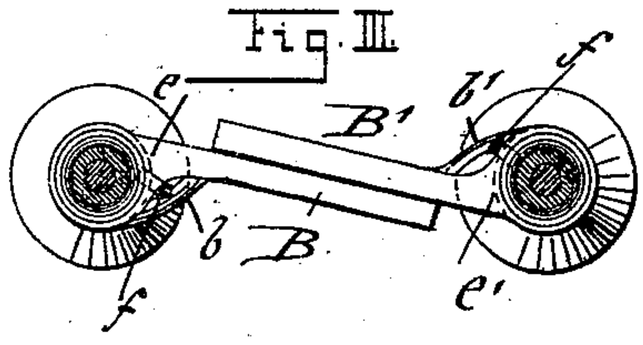
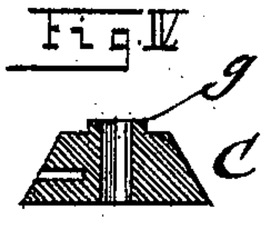


Fig. IV.



WITNESSES:

A. Werner

Marion Hall

INVENTOR

Lorenz Bommer

BY

Goepel & Raegener

ATTORNEYS.

UNITED STATES PATENT OFFICE.

LORENZ BOMMER, OF BROOKLYN, NEW YORK.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 485,366, dated November 1, 1892.

Application filed April 10, 1891. Renewed April 9, 1892. Serial No. 428,464. (No model.)

To all whom it may concern:

Be it known that I, LORENZ BOMMER, a citizen of the United States, and a resident of the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Spring-Hinges, of which the following is a specification.

This invention has reference to improvements in double spring-hinges, said improvements being made with a view to facilitate and cheapen the manufacture of the hinges and to increase the strength of the same; and the invention consists of a double spring-hinge in which the barrels are connected by a web formed of three layers, the intermediate layer connecting the opposite edges of the barrels, while the outer layers that overlap the middle layer are extensions of the barrels, said intermediate and overlapping layers being riveted together.

The invention consists, secondly, of a spring-hinge the leaf of which has a longitudinal stop-flange and perforated ears that are bent at right angles to the body of the leaves, said flange having perforations in its sides for inserting the pins by which the flange is connected with the pintle-sockets, so that the latter turn with the leaves. The pintle-sockets are provided with bushings, which are extended into perforations of the ears, said stop-flange being connected by said pins with the pintle-sockets, so as to produce the rigid connection between the leaves and pintle-sockets.

In the accompanying drawings, Figure I represents a side elevation, one-half being in section, of my improved double spring-hinge. Fig. II is a horizontal section on line 2 2, Fig. I, of the same. Fig. III is a top view, partly in section, on line 3 3, Fig. I, showing the leaves of the hinge folded up against the web; and Fig. IV is a detail section of the pintle-socket, shown as detached.

Similar letters of reference indicate corresponding parts.

In the drawings, A A′ represent the spring-barrels of my improved double spring-hinge, and *a* the connecting-web of said barrels, which web is made of spring-steel and of three layers that are made in one piece with the barrels A A′ and riveted together. The intermediate layer of the web *a* connects the end of one barrel with the opposite end of the other barrel, while the outer overlapping layers are bent up from the opposite ends of each barrel, as shown clearly in the horizontal section, Fig. II. The leaves B and B′ are provided with longitudinal stop-flanges *b b′* at their inner edges, adjoining the barrels A A′, and with centrally-perforated disk-shaped ears *e e′*, that are made integral with the body of the leaves and the stop-flanges and bent up at right angles to the leaves. The longitudinal stop-flanges *b b′* impart greater strength to the leaves and form a convenient rest for the tension-pins *d d* of the hinge, as shown in Fig. I. The stop-flanges *b* also form the connection between the bent-up ears *e e′* and the body of the hinge. Between the perforated ears *e e′* of the leaves B and B′ and the ends of the barrels are interposed pintle-sockets C C′, that take up the friction between the ears and the barrels, respectively, without weakening or reducing the thickness of the perforated ears *e e′* by wear. The pintle-sockets C C′ are connected by pins *f* with holes in the bent-up stop-flanges *b b′* of the leaves B and B′, so as to be rigidly connected thereto and produce the turning of the pintle-sockets with the leaves. The pintle-sockets C C′ are further provided with bushings *g*, that are extended into the perforations of the ears *e e′*, said bushings being made of square, round, or other shape and somewhat enlarged at their ends, so as to act in the nature of rivets and strengthen thereby the connection between the pintle-sockets and the leaves B and B′. The pintles E are passed through the centers of the barrels and through the spring-sockets E′ and the pintle-sockets C to the outside of the latter and are provided with threaded ends for attaching the pintle tips or terminals, which may be made of any suitable shape. The spring-barrels, spring-sockets, spiral springs, and pintles are of the same construction as in spring-hinges generally and form no part of my present invention, the essential features of which are the construction of the three-ply web between the barrels, made integral with the latter, and the connection of the pintle-sockets with the stop-flanges

of the leaves and with the ears bent up at both ends of the leaves.

The advantages of my improved double spring-hinge are that the hinge can be made stronger and cheaper, inasmuch as the barrels and their connecting-web are made of one piece—that is, bent into proper shape by means of dies—while the connection of the leaves with the barrels and pintle is simplified and made much stronger than heretofore.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a double spring-hinge, a web connection for the barrels of the hinge, made of three layers, an intermediate layer connecting the opposite ends of the barrels and two outer overlapping layers forming extensions of the opposite ends of the barrels, the layers and barrels being made from one integral piece of spring-steel, substantially as set forth.

2. The combination, with the spring-barrel and pintle of a spring-hinge, of a leaf having a longitudinal stop-flange at its inner edge and perforated ears bent up at right angles to the body of the leaf, pintle-sockets interposed between the ears and barrels, and pins connecting the said stop-flange with the pintle-sockets, said pintle-sockets having bushings extending into the perforations of the ears, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

LORENZ BOMMER.

Witnesses:

PAUL GOEPEL,

A. M. BAKER.