(Model.)

L. BOMMER.

SPRING HINGE.

No. 383,555. Patented May 29, 1888.

Fig. 1.

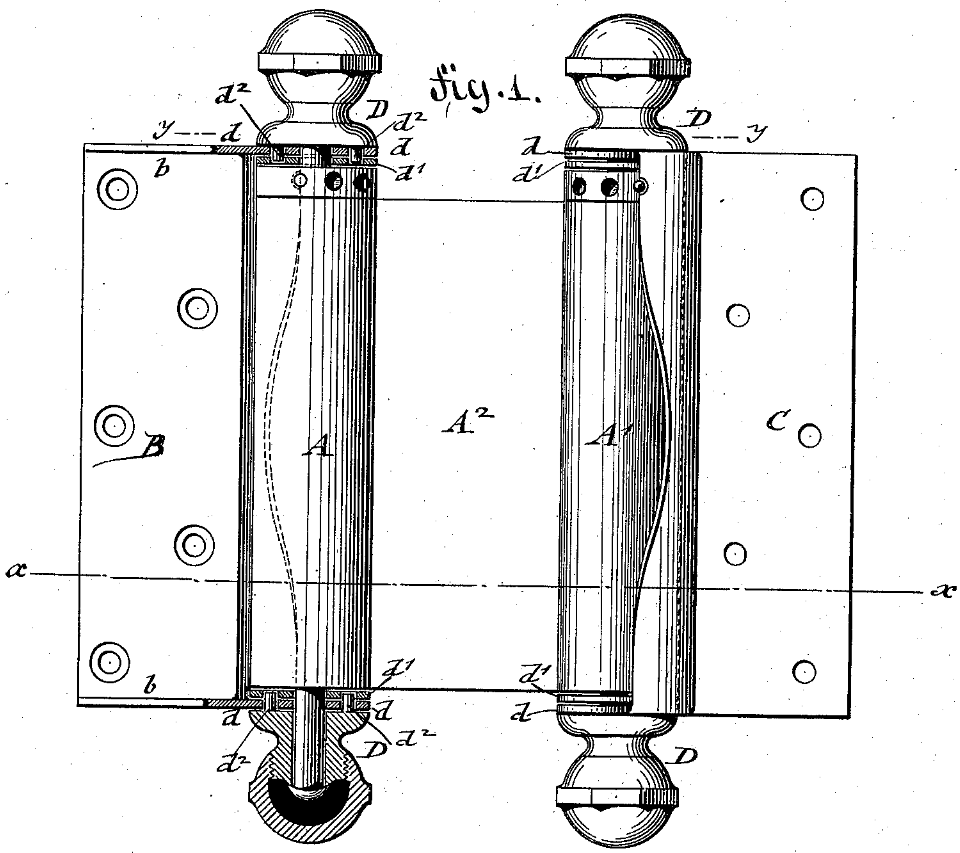


Fig. 2.

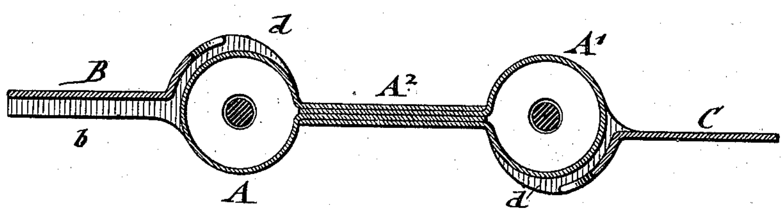
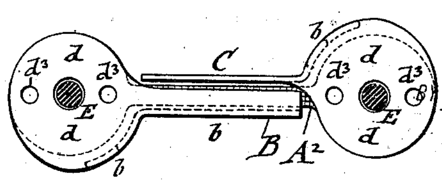


Fig. 3.



WITNESSES:

Fd. W. Rosenbaum.

Carl Karp.

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. 383,555, dated May 29, 1888.

Application filed May 17, 1887. Serial No. 238,449. (Model.)

To all whom it may concern:

Be it known that I, LORENZ BOMMER, of Brooklyn, in the 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 single and double spring-hinges; and the invention consists of a spring-hinge the leaves of which are provided with perforated ears bent up at right angles to and integral with the body of said leaves, and with a stop-flange having recesses for the stop-pins, said stop-flange extending from one ear to the other.

The invention consists, further, of a leaf having perforated ears, pintle-sockets provided with pins which engage holes of said ears, washers interposed between the pintle-sockets and the spring-sockets of the barrel, and a pintle attached to said pintle-sockets.

In the accompanying drawings, Figure 1 represents a side elevation of a double spring-hinge, partly in section. Fig. 2 is a horizontal section of the same on line *x x*, Fig. 1; and Fig. 3 is also a horizontal section on line *y y*, Fig. 1, showing the hinge folded up.

Similar letters of reference indicate corresponding parts.

A A′ in the drawings represent the spring-barrels, and A^2 the connecting-web, of a double spring-hinge of the usual construction; and B and C, the outside leaves, which are in double-acting hinges attached, respectively, to the door-frame and door, and which are made of sheet metal of suitable thickness. The leaves B and C are provided with stop-flanges *b b* at the upper and lower ends, and with centrally-perforated disk-shaped ears *d*, that are made integral with the body of the leaf and bent up at right angles to the same, in connection with the auxiliary bent-up stop-flanges *b*, which extend longitudinally along the inner edge of the leaf, and are also made integral therewith, said flanges giving greater strength to the leaf and forming the connection between the body of the same and the ears *d d*, as well as a convenient rest for the tension-pin of the hinge, as shown in Figs. 1 and 2.

Between the perforated ears *d d* of the leaves B and C and the spring-sockets of the barrel are interposed disk-shaped washers *d′*, that take up the friction of the ears with the spring-sockets of the spring-barrels without weakening or reducing the thickness of the perforated ears *d d* by wear. The pintle-sockets D are connected by pins d^2 to registering holes d^3 of the ears *d* and washers *d′*, the pintle-sockets being rigidly connected thereto and to the spring-barrel by the pintle E, which is riveted to said pintle-sockets by enlarging the ends, or by other suitable means, so as to prevent the moving up or down of the pintle. The ends or shanks of the pintle-sockets D are screw-threaded for applying thereto detachable screw-caps of plain or ornamental shape. These screw-caps, however, form no part of this application, as they have been specially claimed in a separate application filed at the same date herewith.

The spring-barrel and spring and other accessories are the same as in other spring-hinges, the essential feature of this invention being the disk-shaped perforated ears, made of sheet metal and bent up at right angles to the leaves and integral therewith, and the connection of the leaves attached to the door and door-frame with the pintle-sockets by means of the perforated and disk-shaped ears and intermediate washers. The advantages claimed by this arrangement are, that the hinge can be made lighter, cheaper, and stronger, and that a great gain is made in spring-power, as the spring-barrel is nearly equal in length with the leaves and permits the use of a longer and stronger pin than was possible heretofore.

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

1. In a spring-hinge, a leaf having perforated ears bent at right angles to and integral with the body of said leaf, and a bent-up stop-flange having recesses for the stop-pins, said flange extending from one ear to the other, substantially as set forth.

2. In a spring-hinge, the combination of a leaf having perforated ears with pintle-sockets having pins which engage holes in said ears, washers interposed between the pintle-sockets and the spring-sockets of the barrel, and a pintle attached to said pintle-sockets, substantially as set forth.

3. In a spring-hinge, the combination of a

leaf having centrally-perforated ears and holes at some distance from the central perforation, washers having holes registering therewith, pintle-sockets having pins engaging the holes of the ears and washers, and a pintle attached to said sockets, 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:
CARL KARP,
MARTIN PETRY.