

(No Model.)

W. V. KISH.
WAGON SPRING.

No. 258,437.

Patented May 23, 1882.

Fig. 1.

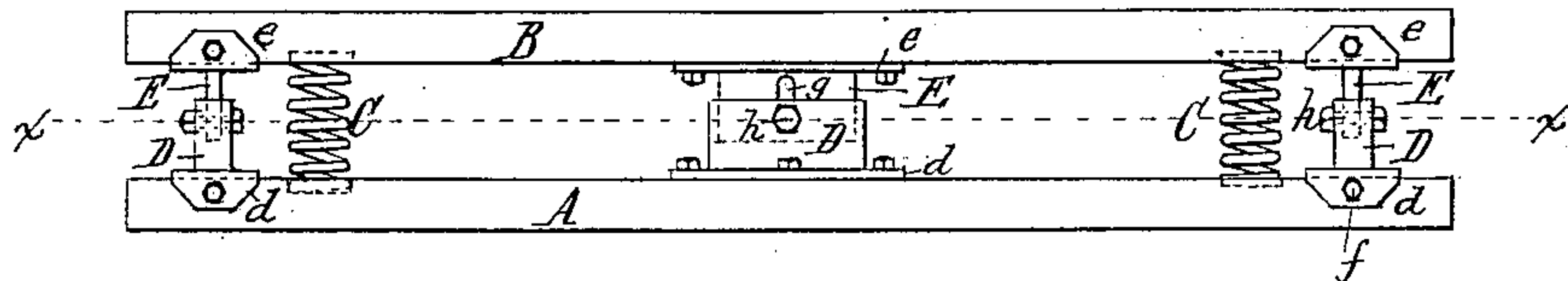


Fig. 2.

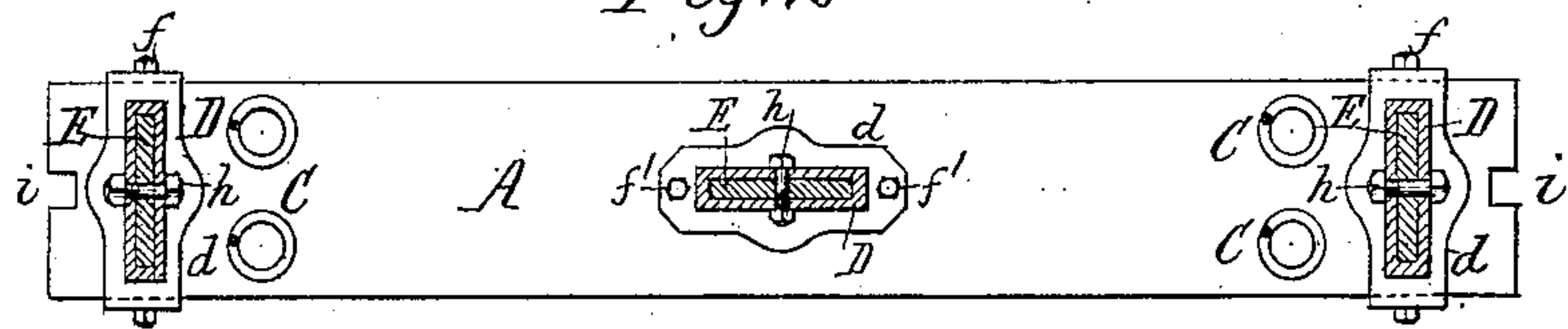


Fig. 3.

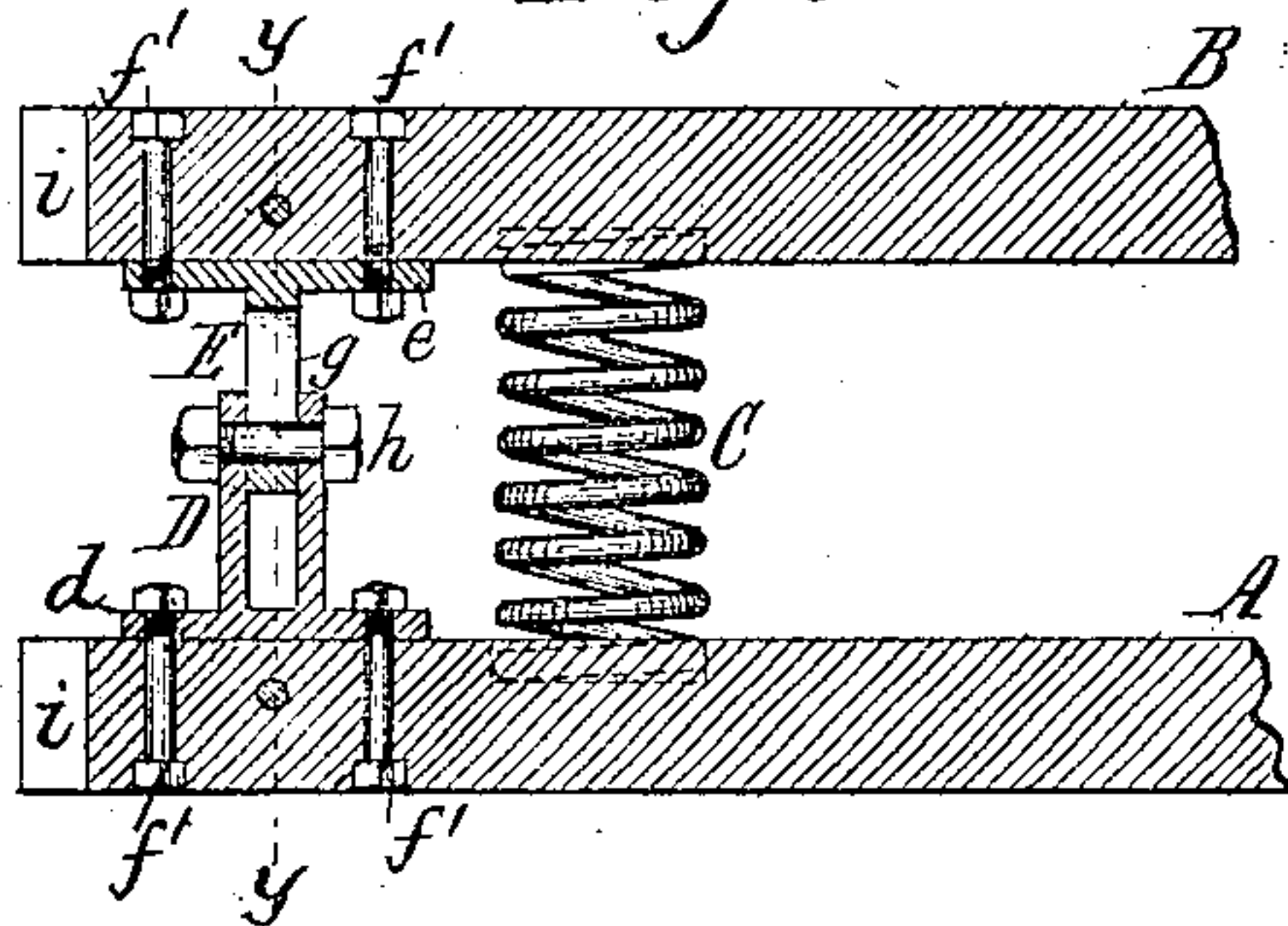


Fig. 4.

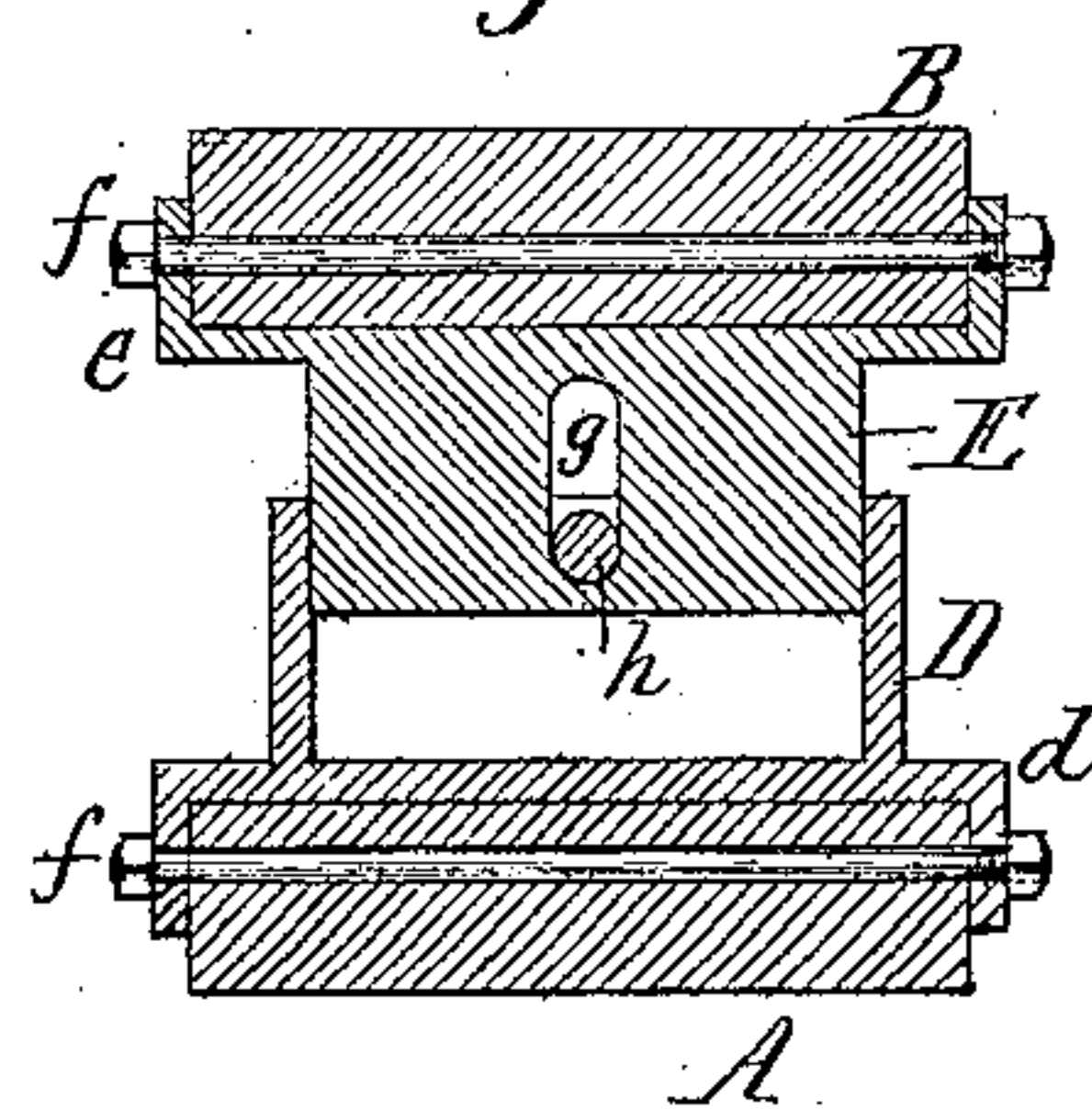
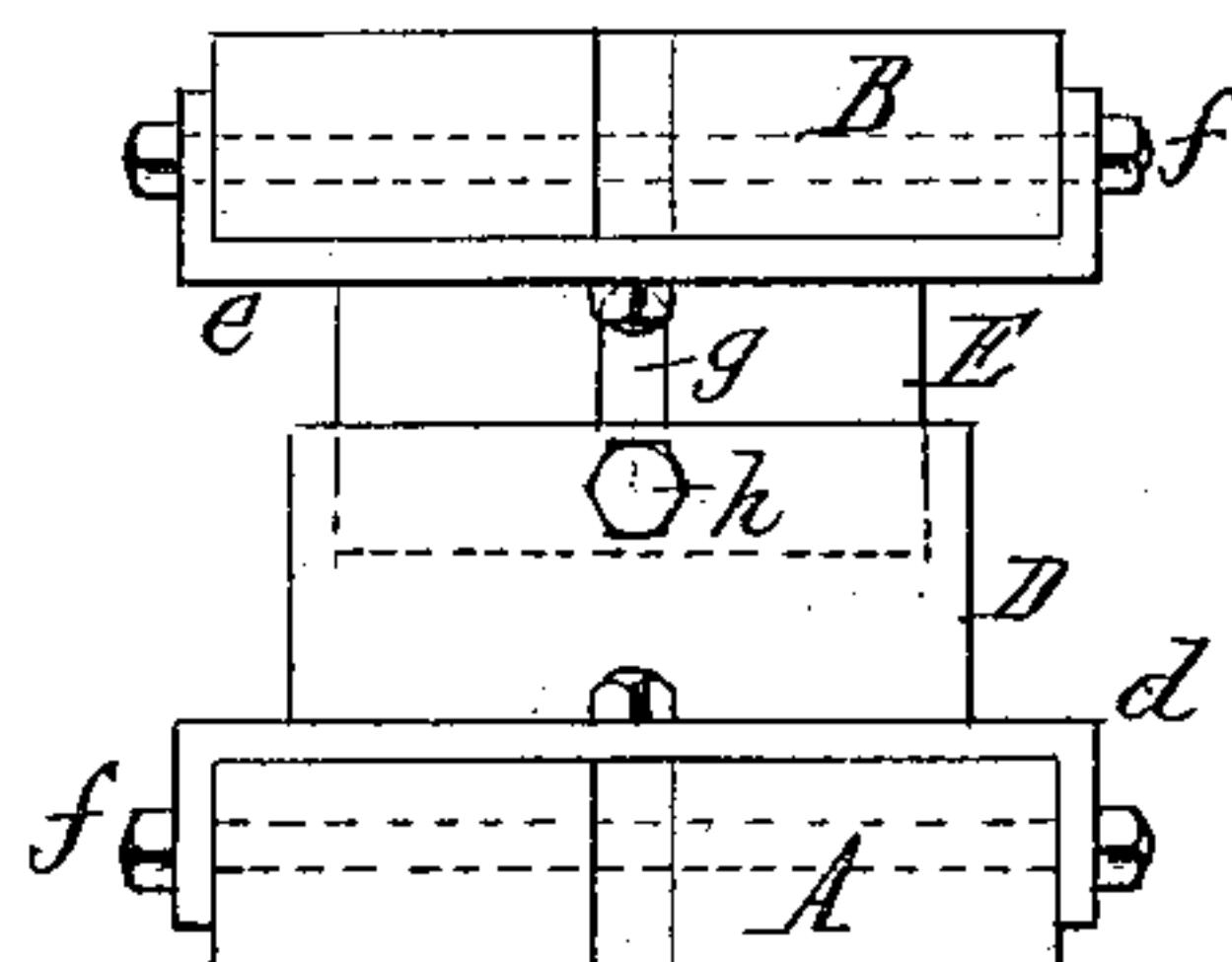


Fig. 5.



Chas. J. Buchheit
Edw. J. Brady
Witnesses.

W. V. Kish Inventor.
By Wilhelm Bonner.
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM V. KISH, OF BUFFALO, NEW YORK.

WAGON-SPRING.

SPECIFICATION forming part of Letters Patent No. 258,437, dated May 23, 1882.

Application filed March 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM V. KISH, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Wagon-Springs, of which the following is a specification.

This invention relates more particularly to an improvement in that class of springs which are interposed between the bolsters and the boxes of wagons carrying heavy loads for the purpose of forming a yielding support for the load, and which consists of a number of upright spiral springs placed between two horizontal boards which are held together by bolts. These springs, when in use, are liable to be bent and destroyed by a shifting of the load from one side to the other.

The object of my invention is to remedy this difficulty; and my invention consists, to that end, of the peculiar devices whereby the horizontal boards are connected, and whereby the lateral displacement of the parts is prevented, while the springs are permitted to play freely, as will be hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a front elevation of my improved spring-cushion. Fig. 2 is a horizontal section in line *xx*, Fig. 1. Fig. 3 is a vertical section, on an enlarged scale, of one end of the device. Fig. 4 is a vertical section in line *yy*, Fig. 3. Fig. 5 is an end elevation of the device.

Like letters of reference refer to like parts in the several figures.

A B represent two horizontal boards, and C a number of spiral springs arranged in an upright position between the boards A and B, and inserted with their ends in circular sockets or depressions formed in said boards. As shown in the drawings, two springs are arranged near each end of the device, one behind the other; but any other suitable number of springs may be employed, according to the load which the device is designed to sustain.

D represents an upright socket secured to the upper side of the lower board, A, near each end thereof, and E represents a plate secured to the lower side of the upper board, B, near each end thereof, and engaging in the socket D, so as to slide vertically therein. The socket D and the plate E are respectively pro-

vided with flanges *d* and *e*, the ends of which overlap the edges of the boards A and B, and are secured thereto by horizontal bolts *f* and vertical bolts *f'*. The overlapping ends of the flanges and the horizontal bolts *f* prevent the boards from splitting.

g represents a vertical slot formed in the plate E, and *h* is a horizontal bolt secured to the socket D and passing through the slot *g*. The latter is made so long that the plate can enter the socket far enough to permit of the proper compression of the springs. If desired, the hole in the socket through which the bolt *h* passes may also be elongated, or the slotted opening may be formed in the socket and the bolt be passed through a round opening in the plate. The latter fits snugly in the socket and prevents the boards A and B from moving in any direction except toward and from each other. The sockets D and plates E, arranged near the ends of the boards A and B, are arranged transversely on the boards, as shown. In order to still further guard against lateral displacement of the boards, the boards may be connected centrally by a socket and plate, which are arranged lengthwise on the boards or at right angles to the end fastenings, as clearly shown in Figs. 1 and 2.

i are notches formed in the ends of the boards and adapted to fit over the uprights or posts which are secured to the ends of the bolsters.

The sockets and plates are readily constructed of malleable or cast iron, and form a reliable telescopic connection for the boards, which are thereby retained in their proper relative position in all positions of the upper board. These telescopic fastening devices permit the upper board to move freely toward and from the lower board as the springs are compressed or expanded and prevent the boards from separating so far that the springs could disengage themselves from their sockets.

I claim as my invention—

1. The combination, with the boards A B and spiral springs C, interposed between said boards, of sockets D and plates E, fitting in said sockets, so as to slide therein, said sockets and plates being connected by elongated openings and bolts *h*, and secured respectively to said boards A B, near their ends, the whole

forming a removable spring-support in which both boards are rigidly held against lateral displacement, but permitted to move freely toward and from each other, substantially as set forth.

5 2. The combination, with the boards A and B and interposed springs C, of telescopic fastening devices D E, arranged transversely between the boards, and a similar fastening device arranged lengthwise between the boards,
10 substantially as set forth.

3. The combination, with the boards A and B and interposed spiral springs C, of the sockets D and plates E, provided respectively with flanges *d* and *e*, which overlap the edges of the
15 boards, and horizontal fastening-bolts *f*, substantially as set forth.

WM. V. KISH.

Witnesses:

JNO. J. BONNER,
CHARLES F. GEYER.