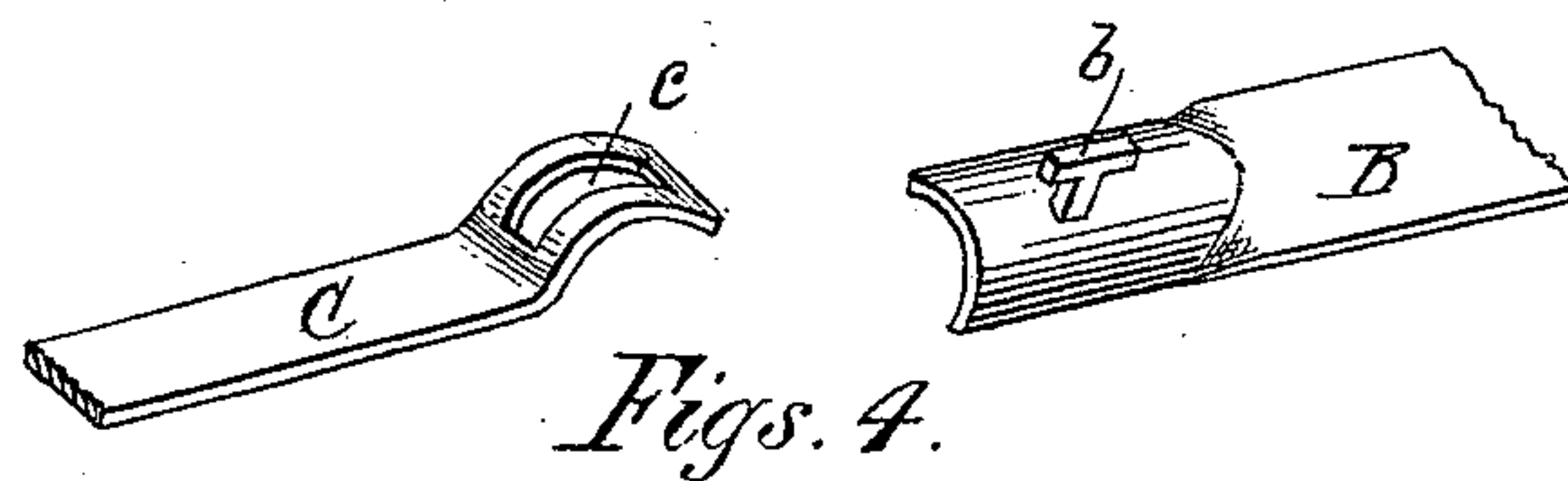
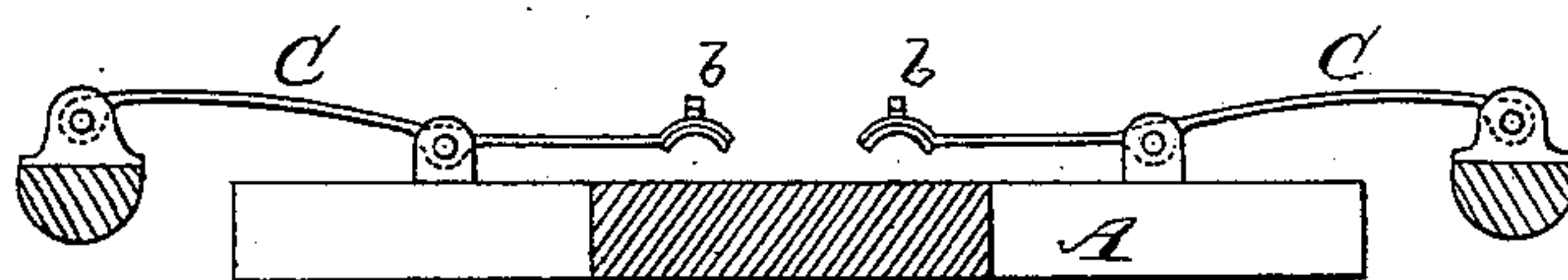
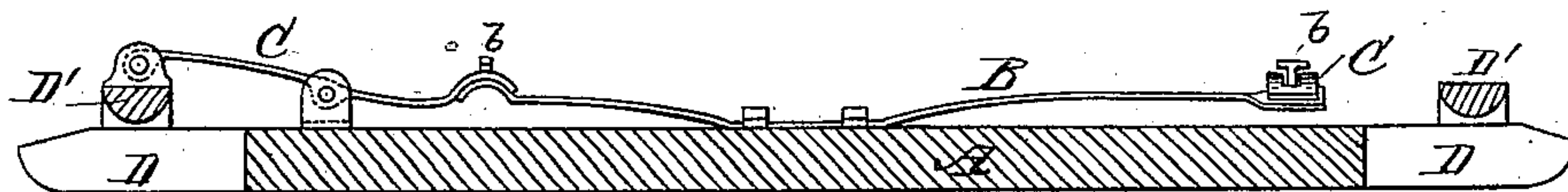
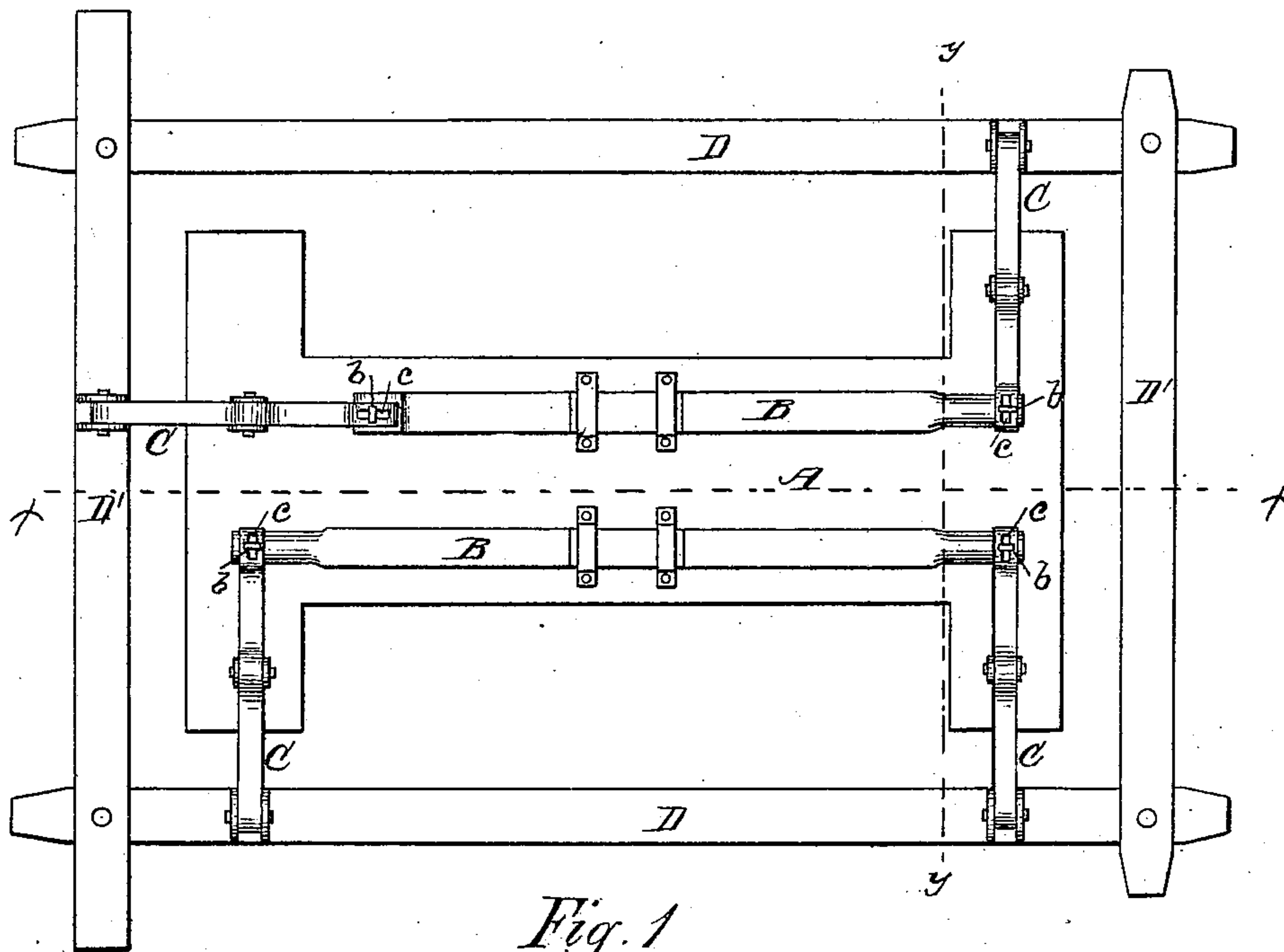


(No Model.)

L. PENTZ.
VEHICLE SPRING.

No. 282,563.

Patented Aug. 7, 1883.



Chas. H. Fowler
L. L. Miller,
Witnesses

Levi Pentz, Inventor.
per Fred W. Bond Attorney.

UNITED STATES PATENT OFFICE.

LEVI PENTZ, OF CANTON, OHIO.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 282,563, dated August 7, 1883.

Application filed June 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, LEVI PENTZ, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have
5 invented certain new and useful Improvements in Vehicle-Springs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this
10 specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is an under side view of my invention. Fig. 2 is a cross-section taken on line *x x* of Fig. 1. Fig. 3 is a
15 cross-section taken on line *y y* of Fig. 1, and Fig. 4 is a detached view of joint.

This invention has relation to that class of vehicle-springs known as "side-bar" springs; and the object thereof is to construct the
20 springs and connect them to the side or end bars of the vehicle in such a manner that the friction is greatly reduced and the springs allowed to operate without strain on the bars; and its nature consists in providing a frame, to
25 which frame the springs proper are attached, and in providing four supplemental springs, and in the several parts and combination of parts hereinafter described and claimed.

In the accompanying drawings, A represents
30 the frame, to which the springs B are attached by means of suitable clamps and clamping-bolts. Blocks of any desired thickness may be placed between the frame A and the springs B. The springs B may be made of a single
35 piece of spring-steel; or they may be composed of any desired number of leaves. The ends of the springs B are bent or curved, as shown in the drawings. The convex side is provided with a T-shaped head, as shown in Fig. 4 of the
40 drawings.

The supplemental springs C are of the form shown in Figs. 1, 2, and 3 of the drawings, and are attached at or near their centers to the
45 frame A by means of a jack. The inner ends of these supplemental springs are bent or curved so as to correspond with the convexity

of the bent or curved ends of the springs B, and are provided with elongated slots *c*, through which passes the T-shaped head *b*. These T-shaped heads *b* may be riveted to the ends of
50 the springs B, and are for the purpose of holding the supplemental springs C to the springs B. The outer ends of these supplemental springs C are preferably attached to the side bars, D, but may be attached to the end bars, D', if desired. These springs C are attached
55 to said bars by means of suitable clips, said clips being held to the bars D or D' by means of suitable clamping-bolts. If it is desired to have the supplemental springs C attached to
60 the end bars, D', the ends of said springs B are bent or curved in the opposite direction to what they are when said supplemental springs C are attached to side bars, D. (See Fig. 1 of the
65 drawings.)

The concave face of the supplemental springs C are lined with brass or like material for the purpose of lessening the friction and preventing noise.

Having now fully described my invention, 70 what I claim as new, and desire to secure by Letters Patent, is—

1. The springs B, having their ends bent or curved and provided with the T-shaped head *b*, substantially as and for the purpose specified.
75

2. The supplemental springs C, having their inner ends bent or curved, and having elongated slots *c*, substantially as and for the purpose specified.
80

3. The springs C, attached at or near their centers to the frame A, in combination with the springs B, substantially as and for the purpose specified.

In testimony that I claim the above I have
85 hereunto subscribed my name in the presence of two witnesses.

LEVI PENTZ.

Witnesses:

FRED W. BOND,
MARY BOND.