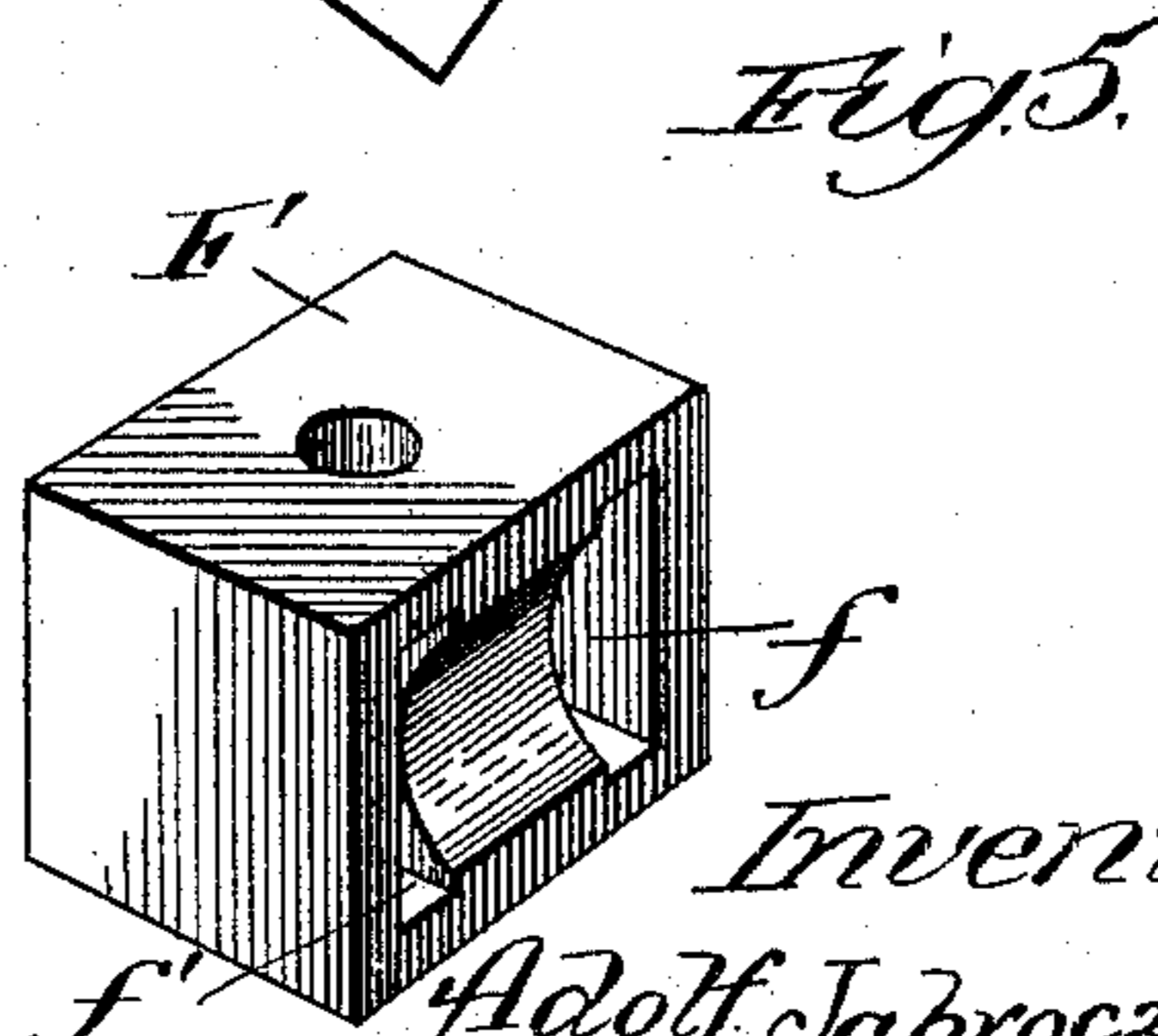
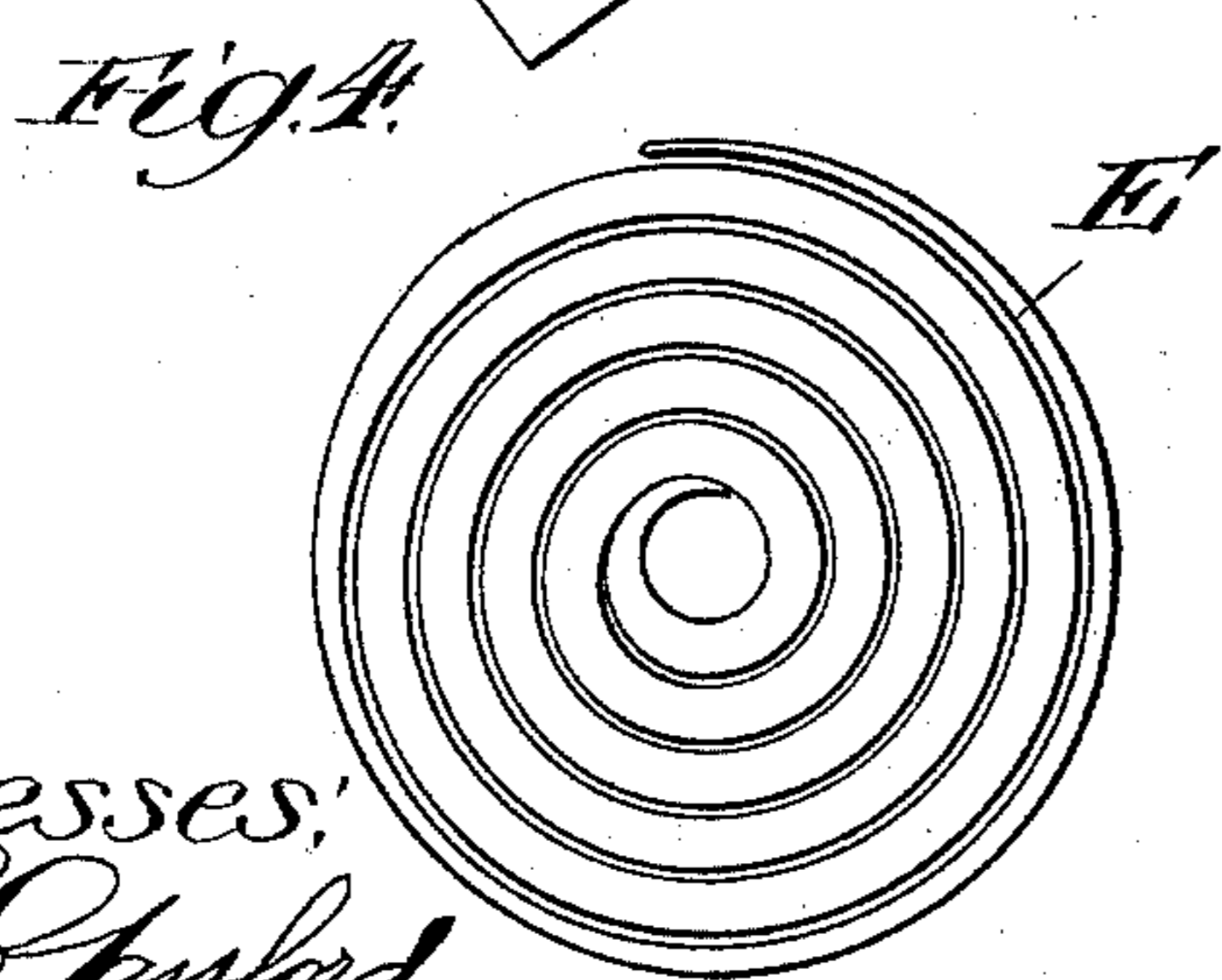
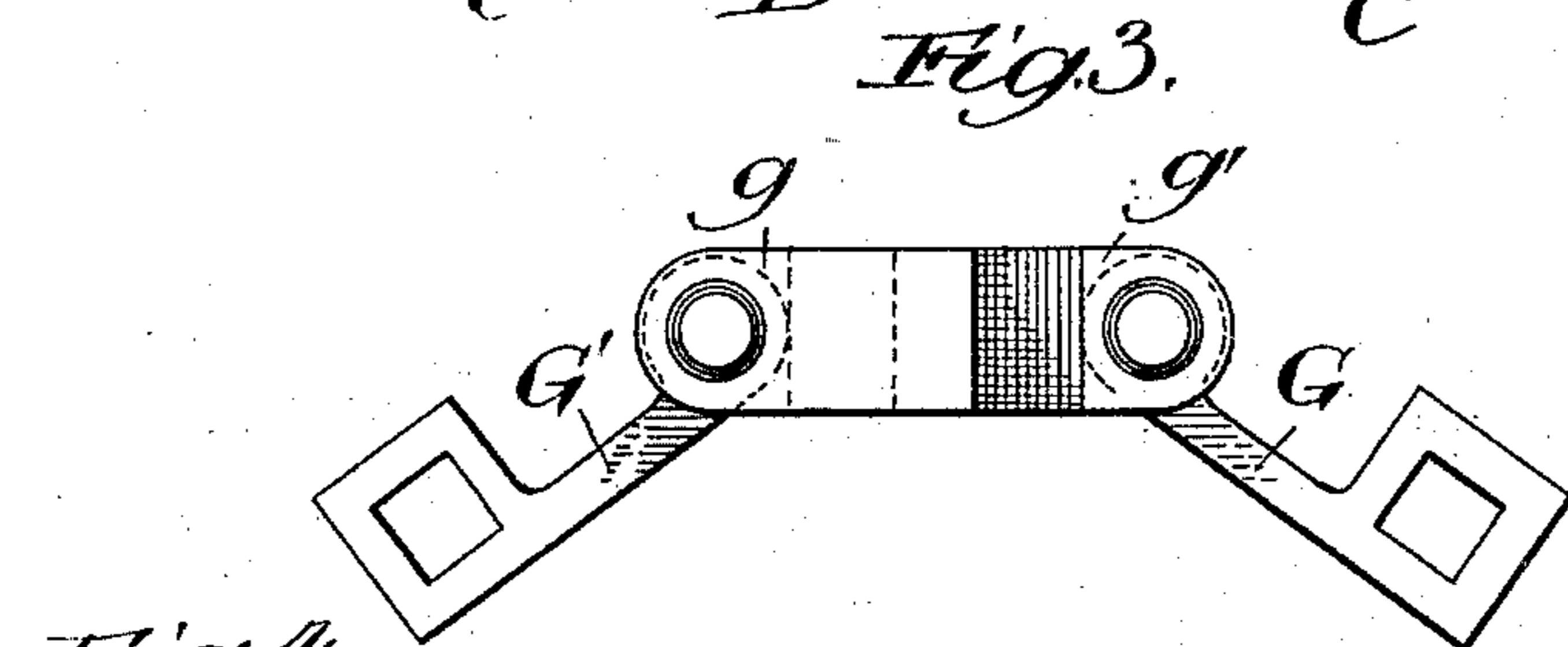
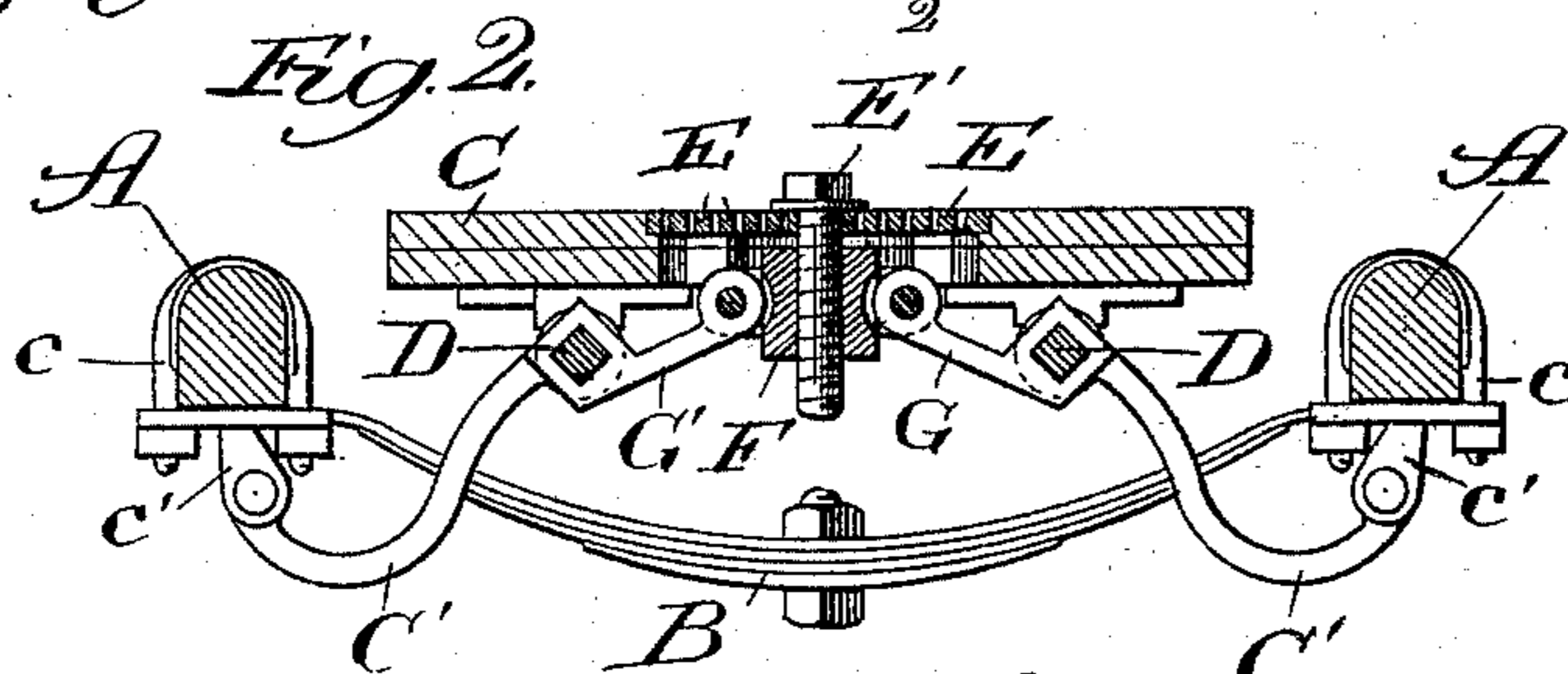
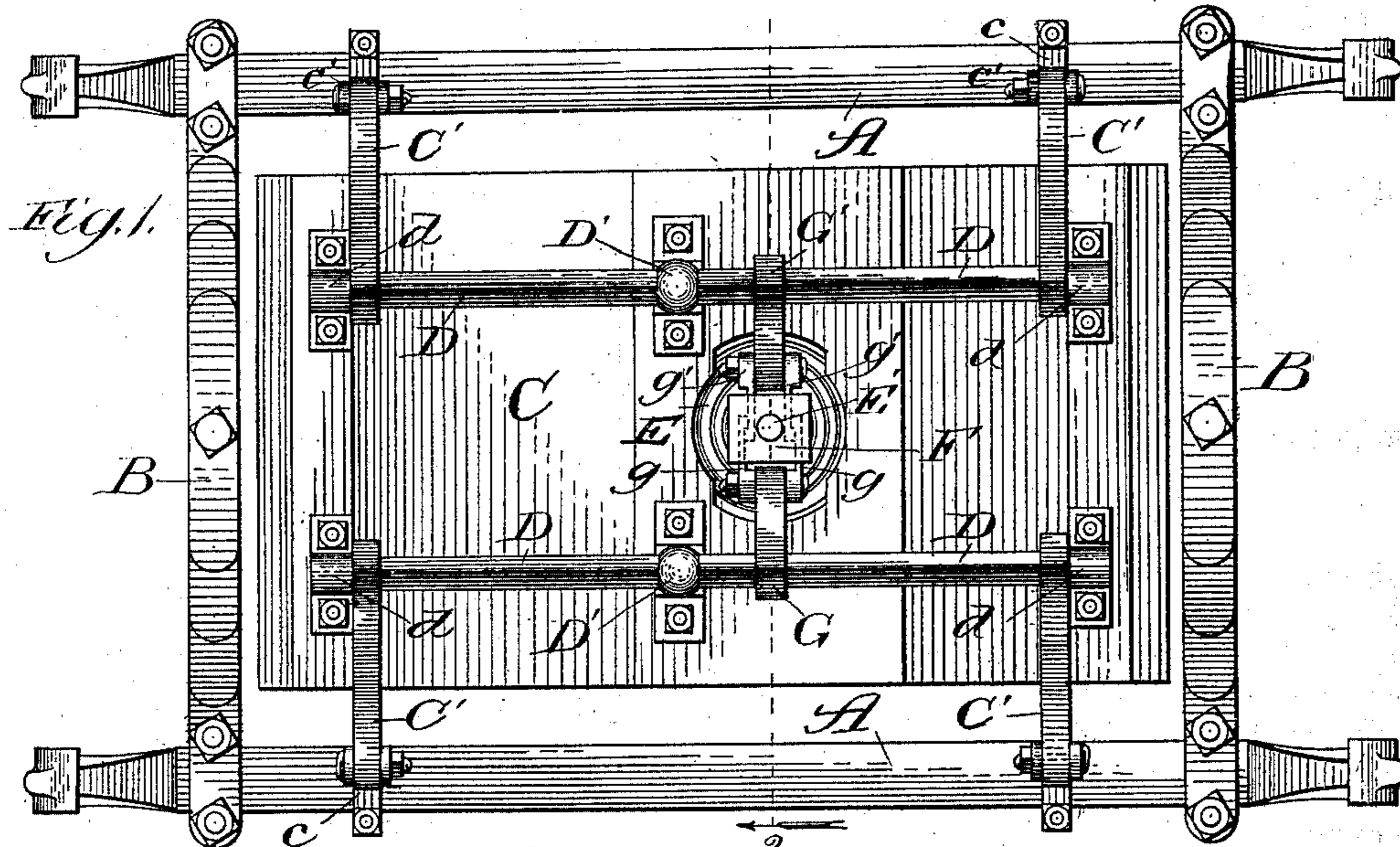


(No Model.)

A. JABROCKZY.
VEHICLE SPRING.

No. 477,419.

Patented June 21, 1892.



Witnesses:
Edw. C. Gaylord,
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UNITED STATES PATENT OFFICE.

ADOLF JABROCZKY, OF BURNHAM, ASSIGNOR OF ONE-HALF TO FRANK CRANE, OF CHICAGO, ILLINOIS.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 477,419, dated June 21, 1892.

Application filed January 19, 1892. Serial No. 418,545. (No model.)

To all whom it may concern:

Be it known that I, ADOLF JABROCZKY, a citizen of the United States, residing at Burnham, Cook county, Illinois, have invented a certain new and useful Improvement in Vehicle-Springs, of which the following is a specification.

My invention relates to springs used to insure the more easy running of vehicles, is intended to prevent undue jarring or jolting of the carriage-body and the occupants thereof, and relates more particularly to the springs used for supporting the body upon the side bars, which bars are themselves usually supported upon the axles by means of springs. By means of my invention I provide a simple and efficient device for supporting the vehicle-body upon these side bars in such a way that the unpleasant jolts or jars caused by roughness or inequalities in the road may be reduced to a minimum, the vehicle-body being firmly supported on the side bars, but in such a manner as to yield or spring when a jar or jolt is imparted to the vehicle; and my invention consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is a bottom view of the bed of the vehicle-body, the side bars, and the various springs, the wheels and axles of the vehicle having been removed; Fig. 2, a cross-section on line 2 of Fig. 1, looking in the direction of the arrow; Figs. 3, 4, and 5, detail views, on an enlarged scale, of the various parts of the device.

The side bars A and the springs B, by which such side bars are connected to and supported upon the axles, may be made in any of the ordinary forms, and their construction being well known and forming by itself no part of the present invention they require and will receive no further description. The bed C of the vehicle-body is supported upon these side bars as follows: Clips or clamps c (shown more particularly in Fig. 2) are placed over the side bars and are connected by means of arms C' and shackles c' to the ball-bars D, mounted in suitable journals d, attached to the vehicle-body. These ball-bars are rotatably supported in the journals and are provided at a point substantially midway of their length with spherical or ball bearings D'. Except

at the journals and at the ball-bearings, the ball-bars are preferably square in section, as shown, in order that the arms may more easily be rigidly secured thereto. A flat coiled spring E is placed in a suitable socket or recess formed in the vehicle-bed, so as to normally be substantially flush with the upper surface of this bed. Through the center of this spring passes a head-bolt E', which also passes through a preferably internally-screw-threaded cross-head F, so that as this cross-head is forced down the spring will be brought into a more or less conical shape. The natural resiliency of the spring will of course tend to draw these parts back again.

Rigidly secured to the ball-bar D at points opposite the cross-head F are arms G G'. (Shown more particularly in Fig. 3.) The inner ends of these arms are secured to bars or plates g g', each arm being preferably connected, as shown in Fig. 1, to two of such plates. As shown in Figs. 1 and 3, the pairs of plates g g' slide in recesses f f' in the cross-head F. The plates are, moreover, mortised or cut away, so as to fit over each other, in such a manner as to be free to slide back and forth upon each other, but to prevent their being drawn entirely past each other and out of the slots in the cross-head when in use. In other words, these plates are provided with lugs or hooks on their inner ends, the hooks of each pair facing in opposite directions, so as to come into engagement when the plates are drawn out to a sufficient extent. This will be apparent from an inspection of Fig. 1.

The parts having been constructed and put together as above described operate in the following manner: When any jar is imparted to the carriage-body that tends to depress the same, the bars D will be rotated by means of the arms C', and this rotation of the bars will operate by means of the arms G G' to draw down the cross-head and distort the spring or draw it down out of its normal position. The sliding plates g g' will allow the cross-head to move up and down in a vertical plane, compensating for the circular movement of the arms G G'. The resiliency of the spring will immediately tend to raise the carriage-body and restore it to its normal position. By this

means I provide a simple and efficient device for insuring the easy elastic running of the vehicle, for not only are the side bars supported upon springs, but the carriage-body is itself supported upon the bars in such a manner as to be capable of a vertical movement relatively thereto. It will also be observed that from the form of the spring used scarcely any room is taken up in the body of the vehicle, the spring being substantially flush with the bottom of the bed.

While I have shown more or less precise forms, I do not intend to limit myself thereto, but contemplate changes in form, proportions, and the substitution of equivalent members, as may be necessary or desirable.

I claim—

1. In a vehicle, the combination of side bars, a body-bed provided with ball-bars connected to such side bars by means of suitable arms, a flat coiled spring engaging with such bed, a cross-head placed beneath such spring and connected thereto, and arms attached to the ball-bars and engaging with such cross-head, substantially as described.

2. In a vehicle, the combination of side bars, a body-bed, ball-bars journaled in such bed, arms rigidly attached to such bars and loosely

attached to the side bars, a spring resting upon such bed, a cross-head placed beneath the spring and secured thereto, and arms rigidly secured to the ball-bars and connected to said cross-head by means of sliding plates working in slots in the cross-head, whereby as the carriage-body is depressed the spring will be distorted and tend to restore the body to its normal position, substantially as described.

3. In a vehicle-body, the combination of a bed, ball-bars rotatably secured in journals on such bed and provided with spherical bearings between the supporting-journals, a spring engaging with such bed, a cross-head placed beneath such spring and secured thereto by means of a suitable bolt, interlocking plates sliding in suitable slots in such cross-head, arms connecting such plates to the ball-bars, and arms loosely attached to the side bars and rigidly connected to the ball-bars, whereby as the bed is depressed the ball-bars will be revolved and act to draw down the spring against its elastic force, substantially as described.

ADOLF JABROCZKY.

Witnesses:

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