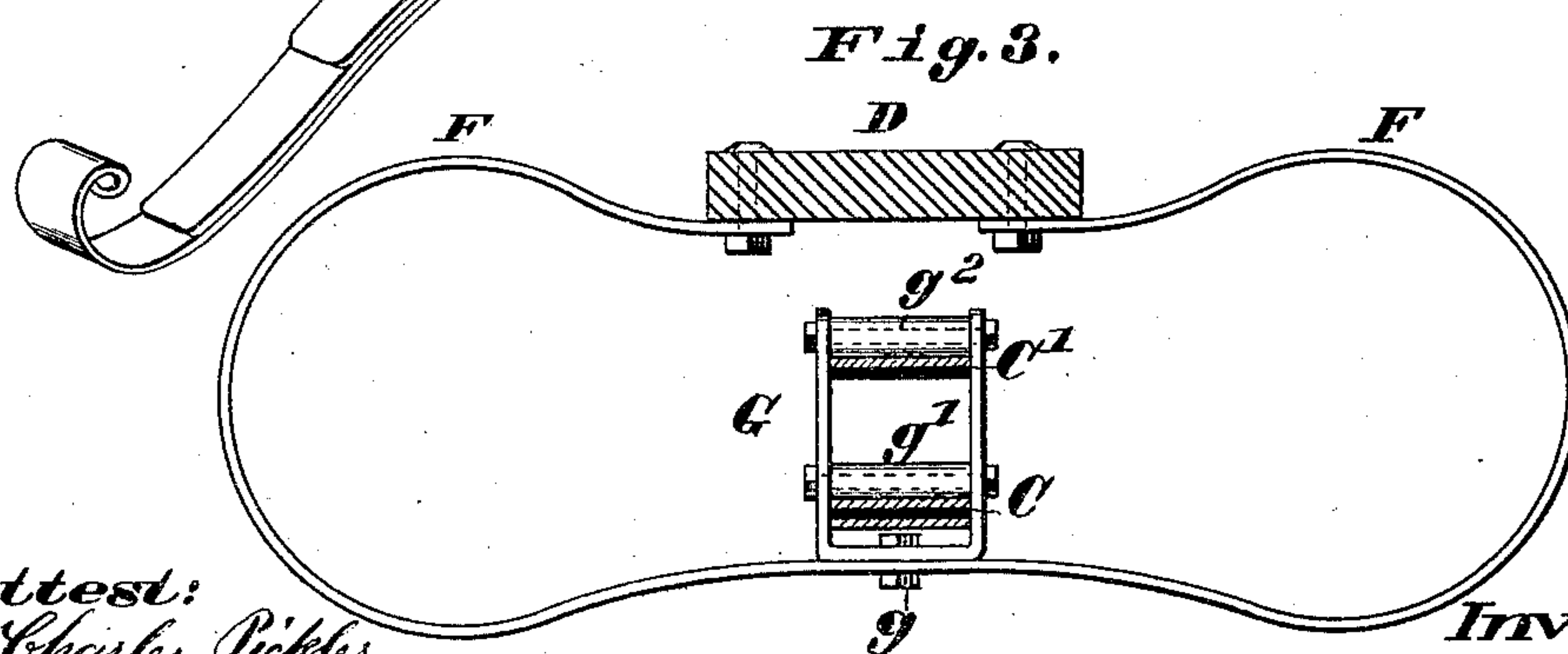
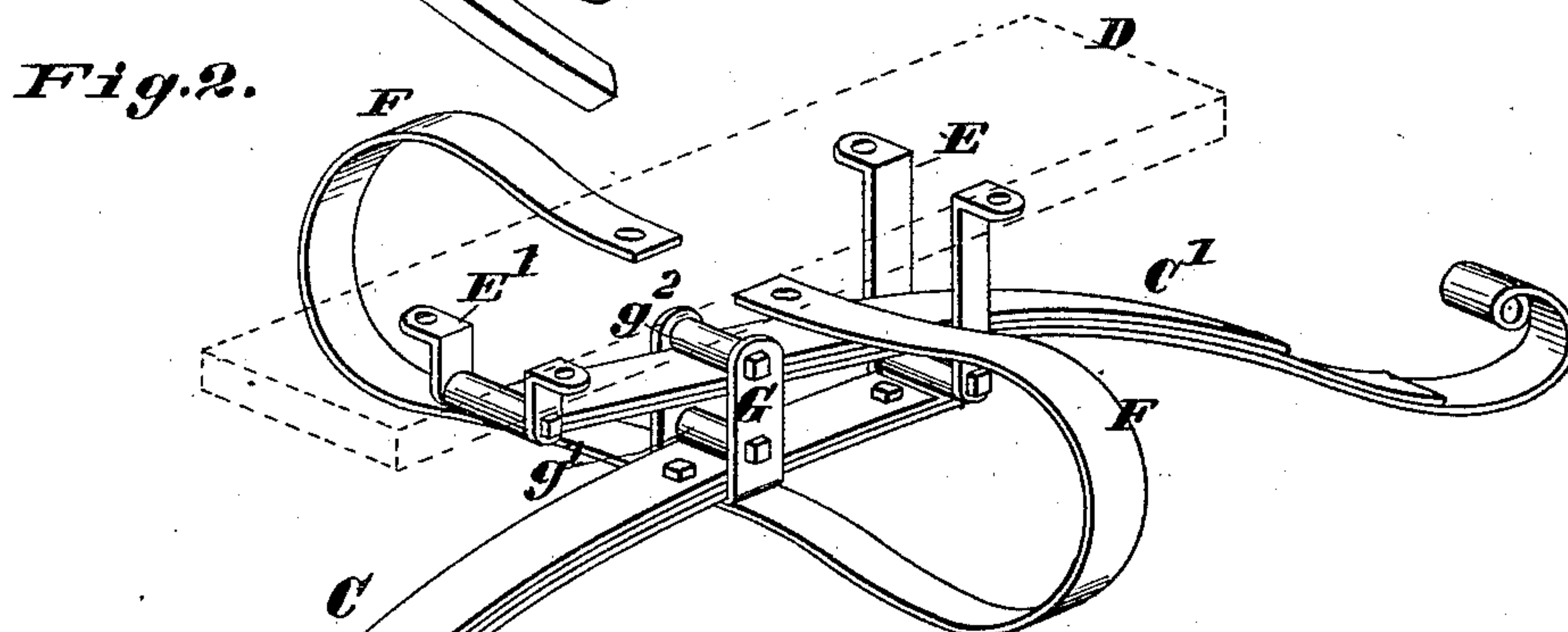
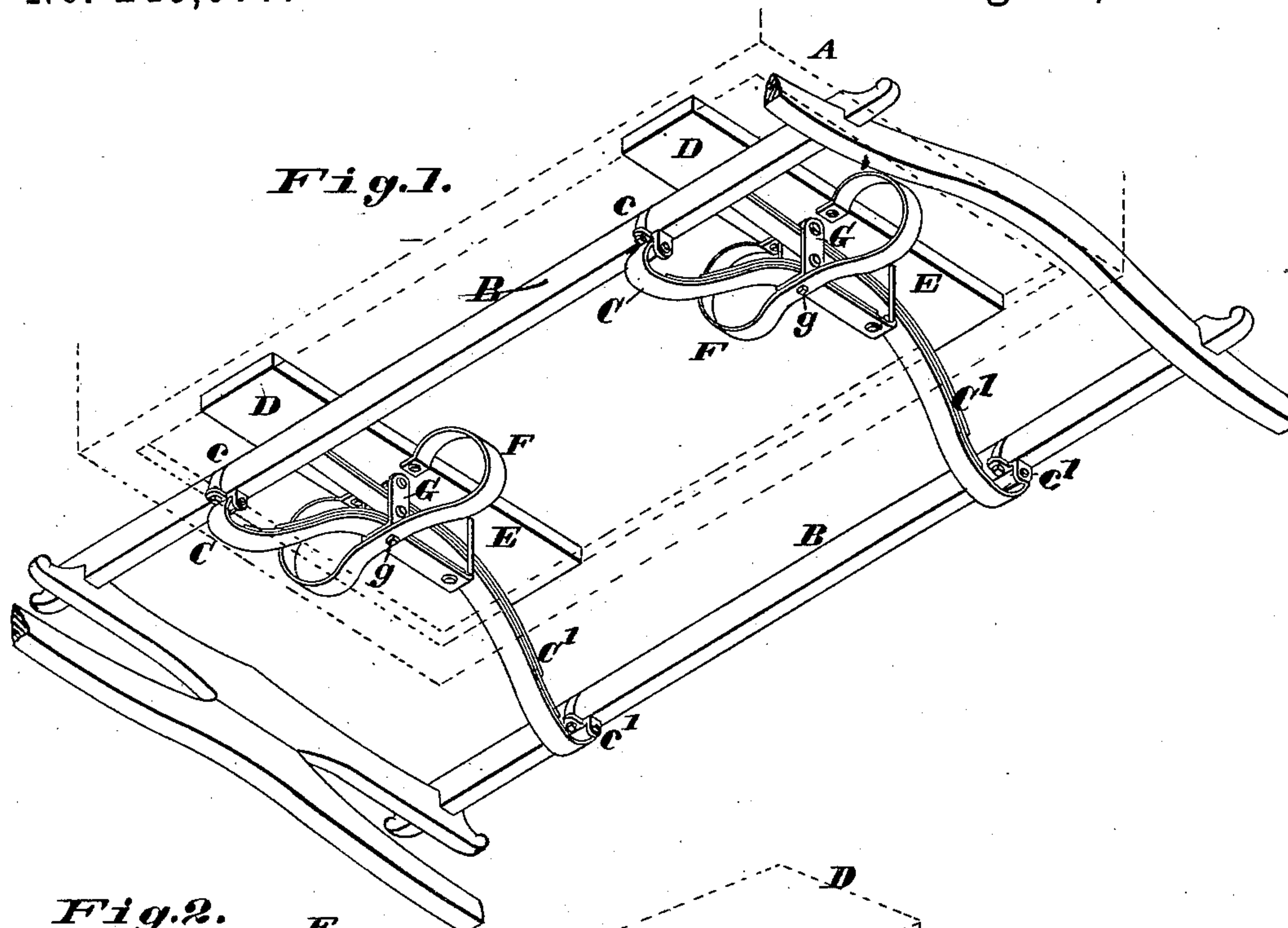


(No Model.)

F. SCHELP, Jr.
CARRIAGE SPRING.

No. 245,977.

Patented Aug. 23, 1881.



Attest:

Charles Pickles

Samuel S. Rorpe

Inventor:

Fred. Schelp Jr.
by C. D. Moody atty.

UNITED STATES PATENT OFFICE.

FRED SCHELP, JR., OF BALLWIN, MISSOURI.

CARRIAGE-SPRING.

SPECIFICATION forming part of Letters Patent No. 245,977, dated August 23, 1881.

Application filed January 29, 1881. (No model.)

To all whom it may concern:

Be it known that I, FRED SCHELP, Jr., of Ballwin, St. Louis county, Missouri, have made a new and useful Improvement in Carriage-
5 Springs, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

10 Figure 1 is a bottom view, in perspective, of a gear having the improved springs; Fig. 2, a view, in perspective, of the improved spring, and Fig. 3, a side elevation of the central spring and showing the cross-springs in section.

The same letters denote the same parts.

15 The present improvement is more especially adapted to side-bar wagons and carriages.

It consists, mainly, in two springs whose outer ends are connected, respectively, with the side bars, and whose inner ends lap and are
20 attached to the carriage-body, the action of the cross-springs being aided and modified by a central spring which is attached to the lapping ends of the cross-springs and also to the carriage-body, as seen in the drawings, where—

25 A represents a carriage-gear having the springs in question.

B B represent the usual side bars.

30 C C' represent springs connected by means of clips *c c'* with the side bars, B B, and whose inner ends lap, (one end being above the other end,) and are attached to the carriage-body D, the connections with the latter being by means of the clips E E' respectively, the clip E being sufficiently long to receive the end of the other
35 spring, C', and so that the spring C' shall not in its action bear upon the clip E.

40 F represents a central spring. At its upper part or ends it is connected with the carriage-body D, and at its lower part with the lapped ends of the springs C C'. To connect it with

the springs C C' the spring F has what may be termed a "clip-coupling," G, which is connected with the spring F by a bolt, *g*, or otherwise, and with the springs C C' by means of the eyes *g' g''* respectively. The coupling G 45 serves both to connect the springs F C C' and also to enable the spring F to act as an equalizer, and so that when the carriage is unevenly loaded the springs C C' will yield evenly. The spring F also increases the elasticity of the construction. The coupling G is 50 useful as an equalizer of the springs C C', irrespective of the spring F.

The part lettered D in the drawing may be considered the "carriage-body," or a cross 55 plate or bar beneath the body. The springs C C', lapping, as described, and in combination with the coupling G, are, even in the form of stiff rods, useful in equalizing a carriage-body.

I claim— 60

1. The combination of the side bars, B B, springs C C', body D, spring F, and coupling G, substantially as described.

2. The combination of the springs C C', coupling G, and spring F, said springs C C' 65 at their outer ends being attached to or supported by the carriage-gear, and their inner ends lapping and being connected with the carriage-body.

3. The combination, in a carriage-gear, of the 70 lapping springs C C' and the coupling G, substantially as described.

4. The combination of the side bars, B B, springs C C', body D, clips E E', spring F, and coupling G, substantially as described. 75

FRED SCHELP, JR.

Witnesses:

CHAS. D. MOODY,
SAML. S. BOYD.