

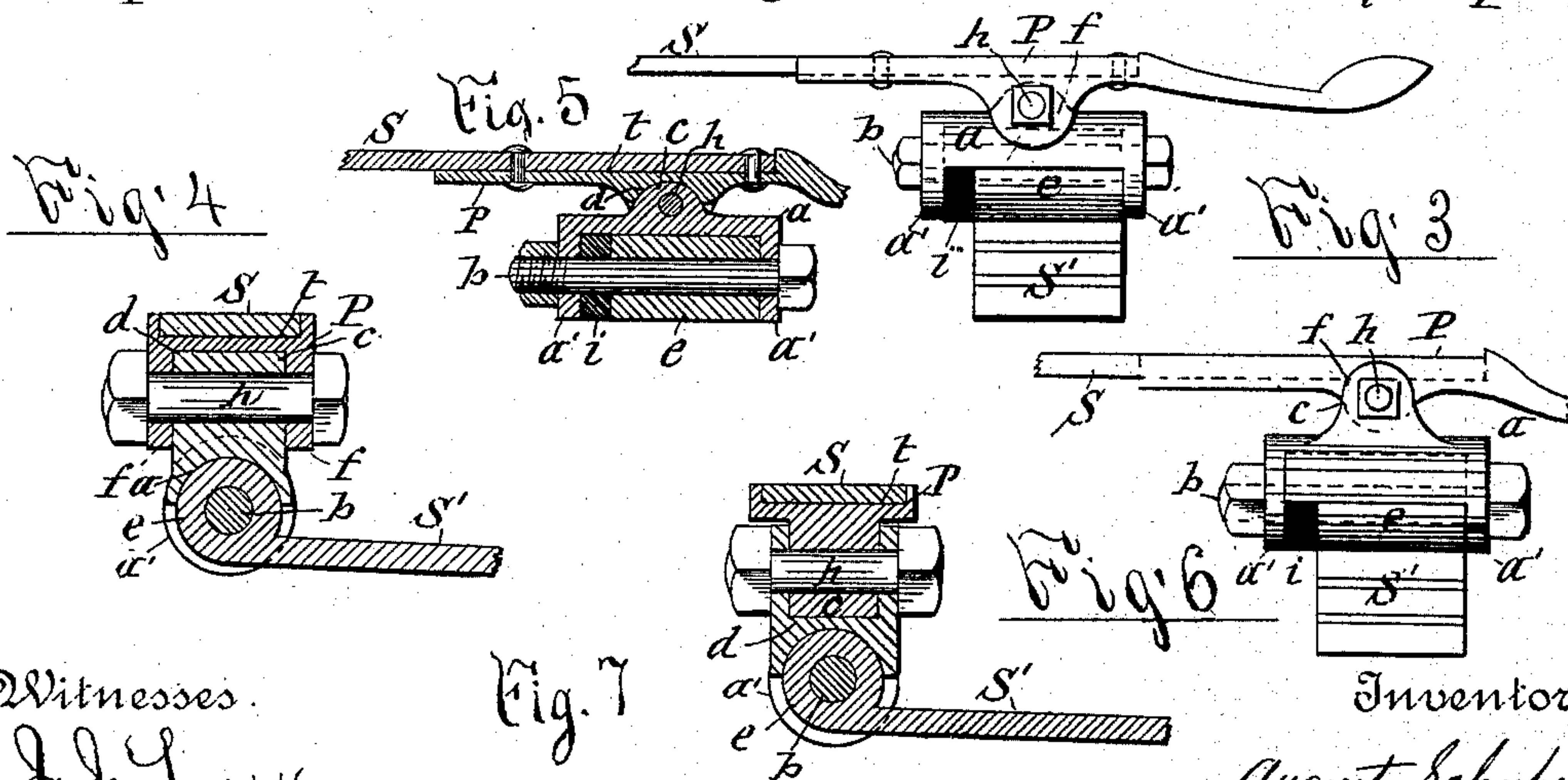
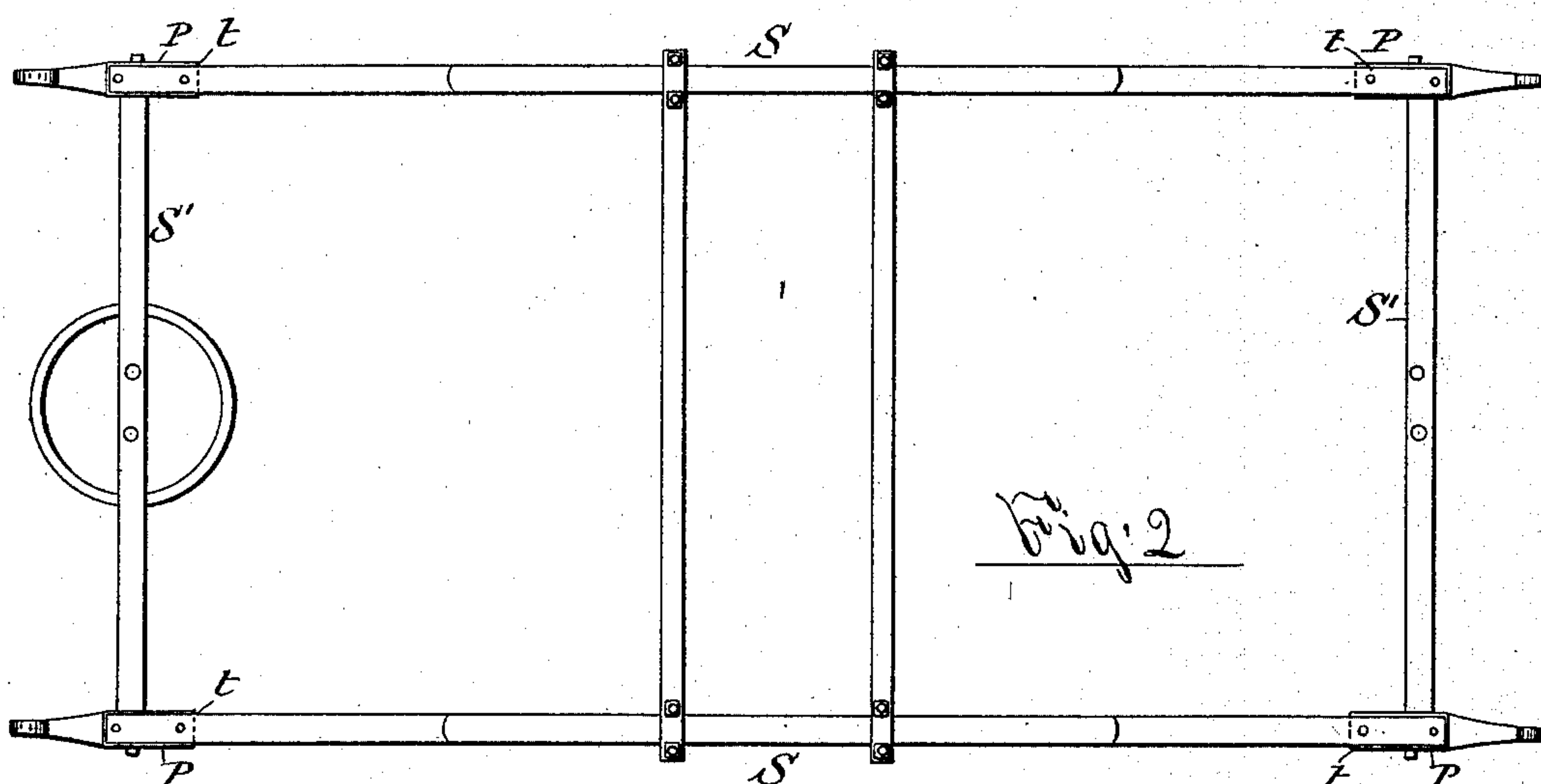
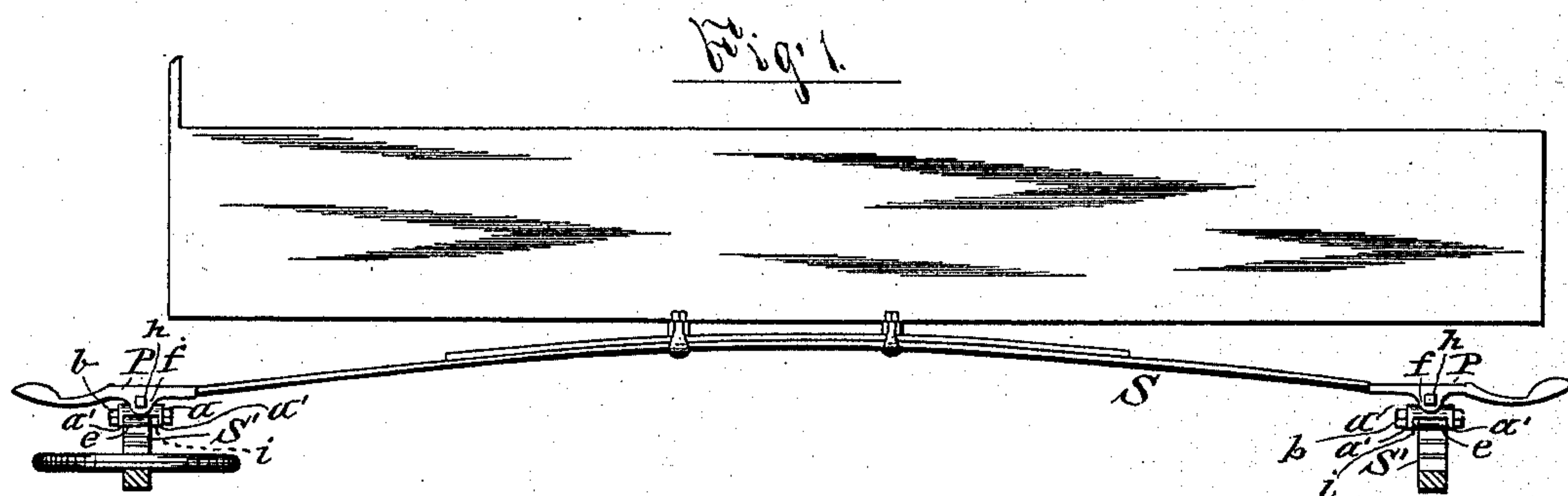
(No Model.)

A. SCHUBERT.

VEHICLE SPRING.

No. 388,587.

Patented Aug. 28, 1888.



Witnesses.

J. J. Laass,

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UNITED STATES PATENT OFFICE.

AUGUST SCHUBERT, OF ONEIDA, NEW YORK.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 388,587, dated August 28, 1888.

Application filed March 26, 1888. Serial No. 268,544. (No model.)

To all whom it may concern:

Be it known that I, AUGUST SCHUBERT, of Oneida, in the county of Madison, in the State of New York, have invented new and useful
5 Improvements in Vehicle-Springs, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of spring-
10 vehicles in which the body is supported on side springs carried at opposite ends on the ends of cross-springs mounted on the hind axle and head-block.

The invention consists in a novel construc-
15 tion of the coupling which connects the side spring with the cross-spring, as hereinafter fully described, and specifically set forth in the claims.

In the annexed drawings, Figure 1 is a side
20 view of a vehicle-spring gear embodying my improvements. Fig. 2 is a top plan view of the same. Fig. 3 is an enlarged side view of the spring-coupling. Fig. 4 is a vertical transverse section of said coupling, taken in a plane
25 at right angles to the side spring. Fig. 5 is a vertical longitudinal section of the same in a plane parallel with the sidespring. Fig. 6 is a side view of a modification of the coupling; and Fig. 7 is a vertical transverse section of
30 said modification, taken in a plane at right angles to the side spring.

Similar letters of reference indicate corresponding parts.

S S represent the side springs, and S' S' the
35 cross-springs. The cross-spring S', I form with a shackle-eye, *e*, at each end. This eye is of cylindrical form, and upon the same I place a saddle, *a*, of semi-cylindrical form, fitted closely to the top portion of the eye *e*, so
40 as to snugly ride thereon and relieve the coupling-bolt *b* from strain. Said saddle is formed with pendent perforated ears *a' a'* at opposite ends of the shackle-eye *e*, and the aforesaid coupling-bolt passes through said ears and in-
45 tervening eye, and is provided with the usual head at one end and with a nut at the opposite end. The saddle *a* is also formed with a transversely-perforated rocker-seat, *c*, of the form of a segmental lug projecting upward from the
50 top of the saddle and axially at right angles to the side spring, and upon this rocker-seat rides a concave bearing, *d*, formed on the un-

der side of a plate, P, secured to the end of the side spring, S. From said plate project downward perforated ears *f f*, which embrace
55 between them the aforesaid rocker-bearing, and are hinged thereon by a bolt, *h*, passing through said ears and intervening rocker-bearing. Said bolt is also relieved from strain
60 by the riding of the concave bearing upon the rocker-bearing.

It will be observed that the described coupling carries the side spring upon the cross-spring and allows both springs to freely vi-
65 brate independent of the coupling-bolts, and is therefore perfectly safe in its operation. In order to allow the side spring when subjected to a load to elongate or expand without straining the cross-springs laterally, I make
70 the saddle *a* of sufficient length to allow a rubber pad or cushion, *i*, to be introduced between the rear end of the eye *e* of the front cross-spring and adjacent ear *a'* of the saddle *a*, said
75 cushion being retained thereon by the coupling-bolt *b* passing through it. A similar cushion may be also applied between the front end of the eye *e* of the rear cross spring and adjacent ear *a'* of the saddle *a*.

The plate P is firmly secured to the end of the side spring by a recessed seat, *t*, in the top
80 of said plate, in which seat the end portion of the side spring is inserted, and rivets, passing vertically through said end portion of the spring and through the plate P, securely unite
85 said parts.

I do not limit myself to the arrangement of the concaved bearing *d* on plate P, riding on the rocker-seat *c*, formed on the saddle *a*, as it is obvious that said bearing and seat may be
90 reversed in their position—i. e., the concaved bearing *d* may be formed on the saddle *a* and the seat *c* formed on the plate P, as illustrated in Figs. 6 and 7 of the drawings.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, 95 is—

1. In combination with the side spring and cross-spring, the shackle-eye *e*, formed on the end of the cross-spring, the saddle *a*, riding on
100 said eye and formed with the perforated segmental rocker-seat *c* on top and with pendent perforated ears *a' a'* at the ends of the eye, the coupling-bolt *b*, extending through said ears and intervening eye, the plate P, secured to

the end of the side spring and formed with the concave bearing *d*, riding on the seat *c*, and provided with the perforated ears *f f*, and the coupling-bolt *h*, passing through said ears and
5 intervening rocker-seat, substantially as described and shown.

2. In combination with the side spring and cross-spring, the shackle-eye *e*, formed on the end of the cross-spring, the saddle *a*, provided
10 with perforated ears *a' a'*, the cushion *i*, interposed between the end of the shackle-eye *e* and adjacent ear *a'*, the coupling-bolt *b*, extending through said ears and intervening shackle-eye and cushion, and the plate *P*, attached to the
15 end of the side spring and coupled to the saddle *a*, substantially as set forth and shown.

3. In combination with the side spring, cross-

spring, and the saddle *a*, connected to the end of said cross-spring and formed with the rocker-seat *c*, the plate *P*, formed with the recessed
20 seat *t* for the end of the side spring, and formed, also, with the concave bearing *d*, riding on the seat *c*, and with perforated ears *f f*, and the coupling-bolt *h*, passing through said ears and
25 intervening rocker-seat, substantially as described and shown.

In testimony whereof I have hereunto signed my name, in the presence of two witnesses, at Oneida, in the county of Madison, in the State of New York, this 8th day of March, 1888.

AUGUST SCHUBERT. [L. S.]

Witnesses:

J. E. FERRY,

A. B. FRENCH.