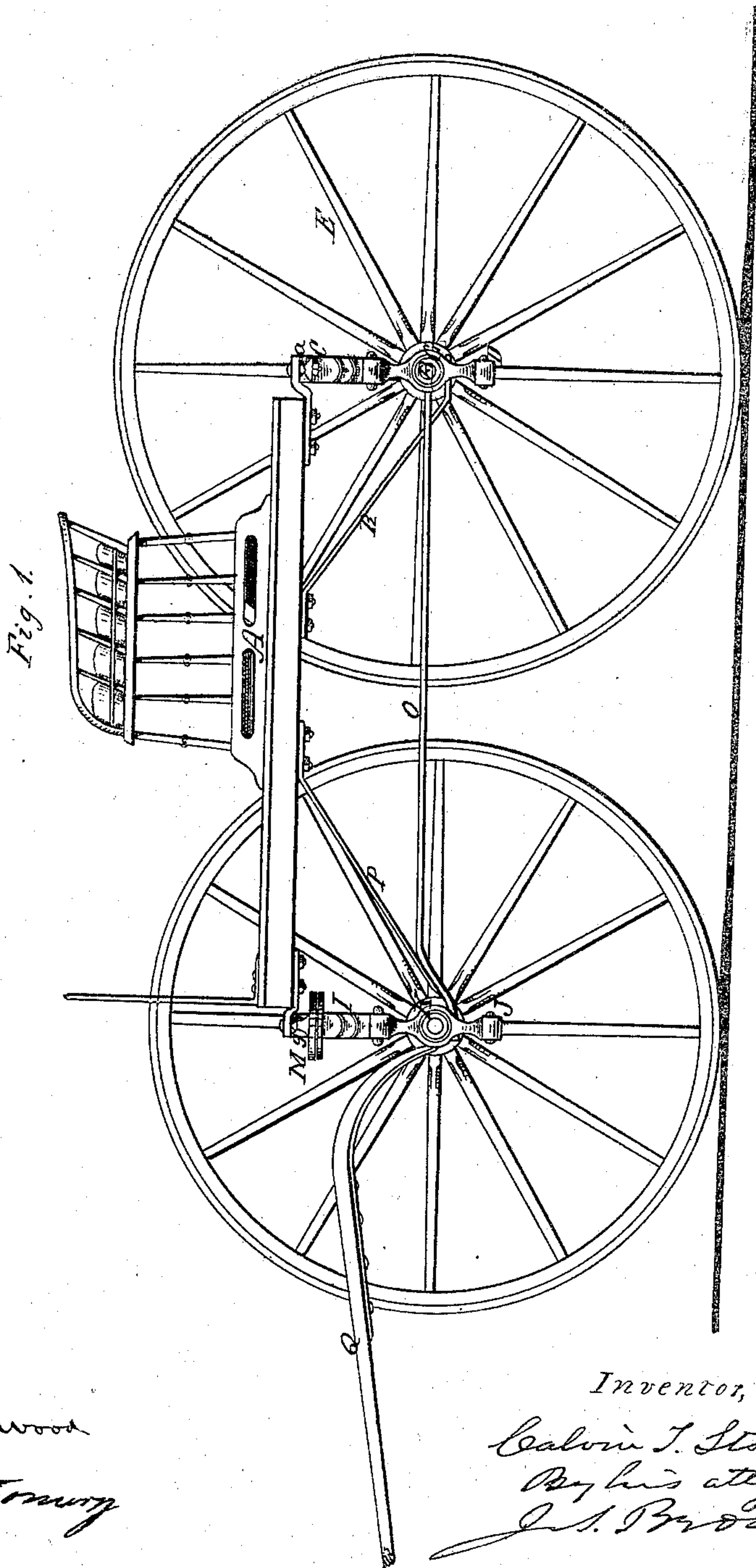


C. T. STODDARD.

Buggies.

No. 137,577.

Patented April 8, 1873.



Witnesses,
Stephen W. Wood
Jas. L. Montgomery

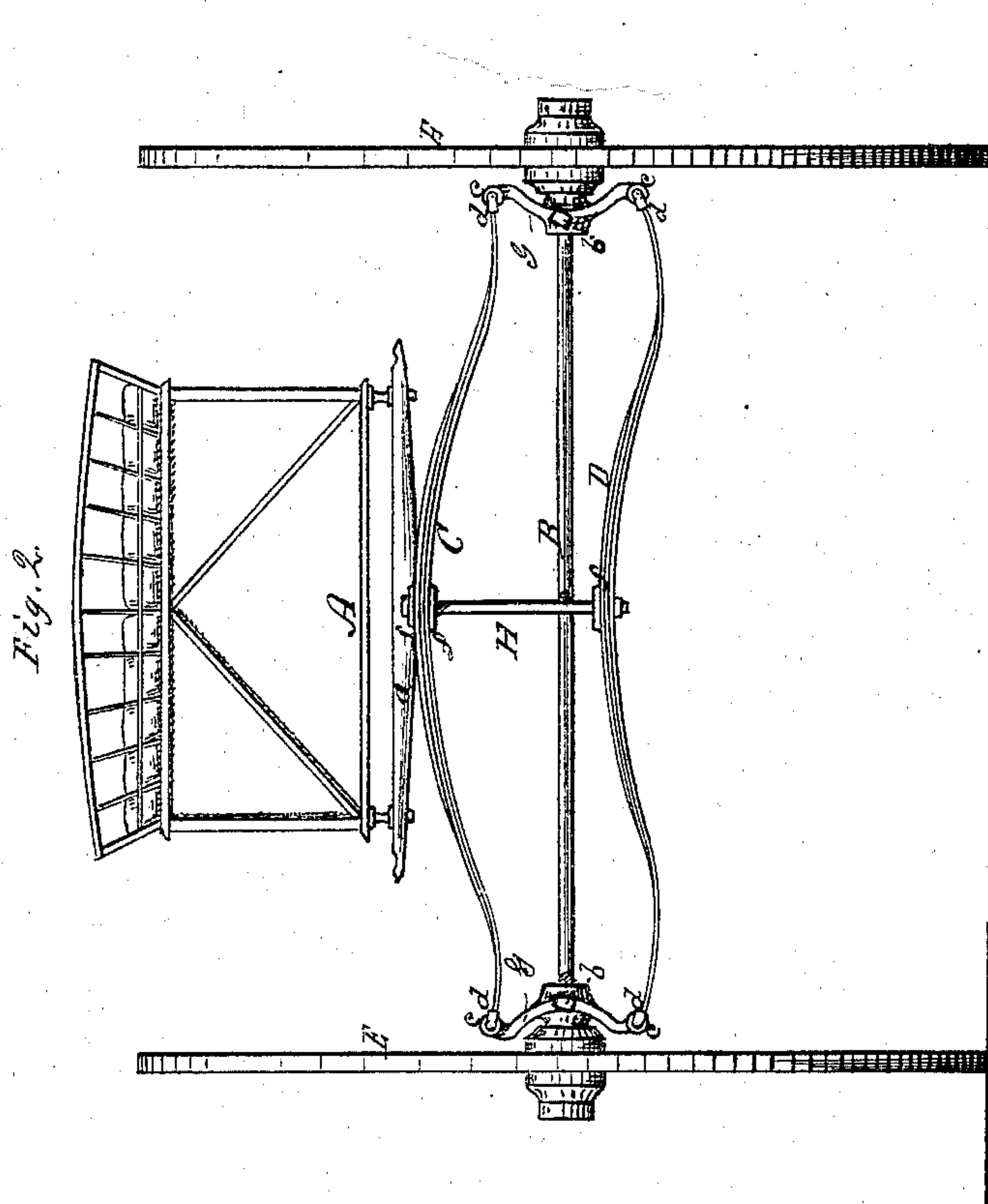
Inventor,
Calvin T. Stoddard,
By his atty.,
J. S. Brown.

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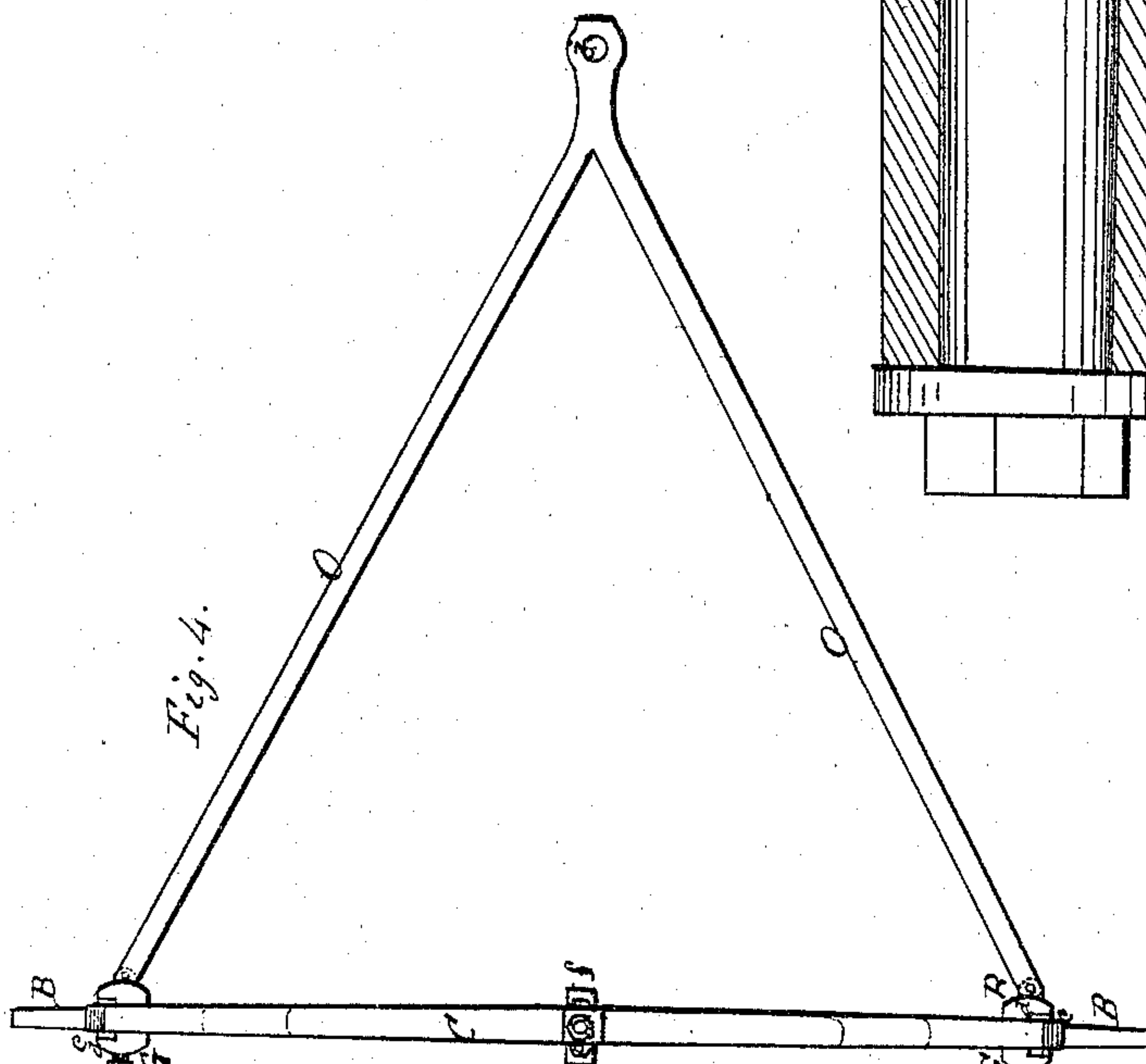
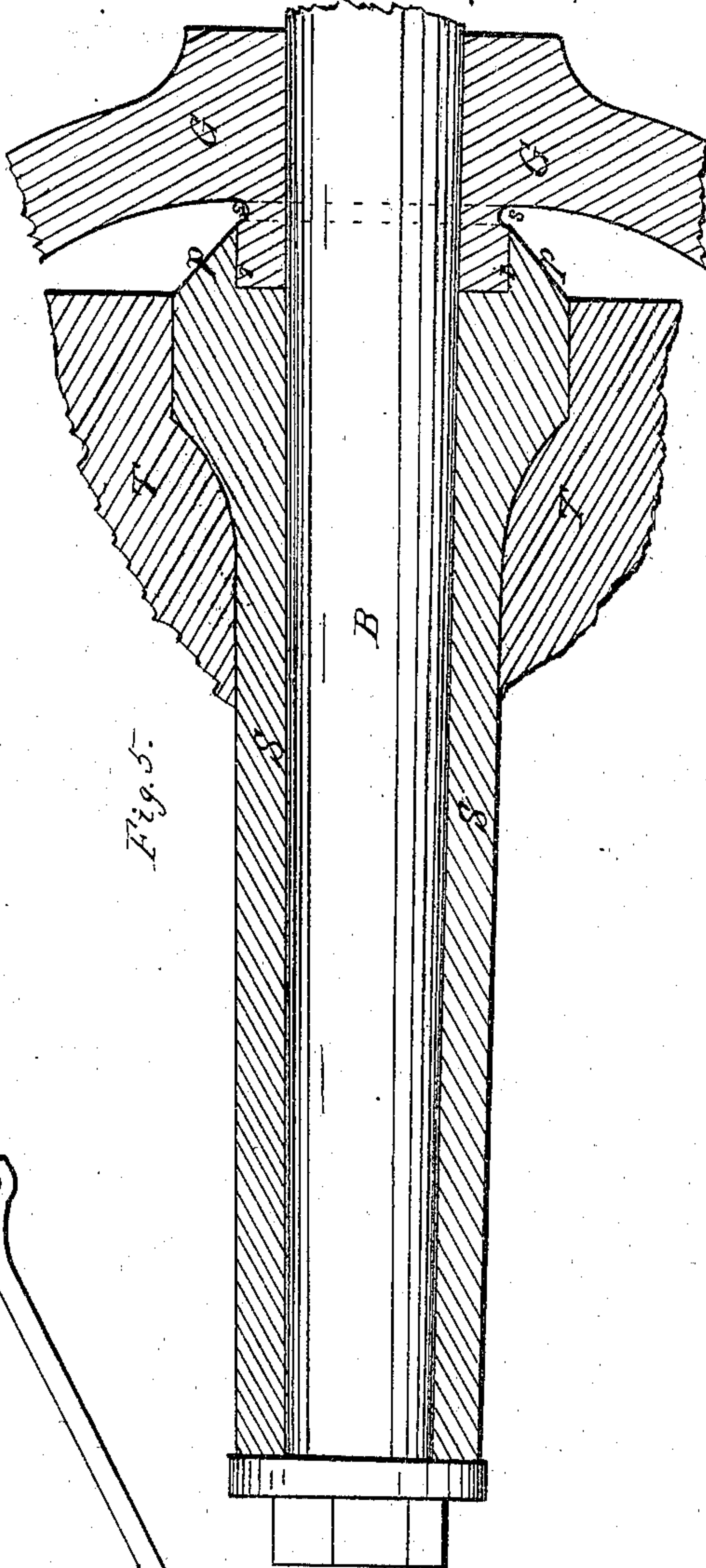
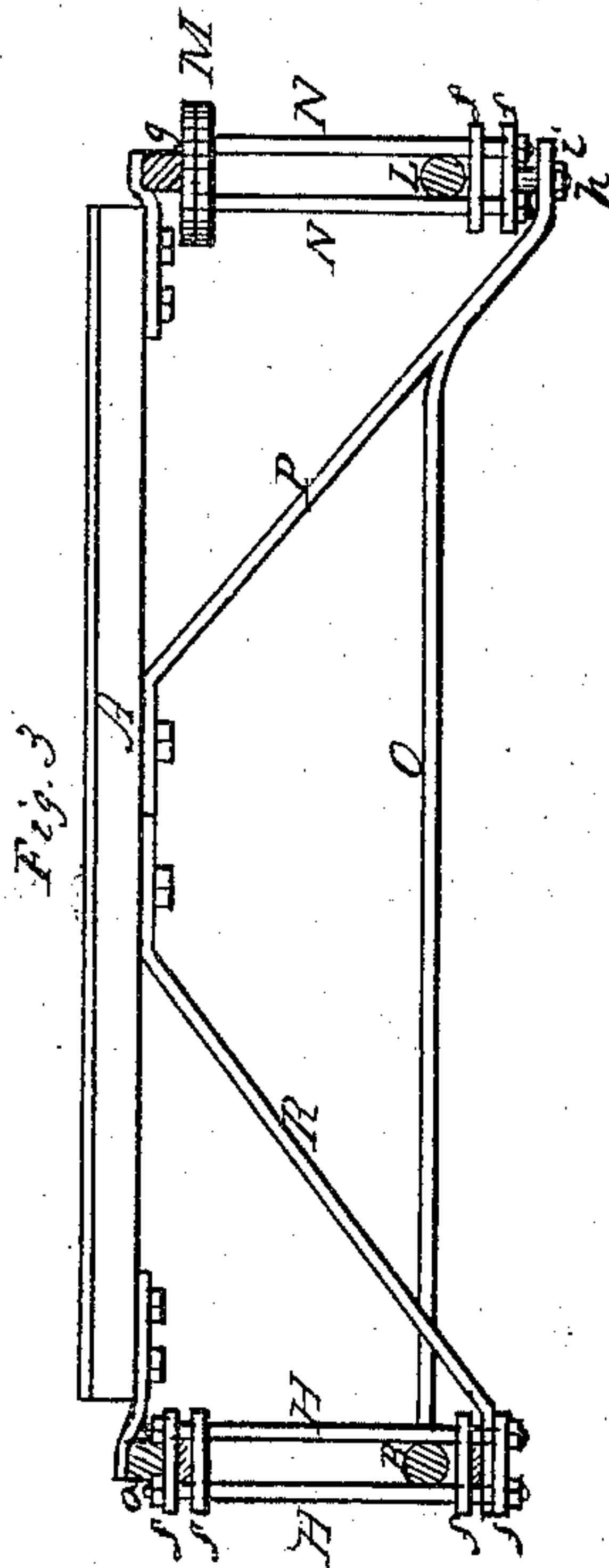
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3 Sheets--Sheet 3.

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Witnesses,
Stephen W. Wood
for L. Montgomery

Inventor,
C. T. Stoddard,
by his atty.,
J. S. Brown.

UNITED STATES PATENT OFFICE.

CALVIN T. STODDARD, OF COLEBROOK, NEW HAMPSHIRE.

IMPROVEMENT IN BUGGIES.

Specification forming part of Letters Patent No. 137,577, dated April 8, 1873; application filed March 30, 1872.

To all whom it may concern:

Be it known that I, CALVIN T. STODDARD, of Colebrook, in the county of Coos and State of New Hampshire, have invented certain Improvements in Buggies and other vehicles; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this specification:

Figure 1 being a side view of a buggy provided with my improvements, the rear wheels being removed; Fig. 2, a rear view of the buggy; Figs. 3, 4, and 5, detailed views of parts.

Like letters designate corresponding parts in all of the figures.

The main feature of my invention consists in the arrangement of the springs in connection with the axles of the buggy or vehicle, substantially as hereinafter specified.

Let A represent the body of the buggy or other vehicle. I will describe the arrangement of the springs as applied to the hind axle B: There is an upper spring, C, represented as a half-elliptic spring, which is secured to the rear bolster *a* of the carriage-body, and situated in line over the axle. Beneath the axle is another similar spring, D, arranged in line therewith, substantially as shown. These two springs reach nearly to the hind wheels E E, and are connected together and with the axle at their ends by coupling-yokes G G which respectively surround the axle B close inside of the hubs of the wheels. They are fastened fixedly to the axle by set-screws *b b* or their equivalent. There are eyes or holes *c c* at the ends of these coupling-yokes in which play links *d d* which connect the ends of the springs therewith, thus allowing great freedom of movement. These yokes curve close over the inner ends of the wheel-hubs, as shown. In order to connect these two springs, C D, at the middle, so that they may act together and keep their positions above and below the axle B firm and secure from lateral displacement, there are two vertical guide-rods, H H, one on each side of the axle, the same being united to the springs by clips or clamp-nuts *f f*, as shown, or by equivalent means. The front springs I J are arranged in a similar manner, by yokes K K, upon the forward axle L, except that

the upper spring I is connected with the fifth-wheel M under the forward bolster *g*; and under the middle of the lower spring J the connecting-rods N N terminate in a pivot, *h*, which turns in a bearing, *i*, in the forward end of the reach-braces O O, as shown most clearly in Fig. 4, in order to allow the front axle to swing around in turning the buggy. These reach-braces are, or may be, connected to the rear coupling-yokes G G on the hind axle, and extend forward obliquely so as to unite in one at the front end, in which the eye or bearing *i* is formed. The forward ends, where united, bend downward somewhat for the purpose; and to this part is connected, or may be, a brace-rod, P, which extends obliquely upward and backward to the under side of the body A, and is secured thereto, as shown in Figs. 2 and 3. A similar brace, R, extends from the lower clip *f*, under the middle of the lower spring D of the hind axle B, obliquely upward and forward to the body A. These rods brace the lower springs D J in their position, and make the whole arrangement strong and secure. The shafts Q Q are, or may be, connected to the middle of the front yokes K K of the front axle, being secured thereto by eyes or projections therein, or otherwise.

Another part of my invention consists in a device for preventing the entrance of sand and dirt into the axle-boxes of the wheels, as shown in Fig. 5, which represents a section of a hind-axle box, S, and a part of the hub T. The inner end of the axle-box projects beyond the hub in conical form, or inclined toward the center of the axle B, as at *p*. This projecting portion of the axle-box also projects over or surrounds a collar, *r*, of the coupling-yoke G, as represented; and just beyond the termination of the projection *p* there is an annular groove, *s*, in the collar *r*. The yoke may curve or bend outward over the projection *p*, as indicated. The action of the projection *p*, collar *r*, and groove *s*, is to cause any sand or dirt which may be thrown upon the axle-box to slide down the inclined or tapering surface of the projection *p* into the groove *s*, and thence to fall off to the ground, thereby preventing any from entering the axle-box.

The above specified arrangement of springs renders a carriage very steady and easy to

ride in, since there is little or no side vibration or jolt. It is also thereby stronger and more durable, since the whole weight of the carriage-body and load bears on the axles close out to the hubs of the wheels, and the parts may, therefore, be made lighter, with less liability to break.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination and arrangement of the springs O D I J, coupling-yokes G G K K,

axles B L, and guide-rods H H N N, substantially as and for the purpose herein specified.

2. The inclined projection *p*, yoke-collar *r*, and sand-groove *s*, substantially as and for the purpose herein specified.

Specification signed by me this 24th day of January, 1872.

CALVIN T. STODDARD.

Witnesses:

DAMON JUDD,

WILLIAM MCKINNON.