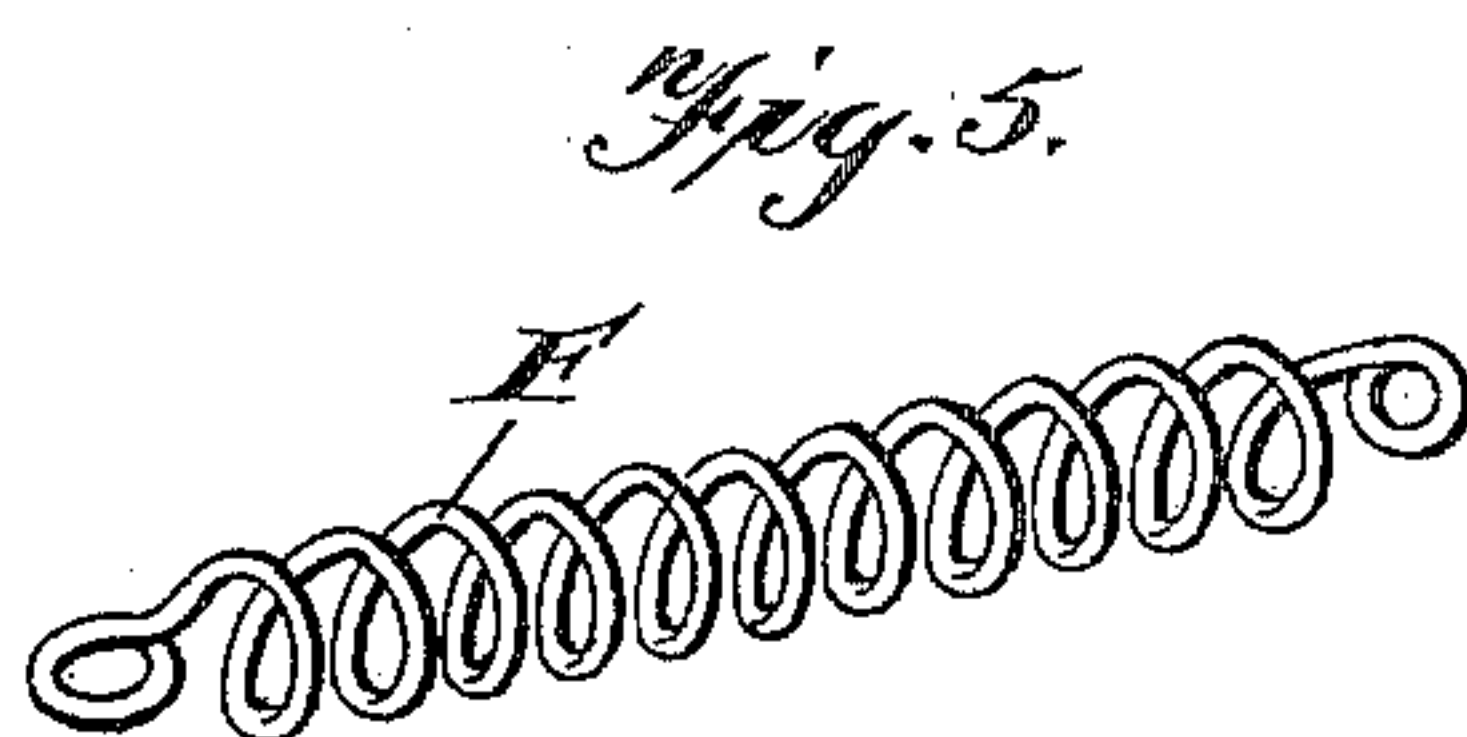
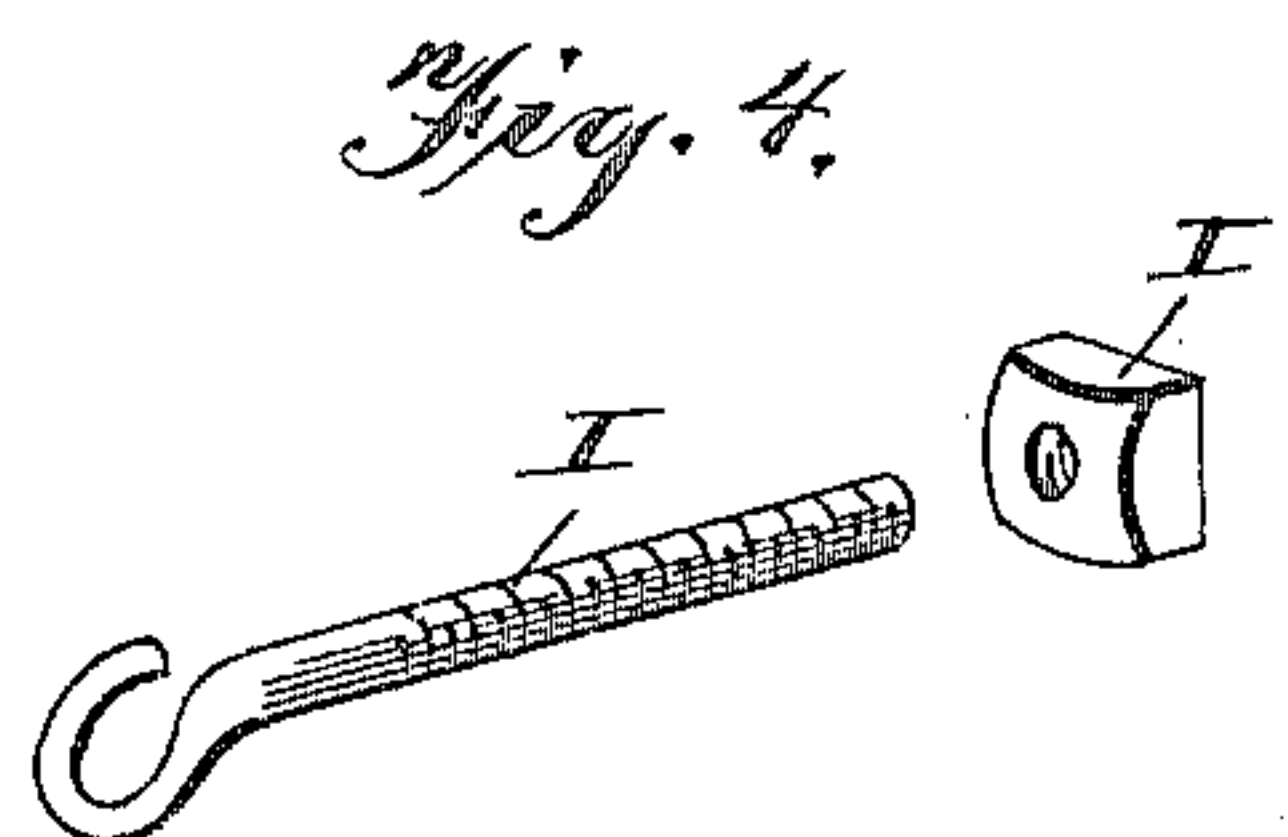
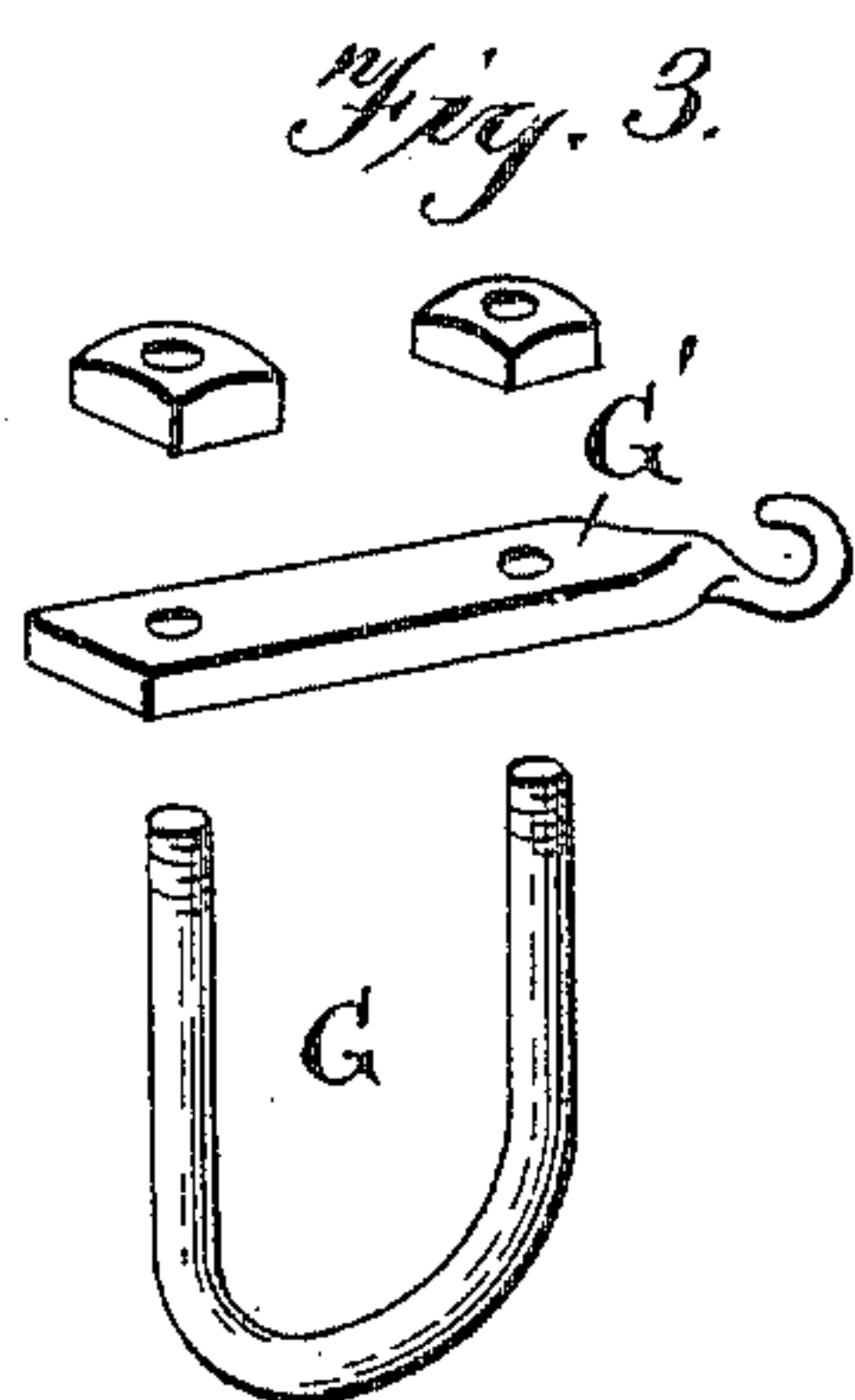
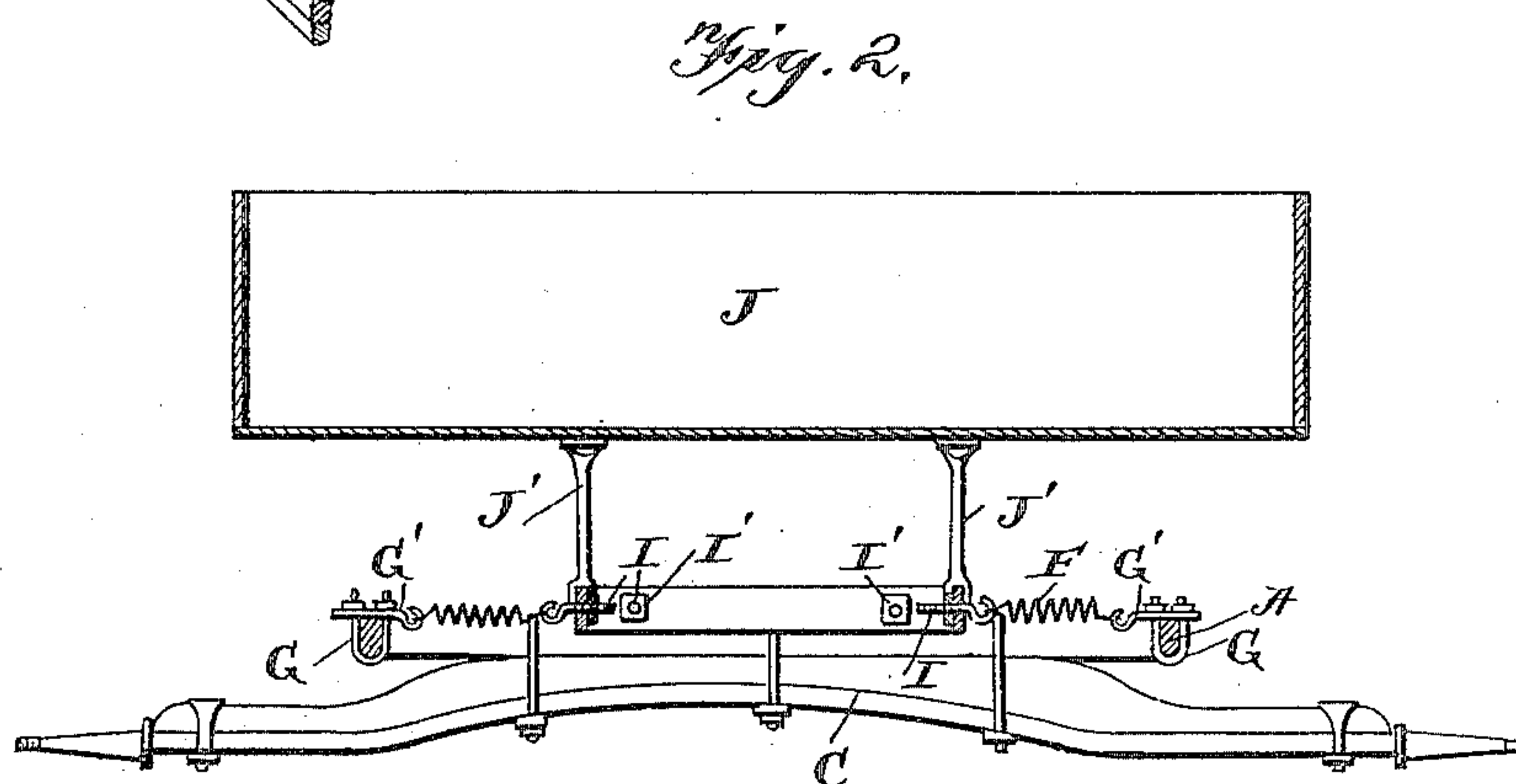
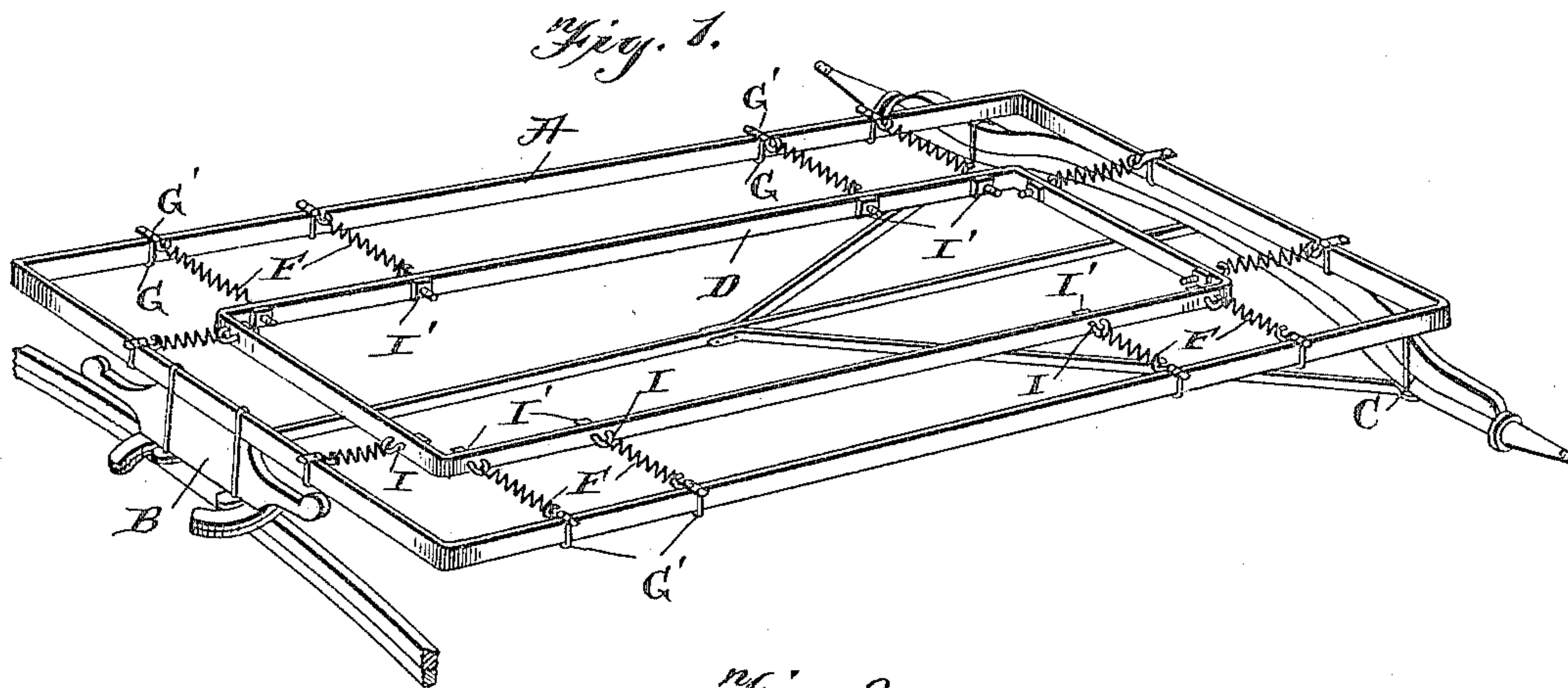


(No Model.)

S. Q. SAUNDERS.
SPRING GEAR.

No. 599,259.

Patented Feb. 15, 1898.



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL Q. SAUNDERS, OF NEW BRIDGE, OREGON.

SPRING-GEAR.

SPECIFICATION forming part of Letters Patent No. 599,259, dated February 15, 1898.

Application filed August 7, 1897. Serial No. 647,450. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL Q. SAUNDERS, of New Bridge, in the county of Union and State of Oregon, have invented certain new and useful Improvements in Spring-Gears; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to spring-gears for buggies, carriages, and other vehicles; and the object of the same is to provide an extremely sensitive gear which will relieve the vehicle-body of all sudden jolts and jars, the same having lateral compensation in all directions as well as being vertically yieldable.

The further object is to provide a spring which may be adjusted for light or heavy loads.

The invention consists in the novel features of construction and in the combination and arrangement of parts hereinafter fully described and claimed, and illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of the gear, the body of the vehicle being removed therefrom. Fig. 2 is a vertical sectional view of the same, the body being in position. Figs. 3 and 4 are detail views of the spring-holding clips. Fig. 5 is a detail view of one of the springs.

The rectangular frame A is secured at its forward end to the head-block B and at its rear end to rear axle C, and within this frame is a second rectangular frame D of less width and length, the spaces between the ends and sides of these frames being equal, as shown. The inner frame D is connected at its sides and ends to outer frame A by coil-springs F, the same lying normally in horizontal position and holding the inner frame in the plane of the outer frame. These springs are connected at their outer ends to frame A by clips G, having hooked closing-plates G', which engage the loop ends of the springs, while the opposite ends of the latter are united to the inner frame D by eyebolts I, these bolts being secured by nuts I', which may be adjusted to increase or diminish the tension of the springs, as may be desirable in adjusting the same to light or heavy loads.

Vehicle-body J is supported by brackets on inner frame D, the elevation of the body above

the frames being sufficient to permit of all necessary vertical vibration without coming in contact with the outer frame. Although frame D may be constructed any desired width, it may be found advantageous to construct it narrower than the vehicle-body in order that short turns may be made without inconvenience.

The springs are of uniform length and strength, and hence are interchangeable, and when arranged as here shown and described constitute a sensitive and effective spring-gear for vehicles. The gear is extremely simple and comparatively inexpensive, and the adjustment whereby the tension of the spring may be increased or diminished materially augments its usefulness.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of frame A, frame D within and smaller than frame A, and longitudinally-adjustable spiral springs between and uniting the frame, substantially as described.

2. The combination of frame A, frame D within and smaller than frame A, hooked clips on one of the frames, and spiral springs secured at one end to the clip-hooks and at their opposite ends adjustably secured to the other frame, substantially as shown and described.

3. An improved spring-gear, comprising an outer frame, clips embracing the same, hooked plates for closing the clips, an inner frame of less size than the outer frame, springs connecting the frames, one end of each spring connecting with a hooked plate of a clip on the outer frame, and eyebolts adjustably secured to the inner frame and to which the inner ends of the springs are attached, substantially as shown and described.

4. The combination of frame A, frame D within and smaller than frame A, screw-eyes adjustable in one of the frames for securing one end of the springs, and means for securing the other ends of the springs to the other frame, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL Q. SAUNDERS.

Witnesses:

TIM QUIGLEY,
W. M. SAUNDERS.