

(No Model.)

A. H. SAWYER.
SLEIGH.

No. 373,198.

Patented Nov. 15, 1887.

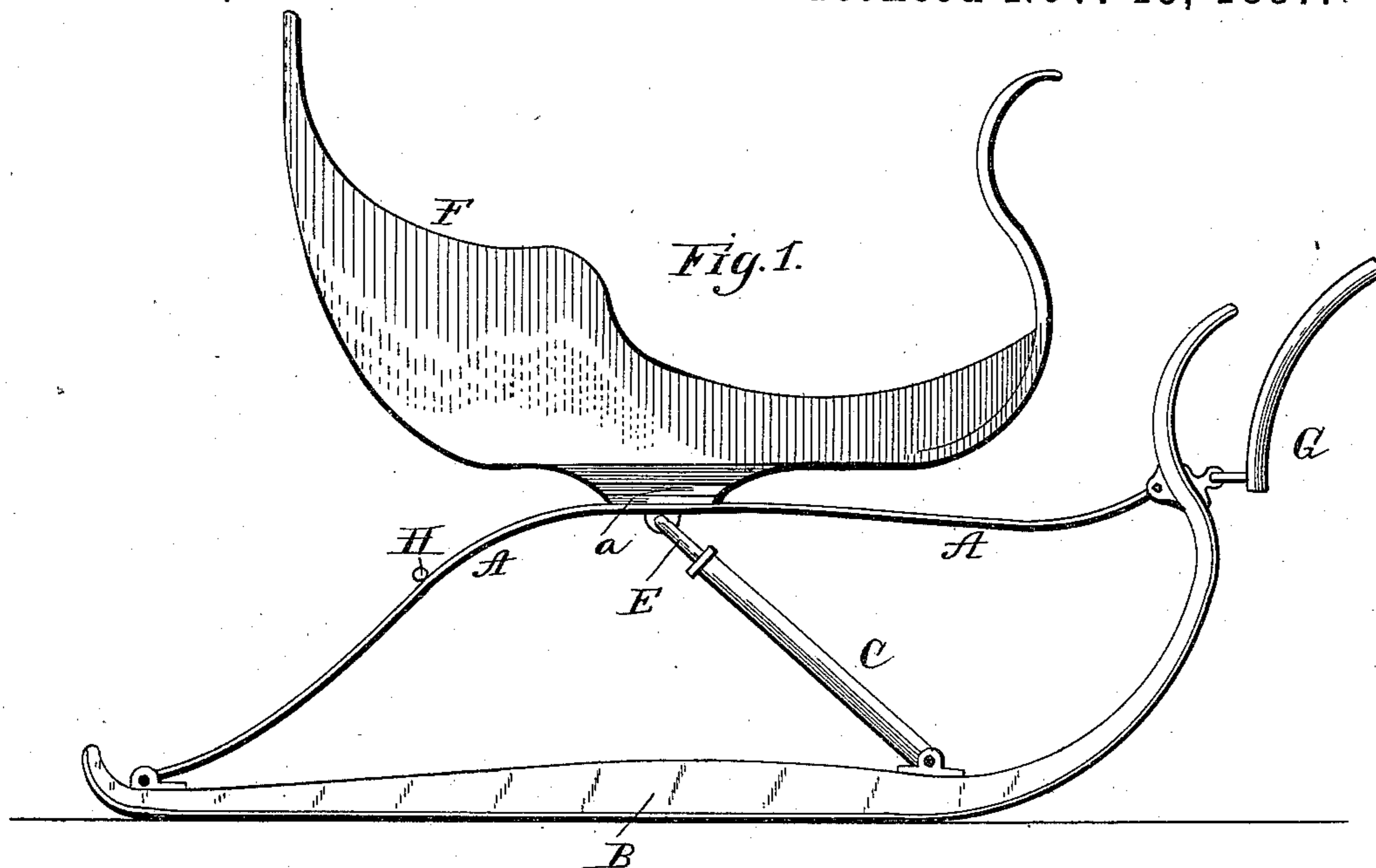


Fig. 2.

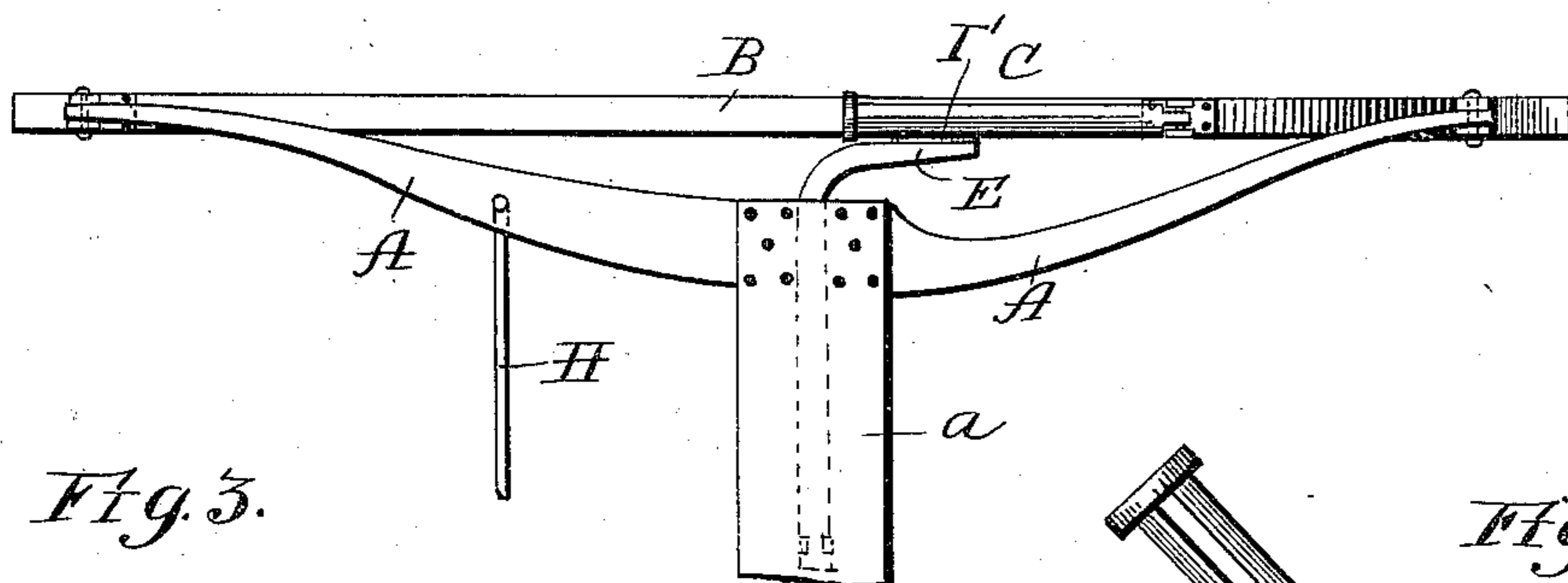


Fig. 3.

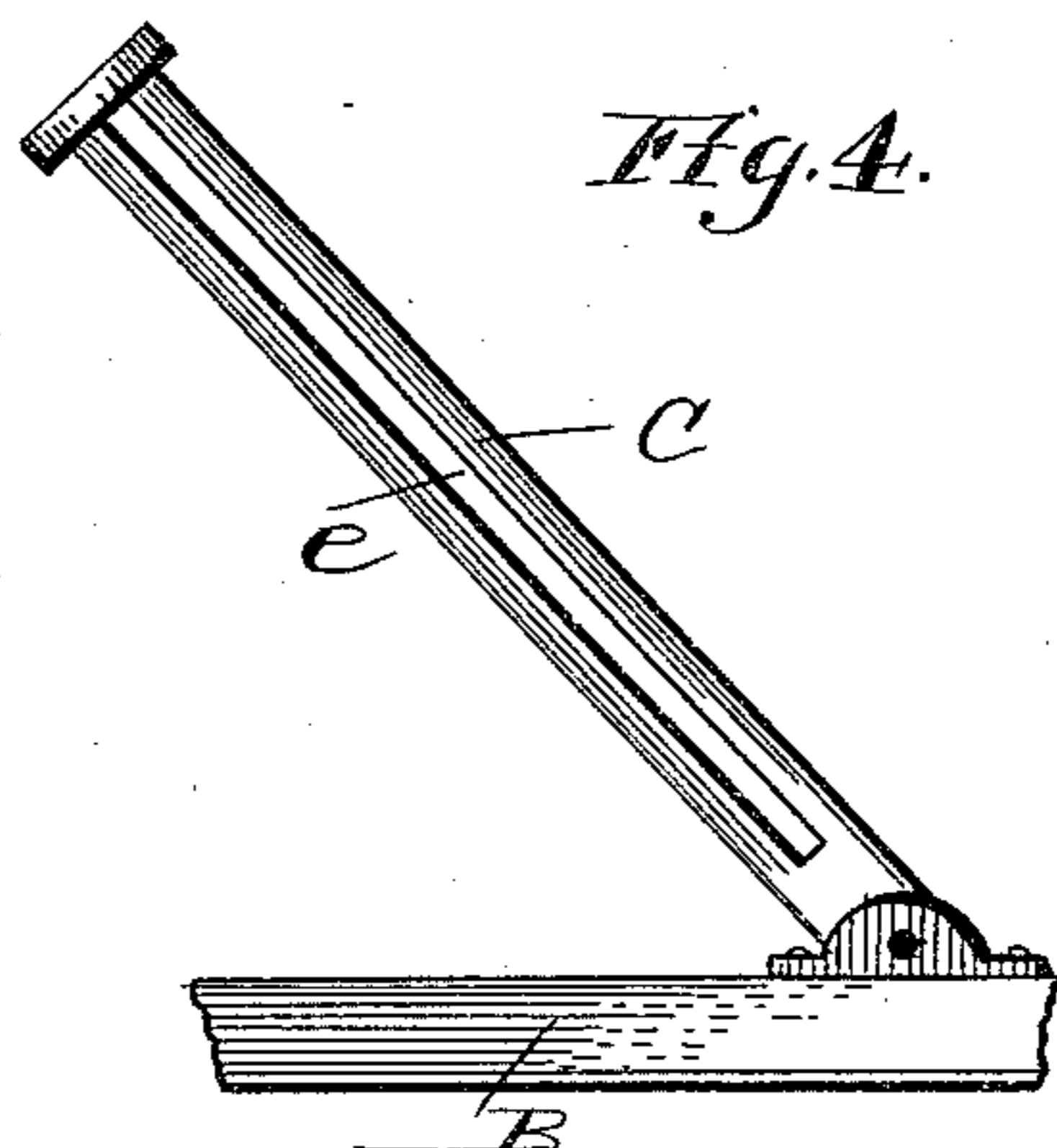
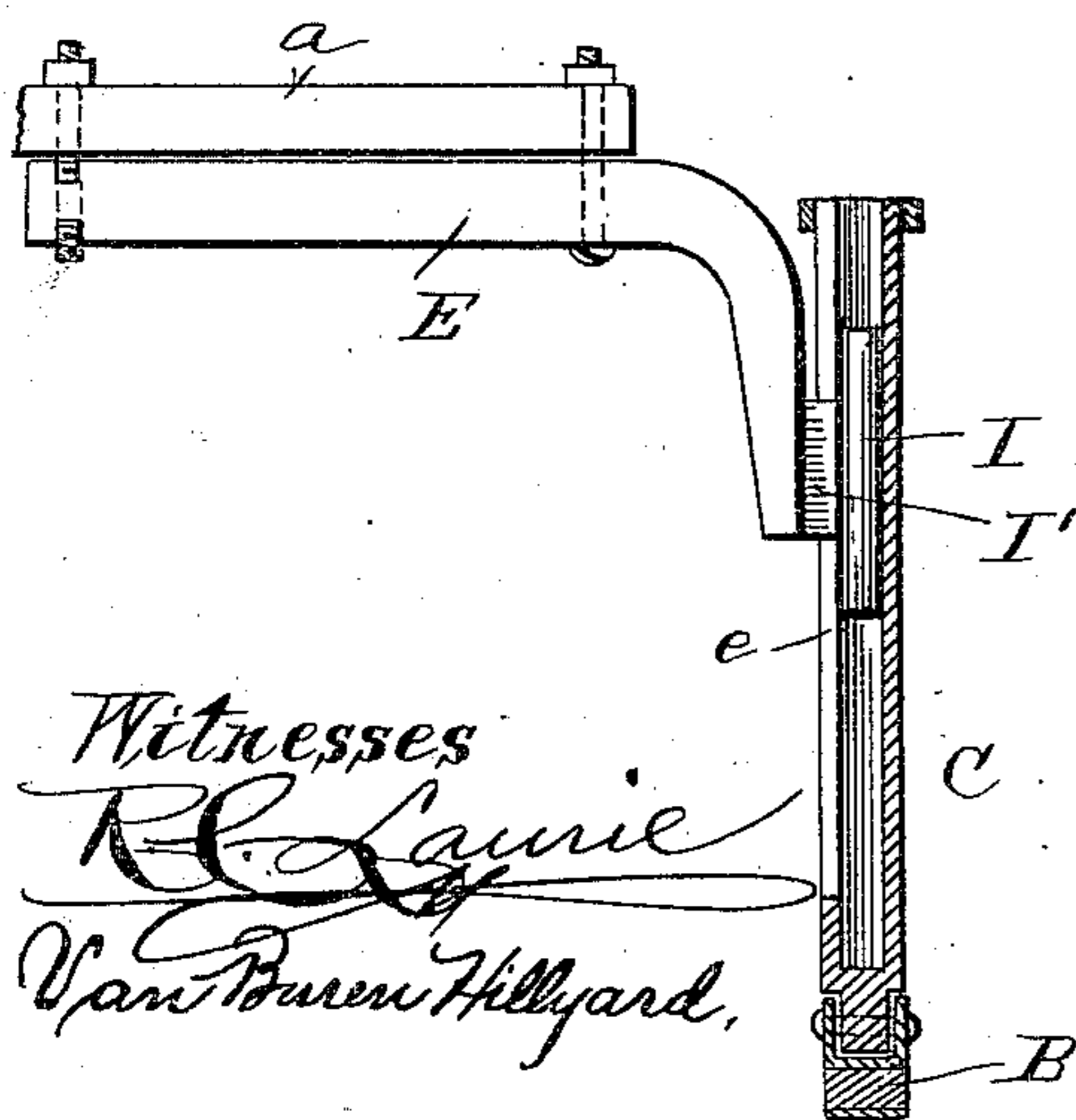


Fig. 4.



Witnesses
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Attys

UNITED STATES PATENT OFFICE.

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SLEIGH.

SPECIFICATION forming part of Letters Patent No. 373,198, dated November 15, 1887.

Application filed August 17, 1887. Serial No. 247,182. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. SAWYER, a citizen of the United States, residing at Weare, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Sleighs; and I do 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 ap-
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to sleighs, and has for
15 its object the improvement of this class of devices, whereby they are rendered more efficient and more agreeable to ride in, while at the same time their efficiency is increased and the draft considerably diminished.

20 The improvement consists in the novel construction and combination of parts, which will be more fully hereinafter set forth and claimed, and shown in the annexed drawings, in which—

Figure 1 is a side view of a sleigh embody-
25 ing my invention; Fig. 2, a top plan view of a runner, the spring, a portion of the bolster, and the adjustable brace; Fig. 3, a rear detail view, parts being broken away, of one side of the running-gear. Fig. 4 is an inside view of
30 the tube or guide in which the bracket works.

The body F of the sleigh may be of desired pattern and design, and the running-gear, to which my invention chiefly relates, is composed of the runners B, made heavy or thicker be-
35 tween their ends, the springs A, curved at or near their middle and having their ends connected with the ends of the runners, the bolster a, mounted upon the springs, and upon which the body A is perched and secured, and
40 the sliding bracket proper, E, and the guide C, interposed between the bolster and the runners to prevent any lateral thrust of the body and partially regulate the motion of the springs.

The runners may tip up at either end or at
45 both ends more or less. In Fig. 1 their front ends are shown curved to form a scroll, and the thills G are secured thereto. The middle portion is made heavy to support the load and prevent buckling of the runner when crossing
50 rough or uneven places or meeting with obstructions. They gradually taper from the

middle toward each end to present a pleasing outline to the eye, and to produce a saving of material and lessen the draft of the vehicle.

The springs may be of one or more pieces, 55 and are sufficiently stout to support the load and withstand the strain incident to turning the vehicle out of a straight line. The ends are pivotally attached to the runners, and their middle portions curve away from a plane pass- 60 ing vertically through the runners, so that the middle portions of the two springs curve toward and approach each other. By such arrangement the body can be very narrow and the runners can have a comparatively broad 65 track. Again, the peculiar construction of the springs adapts them to withstand a considerable amount of lateral strain, which, if straight, they would not be capable of withstanding.

The adjustable bracket is composed of two 70 parts. The outer ends of the parts are connected with the runners and the bolster, respectively, while the inner or approximate ends are connected by a sliding joint, so as to accommodate the bracket to the varying movements of 75 the body. The bracket E is secured at its upper end to the bolster, and its lower end is fitted to and slides relative to the guide C, which is pivoted at its lower end to the runner. The guide C, as shown, is a tube closed at the lower 80 end and slotted on one side. The slot e extends from near the lower end to the upper end, around which upper end a ring is secured for the purpose of closing the slot at that end after the head of the bracket has been inserted 85 within the tube. The end of the bracket E is provided with a head, I, which fits snugly within the tube. The head I and bracket E are connected by a narrow portion, I', which fits within the slot e. The head I is of suffi- 90 cient length to prevent binding within the tubes and at all times preserve a stiff joint. The parts E and C of the adjustable brace are arranged at an angle to a straight or vertical line, chiefly to allow a greater movement of 95 the springs A; but they may be arranged perpendicularly, if so desired, and a greater number may be interposed between the body and the runners, if found necessary, particularly if the vehicle is of great length. 100

The springs A may be strengthened at one or more points by a brace, H, which may be

ornamented to add to the appearance of the sleigh.

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

1. The combination, with the runners, of the springs secured at each end to the runners and curving inward toward each other between their ends, substantially as and for the purposes specified.

2. The combination, with the runners and the spring, of the adjustable brace interposed between them, substantially as and for the purposes set forth.

3. The combination, with the runners and the spring, of the adjustable brace inclined to a perpendicular line and interposed between and connecting the runner-spring, substantially as described, and for the purpose specified.

4. The combination, with the runners made heavy between their ends, and the springs curved toward each other near their middle and having their ends secured to their respect-

ive runners, of the adjustable braces interposed between the runners and the springs, substantially as set forth.

5. The combination, with the runners and the spring, of the bracket connected at its upper end with the spring, and the guide secured at its lower end to the runners, and having the approximate ends of the bracket and guide connected by a sliding joint, substantially as set forth.

6. The combination, with the runner and spring, of the guide-tube slotted on one side, and the bracket having a head fitted within the tube, and a narrow portion connecting the head with the bracket fitted within the slot in the tube, substantially as set forth.

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

ALBERT H. SAWYER.

Witnesses:

ALLEN E. CROSS,
ARTHUR H. HALE.