

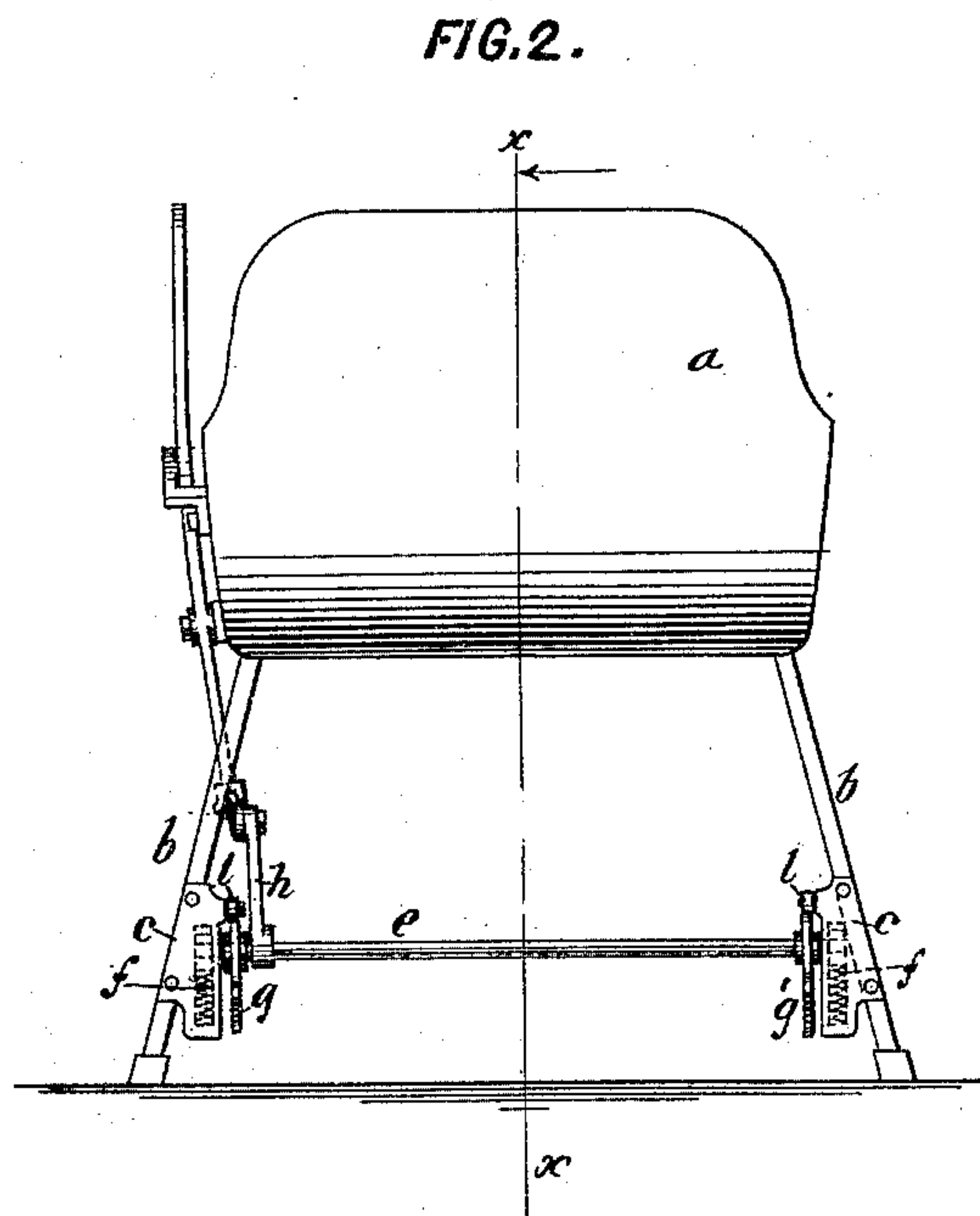
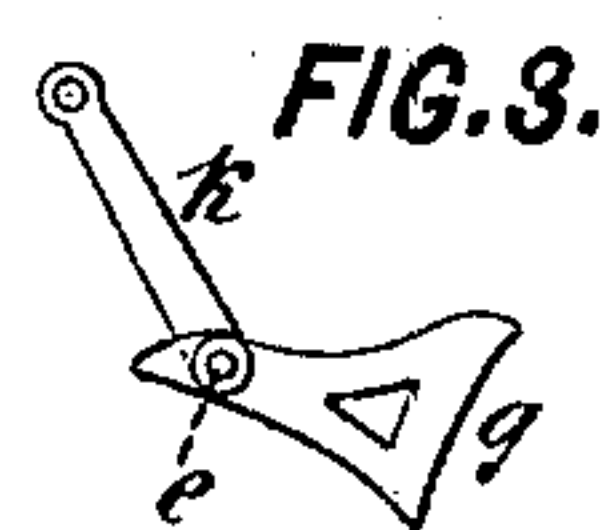
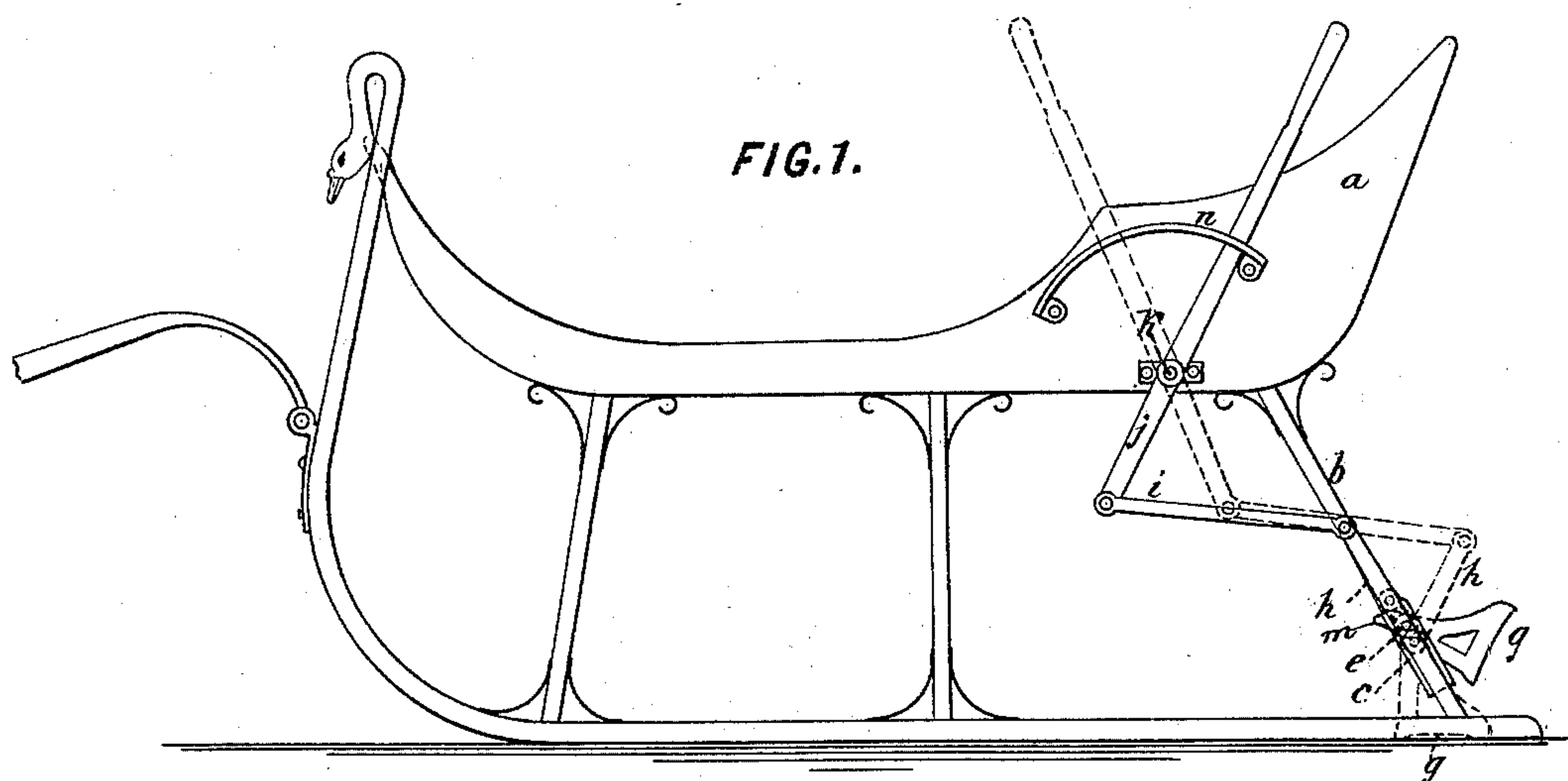
(No Model.)

2 Sheets—Sheet 1.

E. H. HINTON.  
SLEIGH BRAKE.

No. 431,352.

Patented July 1, 1890.



WITNESSES:

Y. Houghman  
L. E. Longhman

INVENTOR

Eugene H. Hinton.

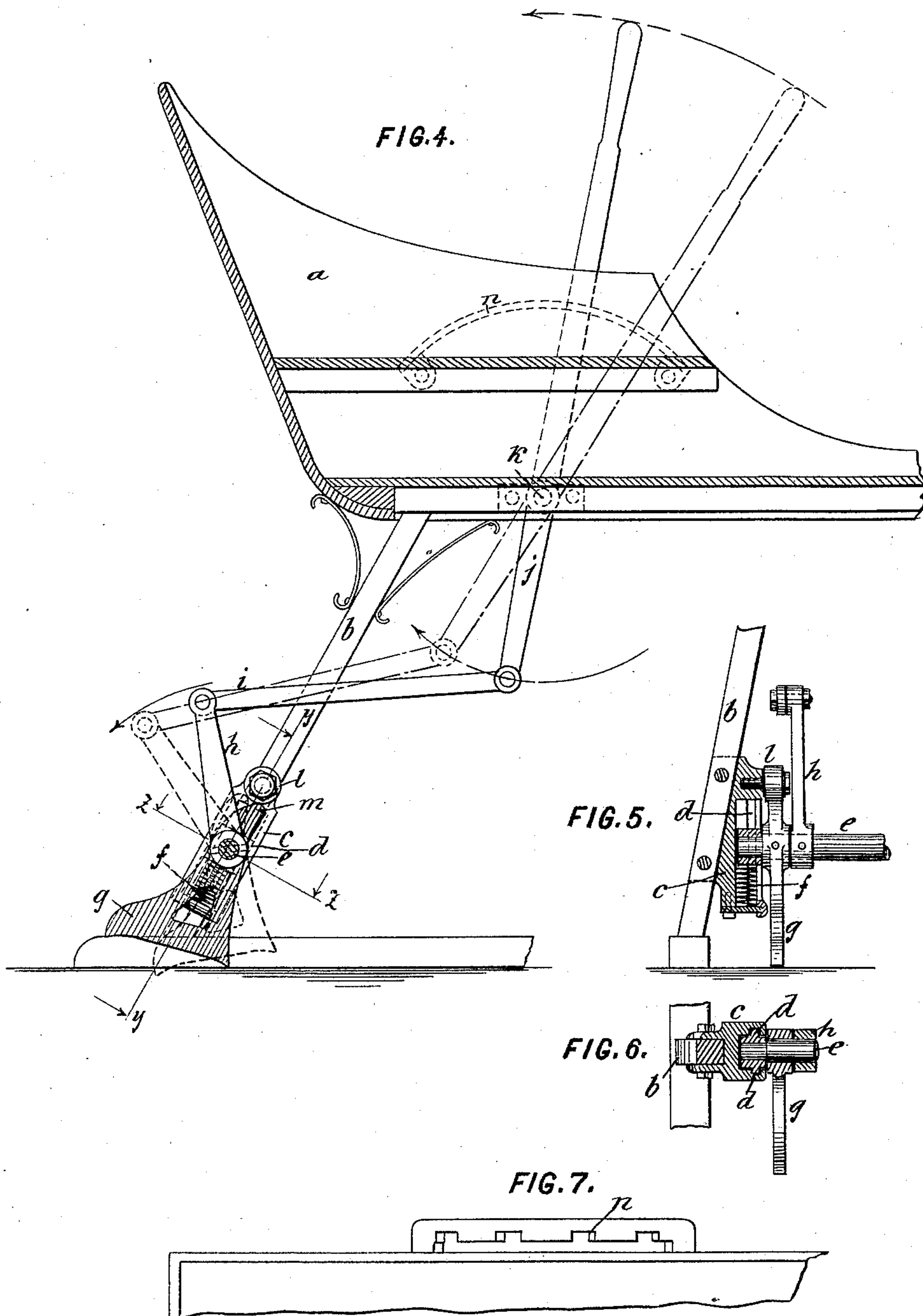
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WITNESSES:

G. H. Loughran  
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# UNITED STATES PATENT OFFICE.

EUGENE H. HINTON, OF NEW YORK, N. Y.

## SLEIGH-BRAKE.

SPECIFICATION forming part of Letters Patent No. 431,352, dated July 1, 1890.

Application filed December 11, 1889. Serial No. 333,336. (No model.)

*To all whom it may concern:*

Be it known that I, EUGENE H. HINTON, of the city of New York and county of New York, in the State of New York, have invented certain new and useful Improvements in Brakes for Sleighs; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

My improvements relate to the combination of a brake with a sleigh-body in such manner that the progress of the sleigh will be arrested by the application of the brake in a downward direction, so as to bring it in connection with the snow or ice.

It also consists in certain arrangements of the mechanism, which will be hereinafter fully described.

In the drawings, Figure 1 is a side view of a sleigh with my improvements attached thereto. Fig. 2 is a rear view of the same. Fig. 3 is a view of the brake detached from the rest of the mechanism. Fig. 4 is a vertical longitudinal section taken in the line  $x x$  of Fig. 2. Fig. 5 is a sectional view of a portion of the brake mechanism, taken in the line  $y y$  of Fig. 4. Fig. 6 is a sectional view of the same, taken in the line  $z z$  of Fig. 4. Fig. 7 is a sectional plan view of the body of the sleigh at the portion where the lever is retained thereto, which operates the brake mechanism.

$a$  is the body of the sleigh.

$b b$  are two of the uprights or standards which serve to support the body on the runners at its rear end. At the lower portion of each of these standards, upon the inside and near the runner, is attached a case or box  $c$ , by means of screws or rivets, in any convenient manner. The inner faces of these boxes are slotted in a vertical direction, as seen at  $d$ , Fig. 6, so as to permit of the up-and-down movement of a shaft  $e$ , placed between these two boxes and having its journals within them resting on the upper ends of spiral springs  $f f$ , so that such shaft will be kept, when in its normal position, at the upper portion of the boxes. These journal-boxes, it will be perceived, assume an inclined position corre-

sponding with the inclination of the uprights or standards  $b b$  to the runners and the sleigh-body. Keyed onto this shaft  $e$  and close to the inside faces of each of these journal-boxes is a brake  $g$ . There is also keyed onto the shaft close to one of these brakes a link  $h$ , which link is in turn pivoted to a connecting-bar  $i$ , intermediate between it and the hand-lever  $j$ . This lever  $j$ , pivoted at its lower end to the bar  $i$ , is in turn pivoted to the sleigh-body at the point  $k$  and passes up through a notched guard  $n$ , so that it may be grasped at the handle or upper end by the driver. It will be seen that the only pivotal points in this combination of links and lever are at points on the shaft  $e$  and the sleigh-body at  $k$ , the shaft  $e$  having the capacity of being moved in an up-and-down direction as well as rotated by the back-and-forth movement of the hand-lever  $j$ . Although I prefer this intermediate link-connection in use, I do not limit my invention thereto, as it may be dispensed with.

There is placed on each side of the journal-boxes near the top a roller  $l$ . The brake  $g$  is formed in a horn shape at its upper end, as shown at  $m$ . On one side of the horn it has a curve and on the other is almost a straight surface. The movement of the lever and its connecting-links serves, therefore, to rotate this horn  $m$  against the roller  $l$ , so that the horn has a cam-like action and serves by its action against the roller to depress the shaft  $e$  in a downward direction, thereby carrying the brake toward the surface over which the sleigh is traveling. When the brake is thrown up out of use, the lever and the intermediate connecting mechanism takes the position as shown by the full lines in Fig. 1. As the lever is moved forward into the position shown by dotted lines, the curved surface on the horn  $m$  of the brake, being operated on by the roller  $l$  the whole distance, will cause the brake to assume the position as shown in dotted lines in Fig. 1. The lower face of the brake will then abrade the ground like a drag. By only moving the hand-lever a portion of this distance the action of the horn  $m$  on the roller  $l$  will bring the brake in the position as shown in full lines in Fig. 4, thereby caus-



ing its forward point to penetrate the snow or ice. The full throw of the hand-lever brings the brake into the position as shown by the dotted lines in Fig. 4, which will cause the horn *m* to pass around to the other side of the roller *l*, and thus the brake will now have its rear point embedded into the snow or ice. By throwing the hand-lever again in the direction of the arrow shown in Fig. 4 to the other limit of the guard *n* the hand-lever will then assume the position as shown by the full lines in Fig. 1, and the brake will be entirely released from the ground. In the guard *n* are shown notches into which the lever can be moved, and thus locked into any of the positions mentioned. The hand-lever, through its connecting-links *h i* and the shaft *e*, moves both brakes *g g'* at the same time and in the same manner. One of these brakes may be dispensed with. I have only described the operation of one, the one on the other side being a mere duplication of the brake already described; but I prefer two as being more efficient, especially in sleighs for transporting merchandise.

I claim—

1. The combination, with the standard of a sleigh and the pivot-shaft mounted in sliding bearings, of the brake secured to said shaft, the operating-lever, and connections whereby the shaft is turned and moved downward to bring the brake into position, substantially as described.

2. The combination, with the standard of a sleigh and the rock-shaft journaled in sliding bearings thereon, of the brake secured to said shaft and the lever and connections whereby the shaft is rocked and moved downward,

bringing the brake into action, substantially as described.

3. The combination, with the standard of a sleigh and the rock-shaft journaled in sliding bearings thereon, of the brake secured to the shaft and having a cam-like arm, the roller mounted above and engaged by said arm, and the operating-lever, substantially as described.

4. The combination, with the standard of a sleigh and the rock-shaft journaled in sliding bearings and supported on a spring, of the brake secured to the shaft and having a cam-like arm, the roller mounted above the shaft, and the operating-lever, whereby the brake is rocked and lowered and lifted, substantially as described.

5. The combination of the standard of a sleigh, the box secured thereto, bearing a roller at its upper end and having its inner face slotted, the rock-shaft journaled in said slot and supported on a spring, the brake secured to the shaft and having a cam-like arm engaging the roller, and the operating-lever, substantially as described.

6. The combination of the sleigh-brake having two brake-points and a cam-like arm, the rock-shaft journaled in sliding bearings, the roller above said arm, and the operating-lever, whereby either the front or the rear point of the brake separately or both points simultaneously may be brought into action, substantially as described.

EUGENE H. HINTON.

Witnesses:

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