

No. 657,110.

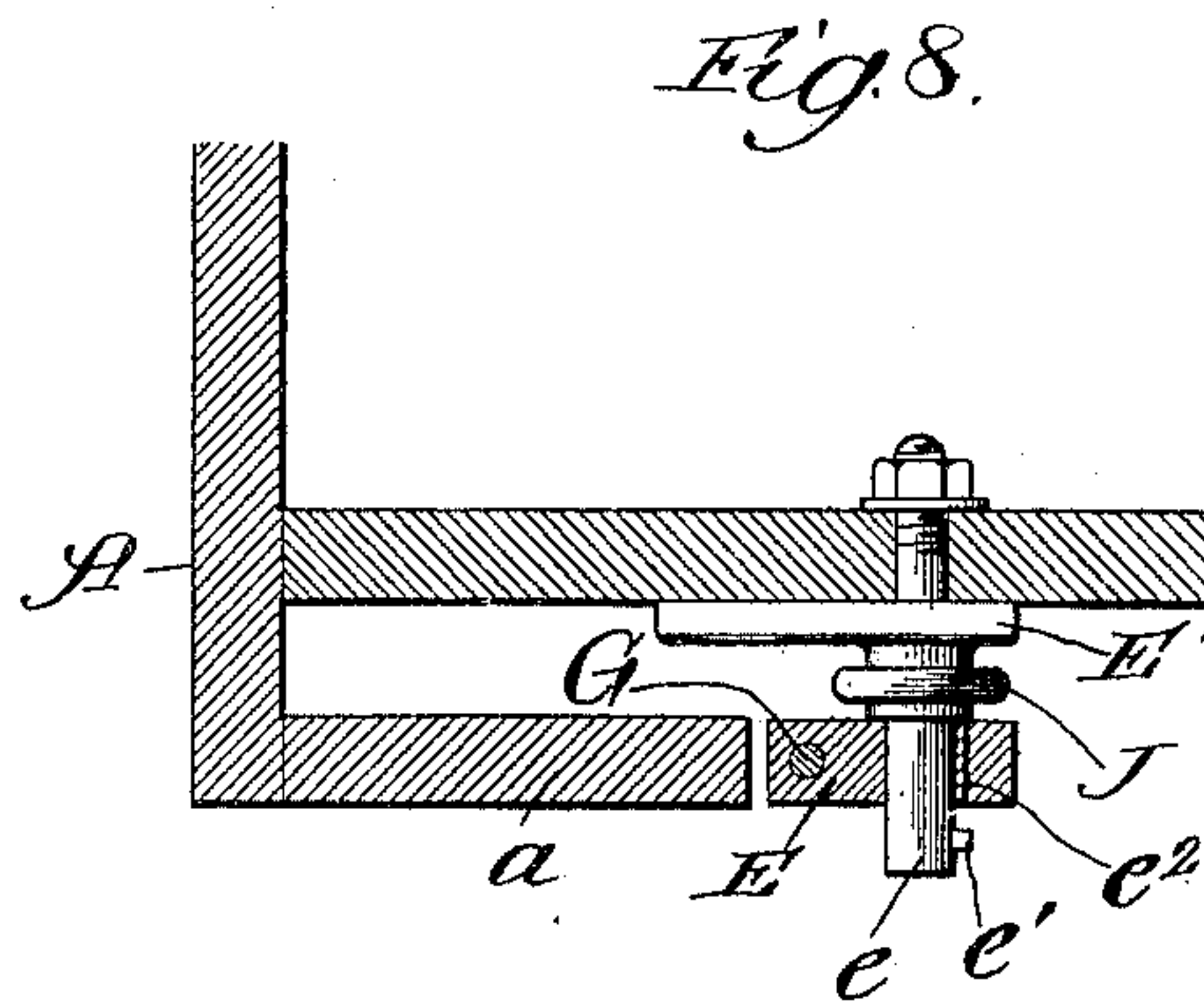
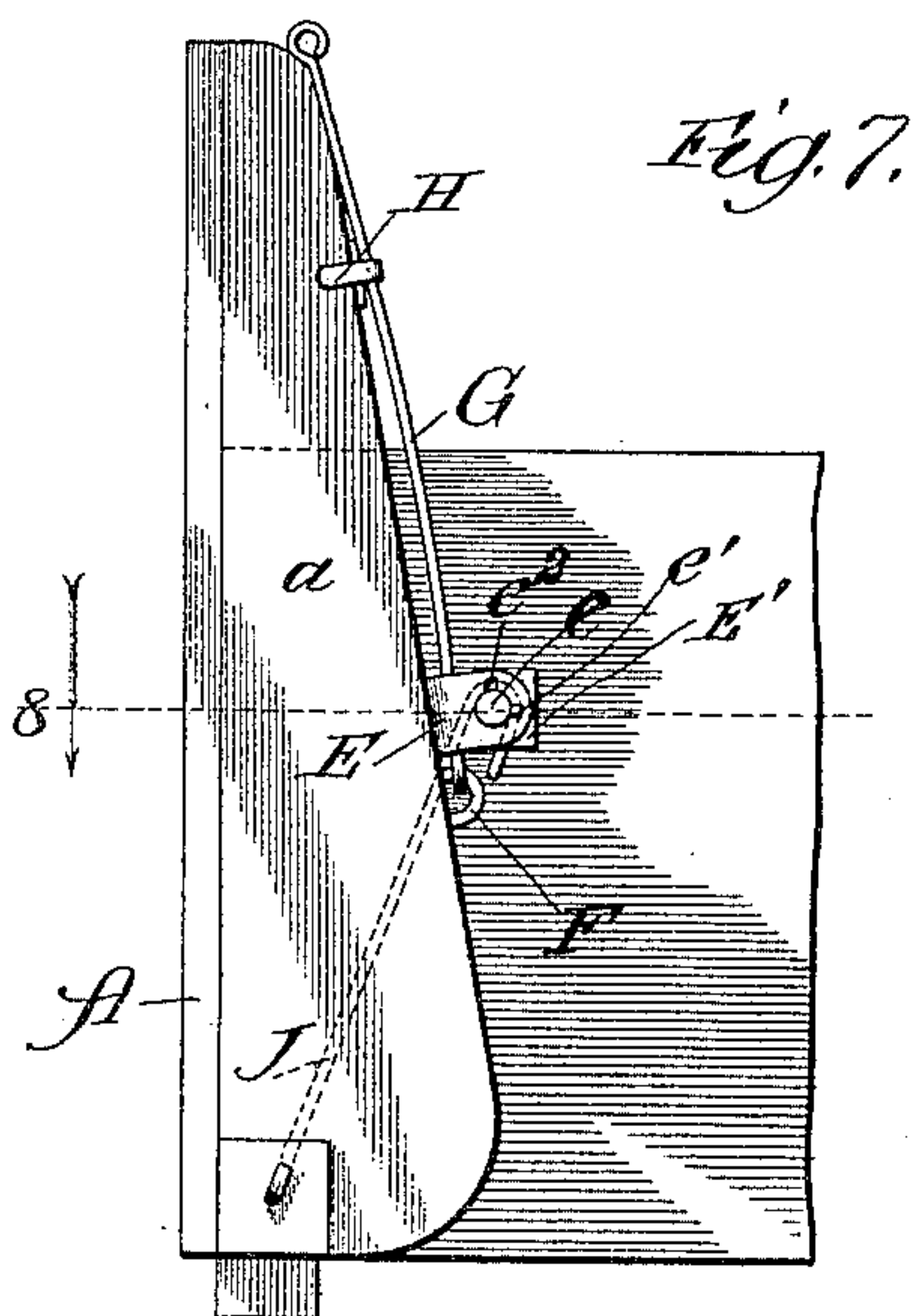
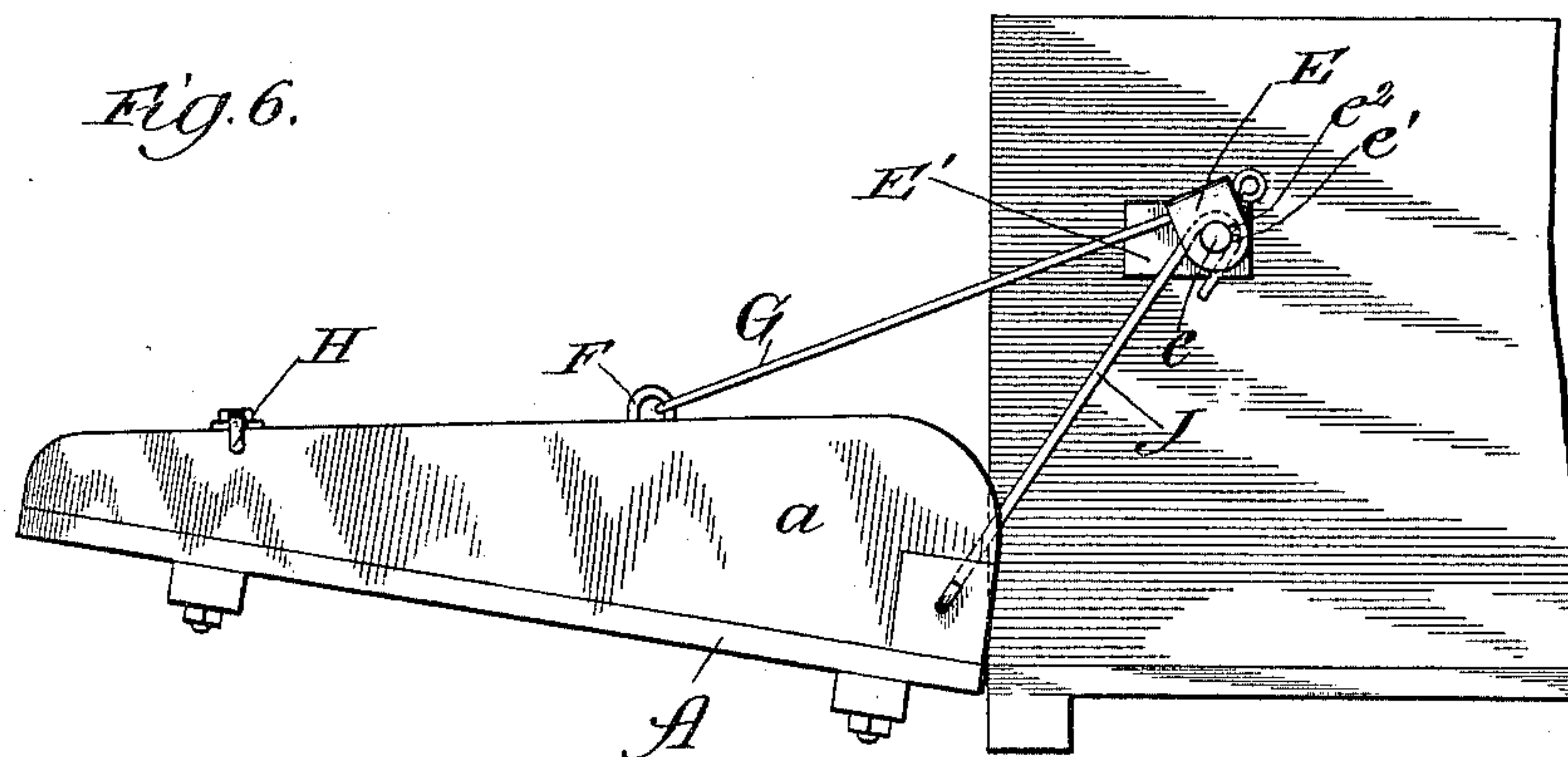
Patented Sept. 4, 1900.

E. K. HAYES.
SHOVELING BOARD.

(Application filed May 22, 1899.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

EUGENIO K. HAYES, OF GALVA, ILLINOIS.

SHOVELING-BOARD.

SPECIFICATION forming part of Letters Patent No. 657,110, dated September 4, 1900.

Application filed May 22, 1899. Serial No. 717,756. (No model.)

To all whom it may concern:

Be it known that I, EUGENIO K. HAYES, a citizen of the United States, residing at Galva, Illinois, have invented certain new and useful
5 Improvements in Shoveling-Boards, of which the following is a specification.

The object of my improvement is to make a shoveling-board that can be readily attached to or detached from wagon-boxes, which can
10 be easily and readily locked in its closed position, so as to serve as the end-gate of the wagon-box, and which can also be used as a dump when desired; and my invention consists in the features and details of construction
15 hereinafter described and claimed.

In the drawings, Figure 1 shows a rear end elevation of my improved shoveling-board attached to the box of a wagon. Fig. 2 is a side elevation, partly in section, of the same with
20 the shoveling-board in its down position. Fig. 3 is a side elevation of a vertical longitudinal section of the wagon-box, showing the shoveling-board in its up position, taken in line 3 of Fig. 1, looking in the direction of the arrow. Fig. 4 is a side elevation of a vertical
25 longitudinal section, showing the shoveling-board when used as a dump. Fig. 5 is a plan section taken in the line 5 of Fig. 2. Fig. 6 is a side elevation of a modified arrangement of shoveling-board, showing the shoveling-board down. Fig. 7 is a side elevation of the same, showing the shoveling-board up; and
30 Fig. 8 is a plan section taken in the line 8 of Fig. 7 looking in the direction of the arrow.

In making my improved shoveling-board and associated parts as they are illustrated in the first five figures of the drawings I make the shoveling-board A of usual construction and of a width to permit its side boards a to
40 rest within the side-boards of the wagon-box when in its up position. To enable it to be attached to a wagon-box with ease and facility, I arrange supports B, preferably made of angle-irons, one member b extending rear-
45 wardly and the other member b' extending laterally, so as to be received between the cleats B', arranged, as usual, on the side-boards of the wagon-box. In order to secure a snug fit between the cleats, I prefer to at-
50 tach to the laterally-extending member b' of the supports a strip of wood b², (shown in Fig. 5,) which may be secured to the member

of the supports by rivets or any other desired way. To still further and more certainly se-
cure the supports with their strips of wood 55 in place between the cleats and to also prevent the sides of the wagon-box from spreading apart, I prefer to also employ the clamps B², provided with a slotted hole b³, so that it can be adjusted backward or forward to suit
60 different cases and which is held in place by a bolt and nut B³, which, if desired, may be inserted through the usual hole made in the sides of the wagon-box for the rod which is
65 usually employed with ordinary end-gates as wagon-boxes are constructed. This arrangement will be readily understood, however, from an inspection of Fig. 5 of the drawings and need not be further described in detail.
70 As, however, wagon-boxes are of different heights, I also prefer to employ, in addition to the slotted clamp above described, a top clamp C, which is intended to be removably attached at its upper end to the rearwardly-
75 extending member of the supports through a bolt and nut, as shown in Figs. 1, 2, and 3. The rearwardly-extending member of the supports is provided with a series of holes c, so that the top clamp may be adjusted up or
80 down to suit the heights of different wagon-boxes. From its point of attachment at its upper end it extends out laterally a desired distance and has a downwardly-projecting member C', which is intended to fit on the
85 outside of the side-boards of the wagon-box. This top clamp is preferably made of spring-steel, so that its lower member C' can be sprung out enough to enable it to embrace and clamp side-boards of different thicknesses.
90 The arrangement of this top clamp will be readily understood from an inspection of Figs. 1, 2, and 3 of the drawings and need not be more minutely described. I think I should say, however, that in ordinary use this top
95 clamp, in my opinion, will be all that will be required, and so I attach more importance to it in fact than to the other slotted clamp above described, although there are occasions when it may be found advantageous to use both
100 clamps. Near the lower ends of the outwardly-extending member b of the support are provided open slots D. (Well shown in Figs. 2, 3, and 4 of the drawings.) Correspondingly near the lower end of the shoveling-board are

provided studs d , which project outwardly and are adapted to be received in the open slots D and turn therein as pivotal or fulcrum points as the shoveling-board is moved toward or from the wagon-box in opening and closing. At a desired point, preferably about midway of the length of the shoveling-board, I arrange swivel-blocks E, pivoted on outwardly-projecting studs e of brackets E', fastened by bolts and nuts or in other desired ways to the rear of the shoveling-board. I prefer to provide the studs with small projecting lugs e' and to provide the holes in the swivel-blocks which pass over the studs with lateral slots e^2 , so that the slots may register with the lugs as the swivel-blocks are mounted upon or removed from the studs, but which do not register at other times, so that the swivel-blocks will be retained on the studs. I prefer to so locate these lugs and slots as that they will not be in register when the shoveling-board is not in its ordinary working position, but so that they can be brought into register by moving the shoveling-board out of its ordinary working positions, which will permit the shoveling-board to be applied to or removed from the wagon-box as desired. I arrange eyes F on the rearwardly-extending members of the supports at a desired height from the bottom and pivotally fasten the ends of rods G in the eyes. The other ends of the rods are passed through holes in the swivel-blocks, as will be understood from an inspection of the drawings. These holes pass through the swivel-blocks at one side of the holes through which they are mounted on the stud e and substantially at right angles to such holes. After passing through these holes the ends of the rods G are provided with stops g , which, if desired, may be made by turning the rods back upon themselves to form eyes, as shown in the drawings. Near the lower end of the shoveling-board are also provided hooks or catches H, so that when the shoveling-board is in its up or closed position the rods G may be sprung in behind these hooks, so as to be held, and thus securely lock the shoveling-board in its closed position. When it is desired to turn down or open the shoveling-board, as shown in Fig. 2, the rods are sprung out of the hooks and the shoveling-board turned on its pivots or fulcrums d , which causes the swivel-blocks to slidingly move along the rods and to turn, so as to constantly change their position with the constantly-varying position of the rods. I desire also, however, to be able to use the shoveling-board for a dump as occasion may require. To this end I provide it with means for temporarily pivotally connecting or attaching its upper end to the supports on which it is mounted, so that the lower end can be swung out. As a simple and practical means for doing this, although other means could also be employed, I have shown hooks I, that may be swung up and caught in holes i at the top of the supports. The rods are then

sprung out of their catches H and their ends elevated, which will cause the shoveling-board to be elevated enough to bring its studs d out of the open slots D, so that the shoveling-board will be turned into the position shown in Fig. 4 and serve or operate as a dump when it is desired to have grain or other material emptied out of the box by gravity.

In Figs. 6, 7, and 8 I have shown a modification of my shoveling-board in some respects. In these figures the side boards a are arranged to fit on the outside of the sideboards of the wagon-box. The support B is dispensed with and the brackets E' securely fastened on the outside of the wagon-box boards in any desired way. The brackets E' are provided with the studs e , and the swivel-blocks E are mounted on them, as already described, except in positions modified by the necessities of the modified construction. The eyes F are mounted upon the shoveling-board instead of upon the supports, and the rods G are pivotally secured to them at one end and passed through the swivel-blocks and are provided with stops at the other ends, as already described. The catches or hooks H are arranged upon and at the upper end of the shoveling-board instead of being at the lower end, as already described. This reversal of positions of course causes the swivel-blocks to be put on in modified position from that used with the construction heretofore described, and the movements of the rods are of course in a reverse direction. I arrange, however, additional or supplementary supporting-rods J, which are provided with hooks or eyes at their upper ends passing around the studs E and which are pivotally connected to the side boards a of the shoveling-board at their lower ends. To use the shoveling-board when constructed as described in Figs. 6, 7, and 8 of the drawings as a dump, all that is necessary is to unhook the rods G from the catches H and give the bottom of the shoveling-board an outward movement either by drawing it out or by tipping it out by pressure on its upper end. The construction and operation, however, of my modified shoveling-board will be readily understood from an inspection of the drawings and need not be further described in detail.

What I regard as new, and desire to secure by Letters Patent, is—

1. As an attachment to a wagon-box, the combination of a shoveling-board, pivoted and detachably-mounted swivel-blocks, and rods pivotally attached at one end and passing loosely through holes in the swivel-blocks at the other end, whereby the shovel-board is attached and detached by means of the swivel-blocks, substantially as described.

2. As an attachment to a wagon-box, the combination of a shoveling-board, means for attaching the shoveling-board to the wagon-box, pivoted and detachably-mounted swivel-blocks, rods pivotally attached at one end and passing loosely through holes in the swivel-

blocks at the other end and means for locking the shoveling-board in its up or closed position, substantially as described.

3. As an attachment to a wagon-box, a shoveling-board, brackets provided with projecting studs having laterally-projecting lugs thereon, pivoted swivel-blocks provided with holes for mounting them on the studs of the brackets and having laterally-projecting slots to permit the holes to be inserted upon the studs, rods pivotally attached at one end and passing loosely through holes in the swivel-blocks at the other end and holding the swivel-blocks when in use in positions where the slot in the holes and the lugs on the studs are out of register, substantially as described.

4. As an attachment to a wagon-box, the combination of a shoveling-board, supports for attaching the shoveling-board to the wagon-box, means adjustable to the height of different boxes for securing the supports to the box, pivoted and detachably-mounted swivel-blocks on the shoveling-board, and rods pivotally attached at their upper ends to the supports and passing loosely through holes in the swivel-blocks at their lower ends, substantially as described.

5. As an attachment to a wagon-box, the combination of a shoveling-board, supports for attaching the shoveling-board to the wagon-box, means for securing the supports to the wagon-box, open slots near the lower ends of the supports, means for pivoting the lower end of the shoveling-board in the open slots, pivoted swivel-blocks on the shoveling-board, and rods pivotally attached at their upper ends to the supports and passing loosely through holes in the swivel-blocks at their lower ends, substantially as described.

6. As an attachment to a wagon-box, the combination of a shoveling-board, supports for attaching the shoveling-board to the wagon-box, a top clamp adjustable up and down the supports to make it operative with wagon-boxes of different heights, and having spring action for clamping side-boards of different thicknesses, means for supporting the shoveling-board in its down or open position, and means for locking the shoveling-board in its up or closed position, substantially as described.

7. In a wagon-box, the combination of an end-board, an upright or support on each side of the wagon-box at the end, a hook on each side of the end-board each hook having at its free end an eye to engage with and form a separable pivotal connection between the upper end of the uprights or supports and the end-board, a vertical slot in each upright or support near its lower end with an outward opening or passage at the top of each slot, a pin on each side of the end-board entering the open slot of the upright or support through the outward opening or passage and forming a separable pivotal connection for the end-board with the lower end of the uprights or supports and rods pivotally attached at one end and passing loosely through pivoted and detachably-mounted swivel-blocks on the sides of the end-board for attaching and detaching the end-board and enabling it to be swung outward at both top and bottom and change its operation, substantially as described.

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