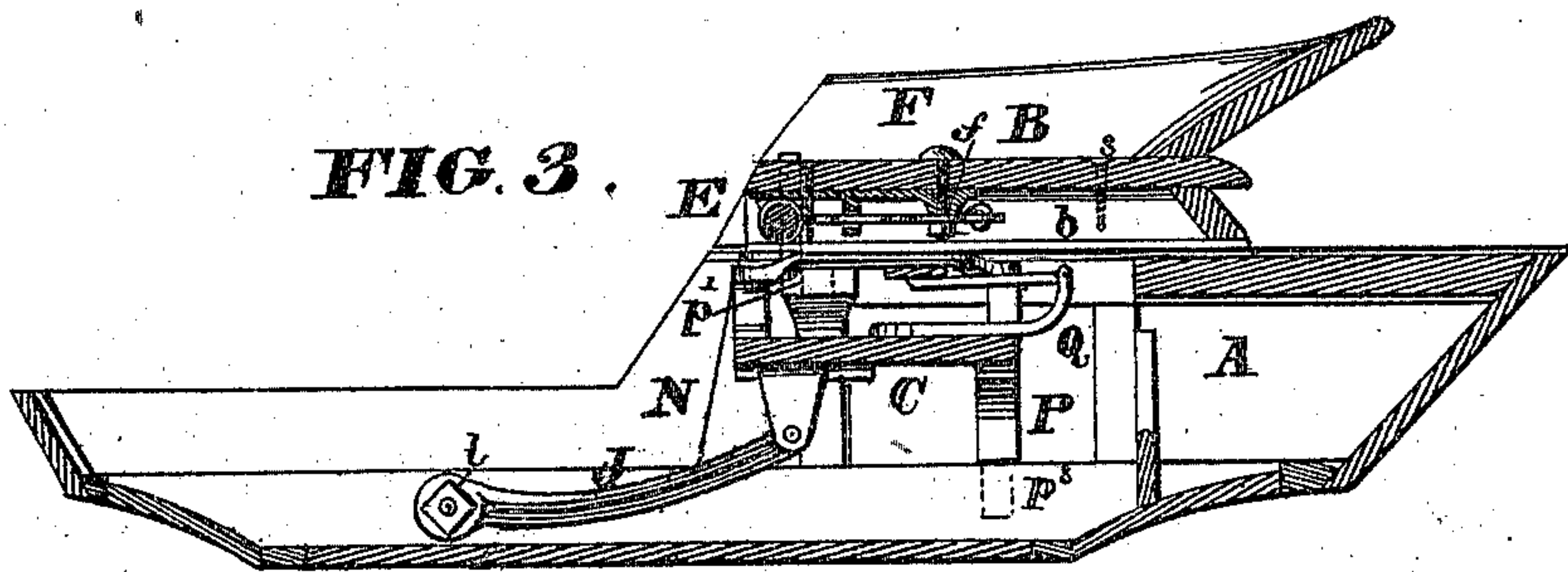
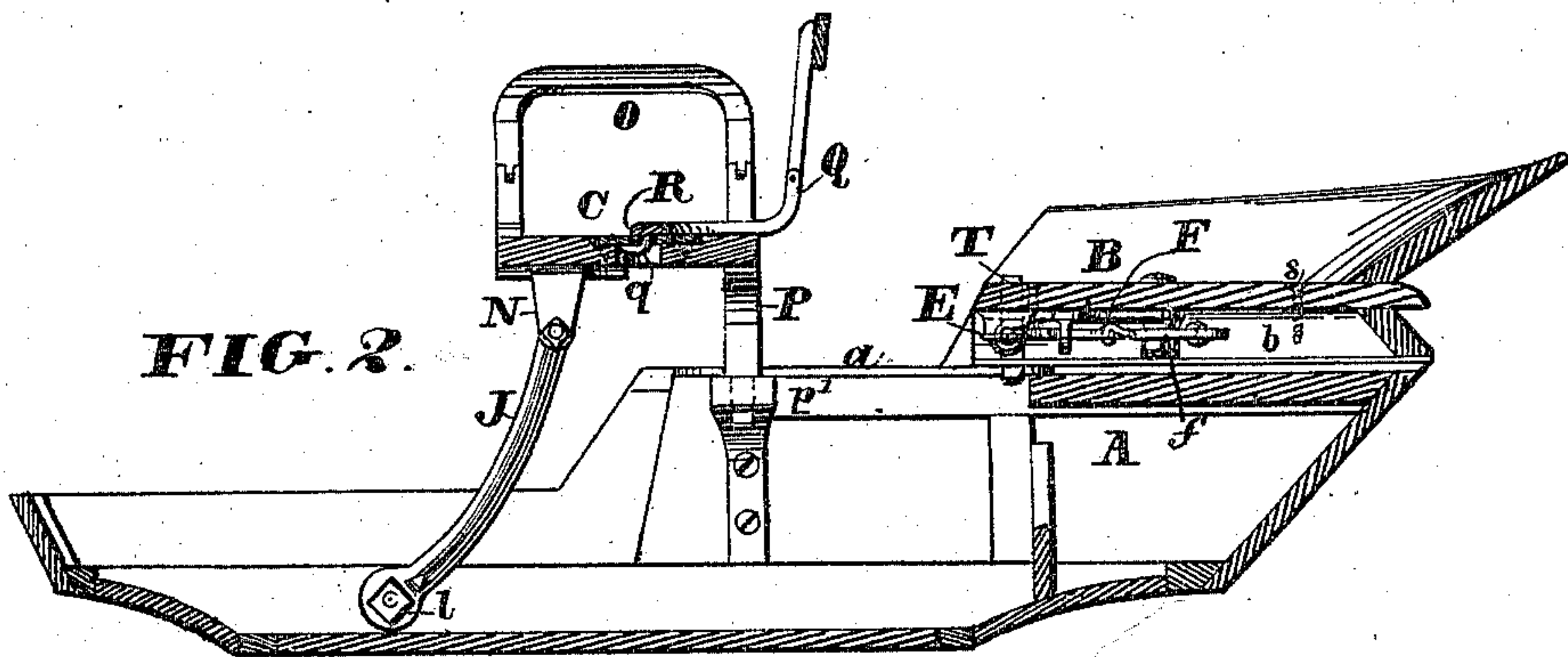
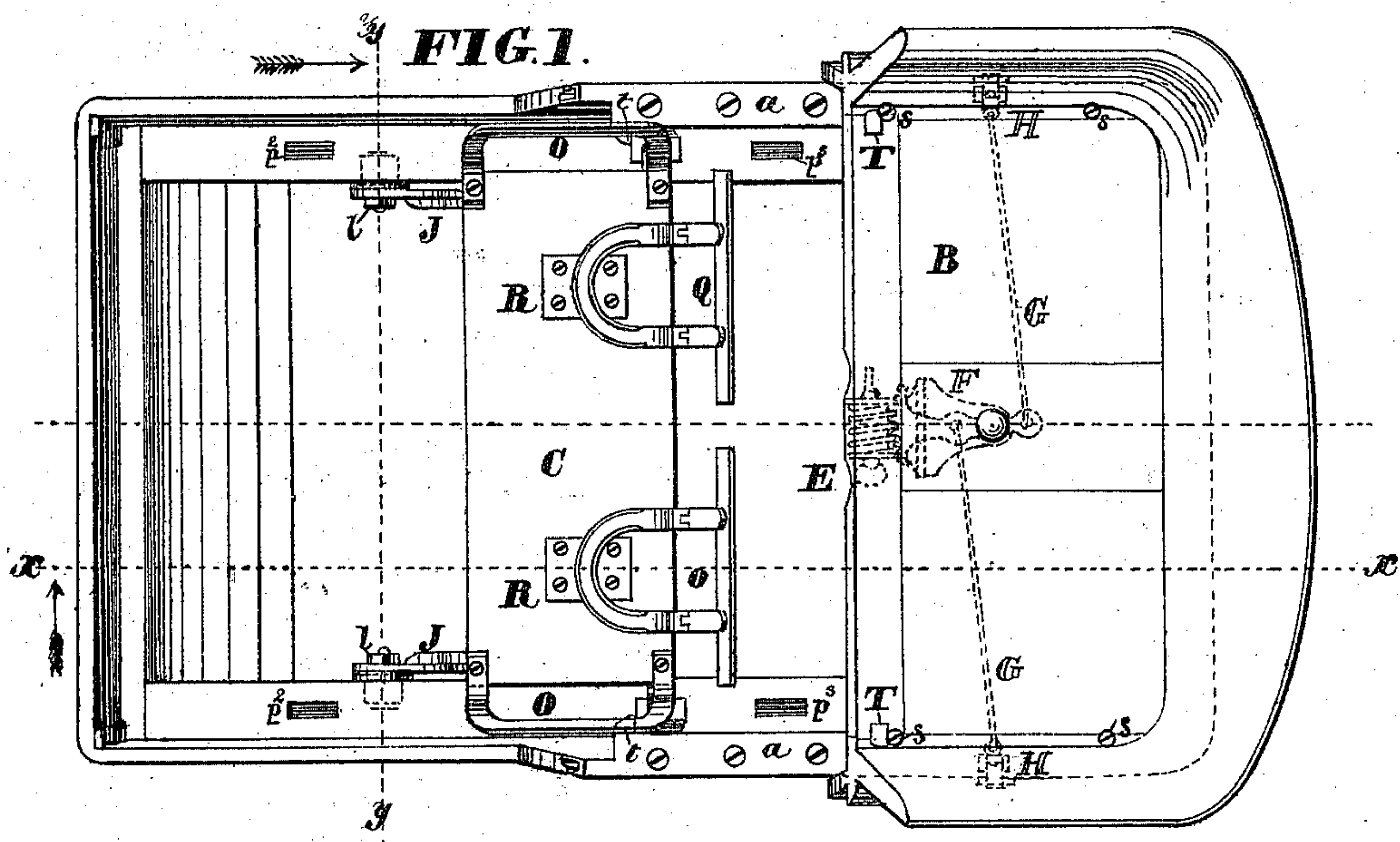


J. N. MILLER.  
Carriage Seats.

No. 141,065.

Patented July 22, 1873.



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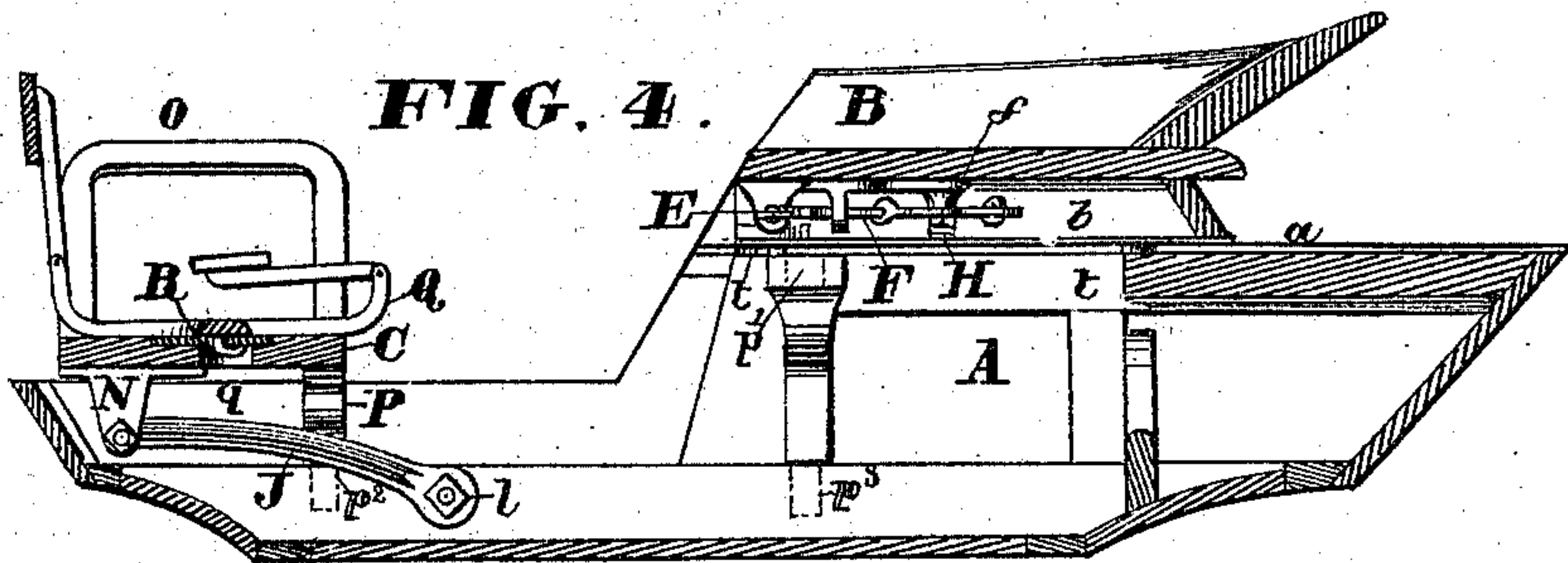


FIG. 5.

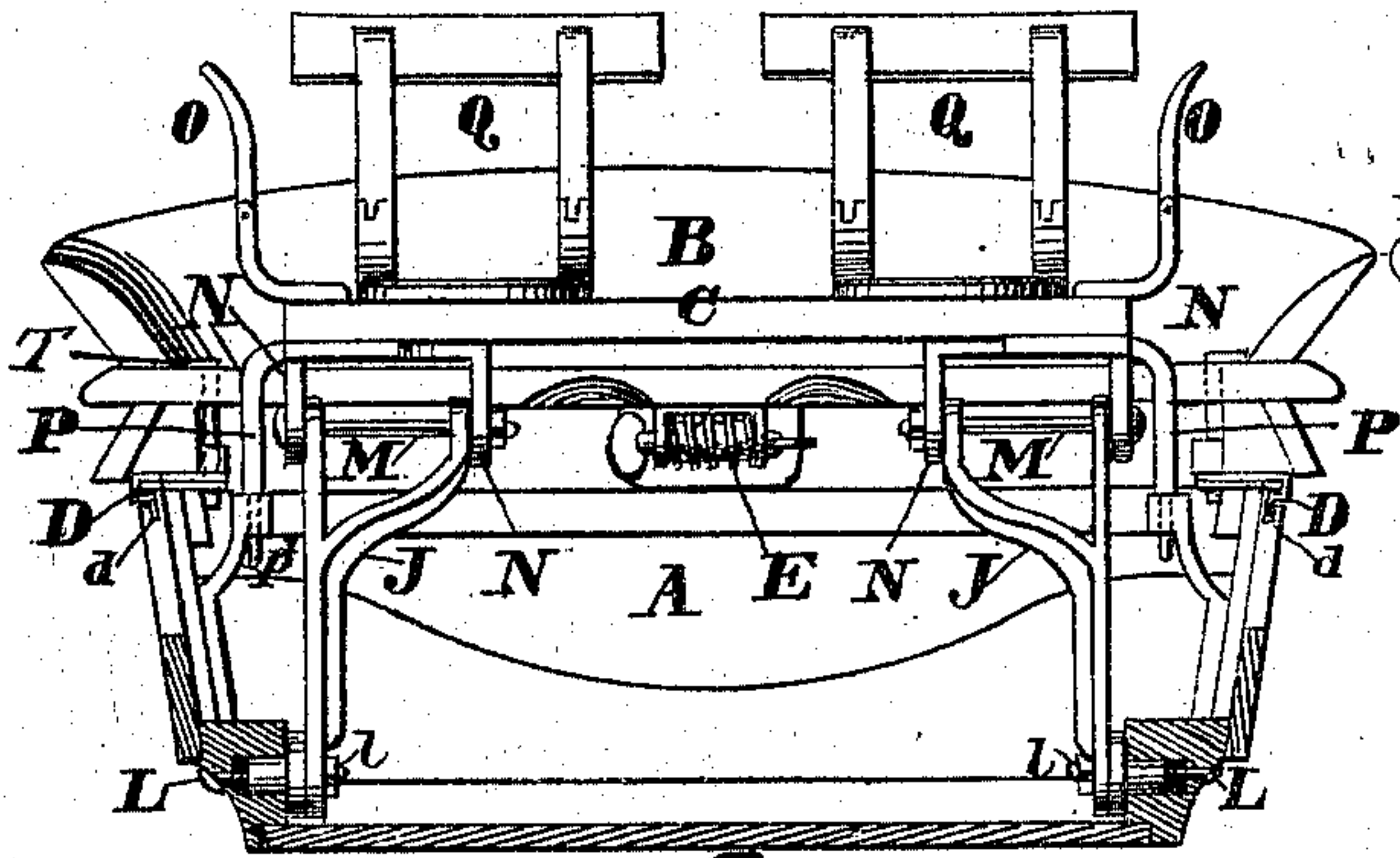


FIG. 10.

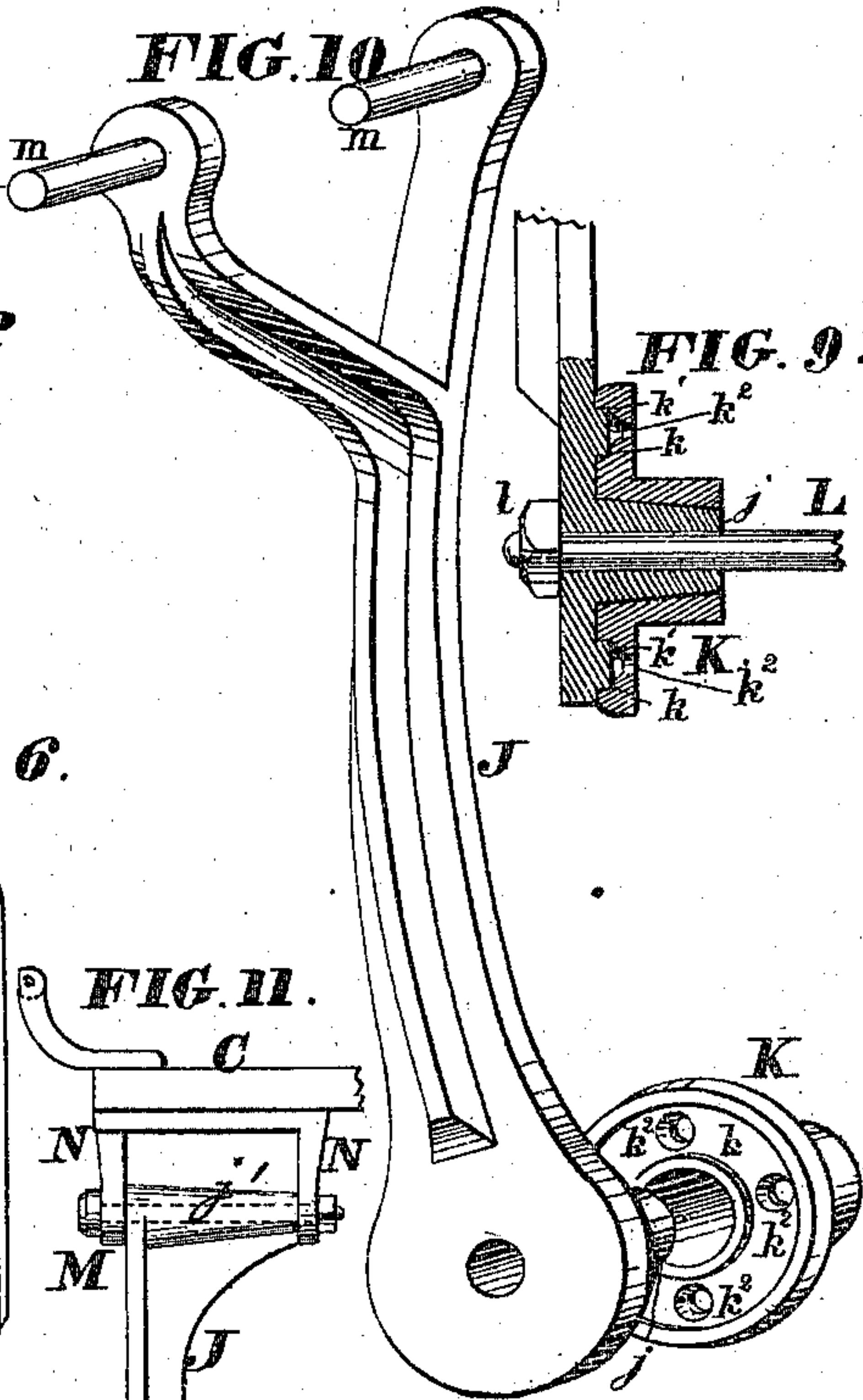


FIG. 9.

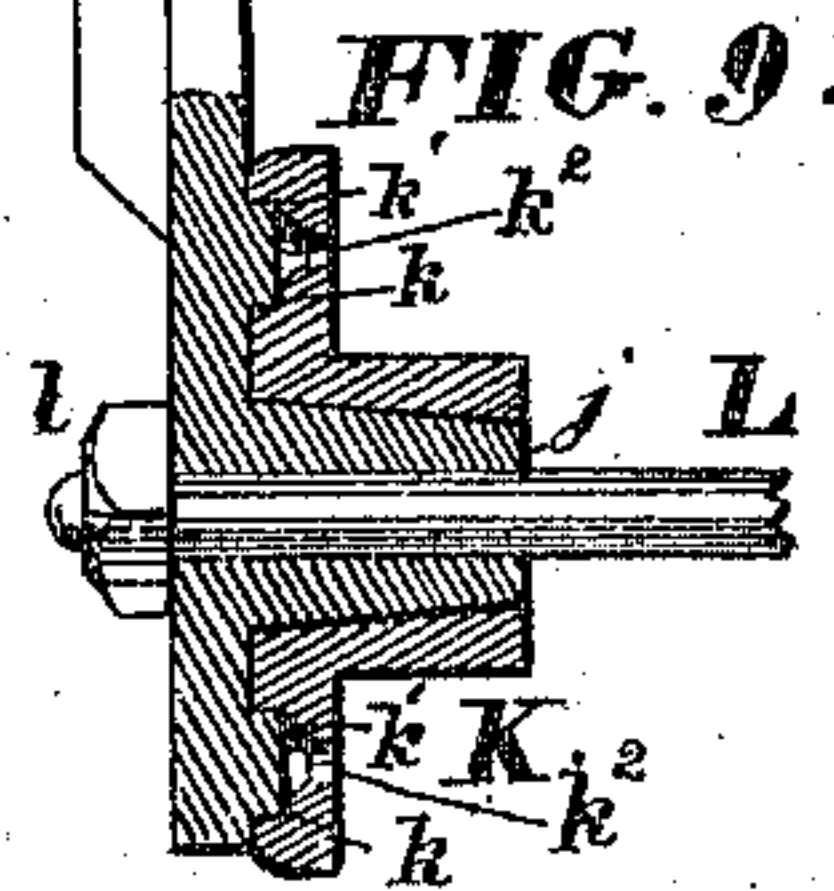


FIG. 6.

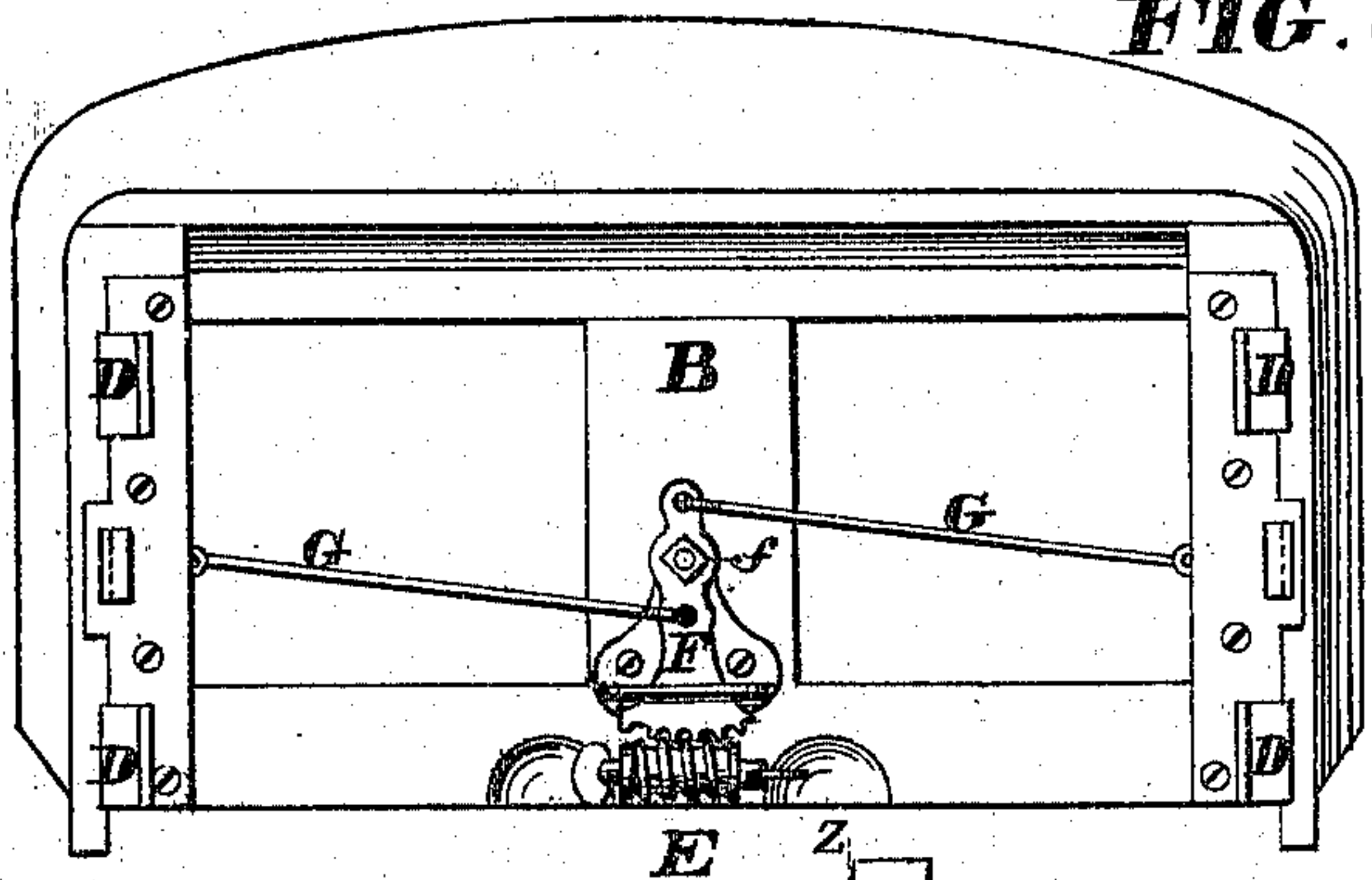


FIG. 11.

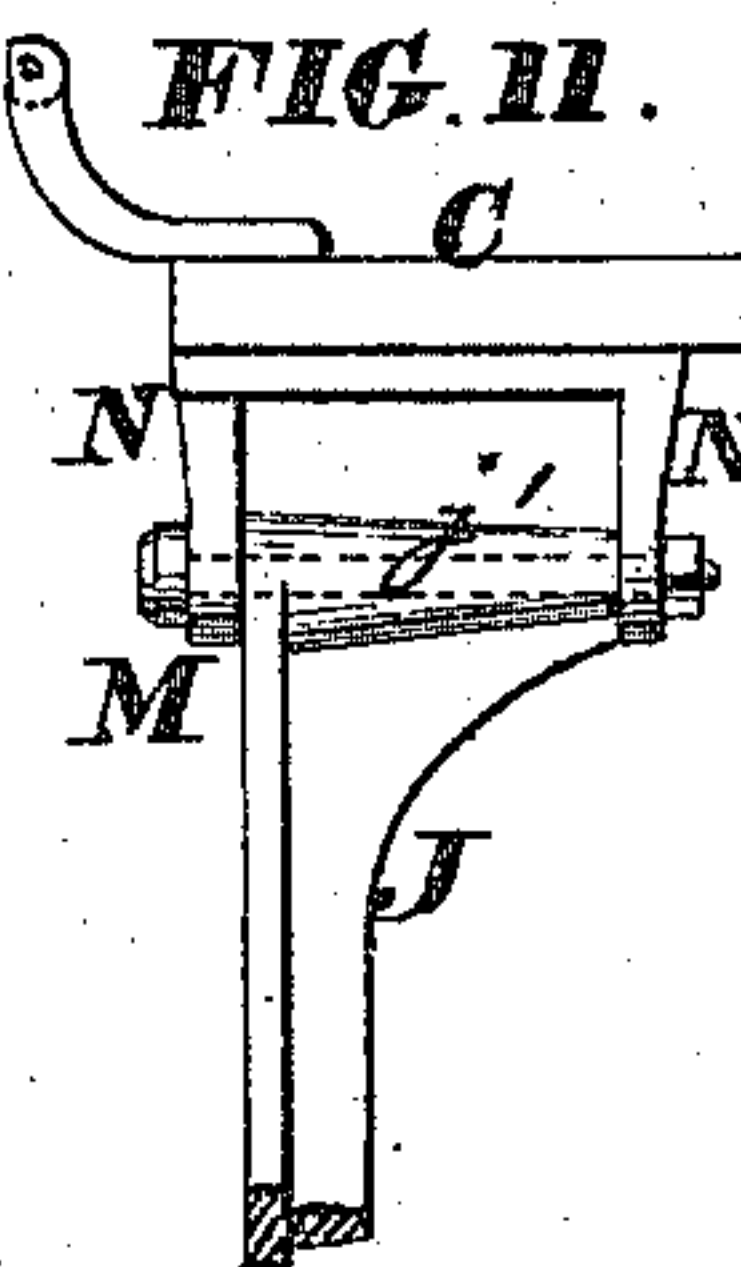


FIG. 7.

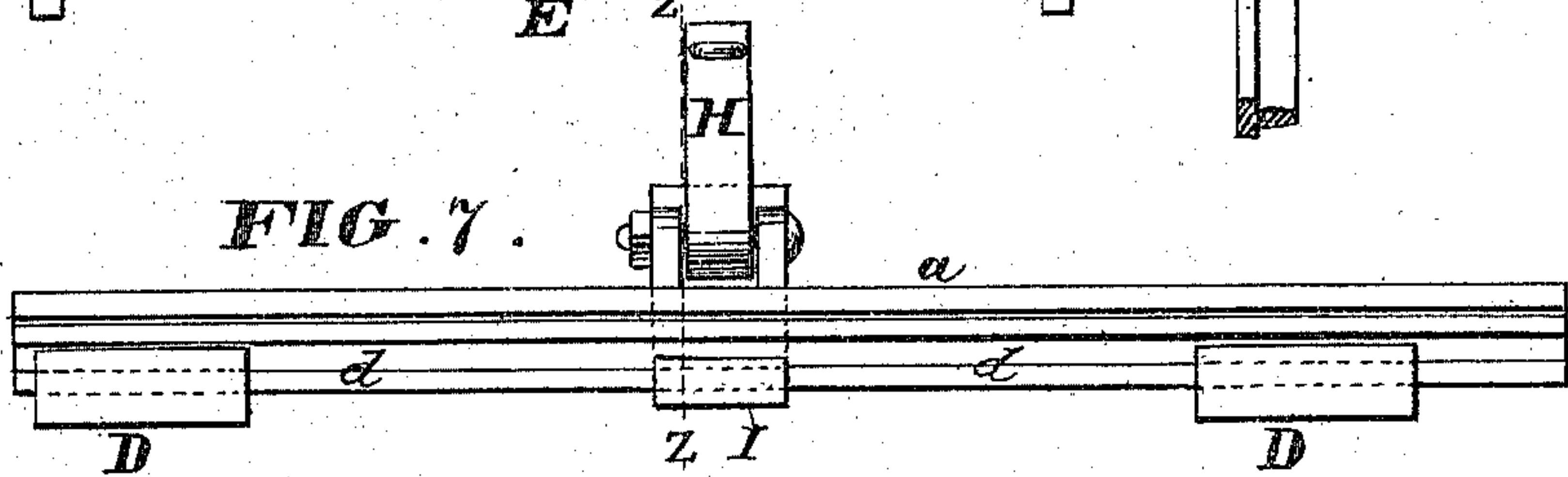
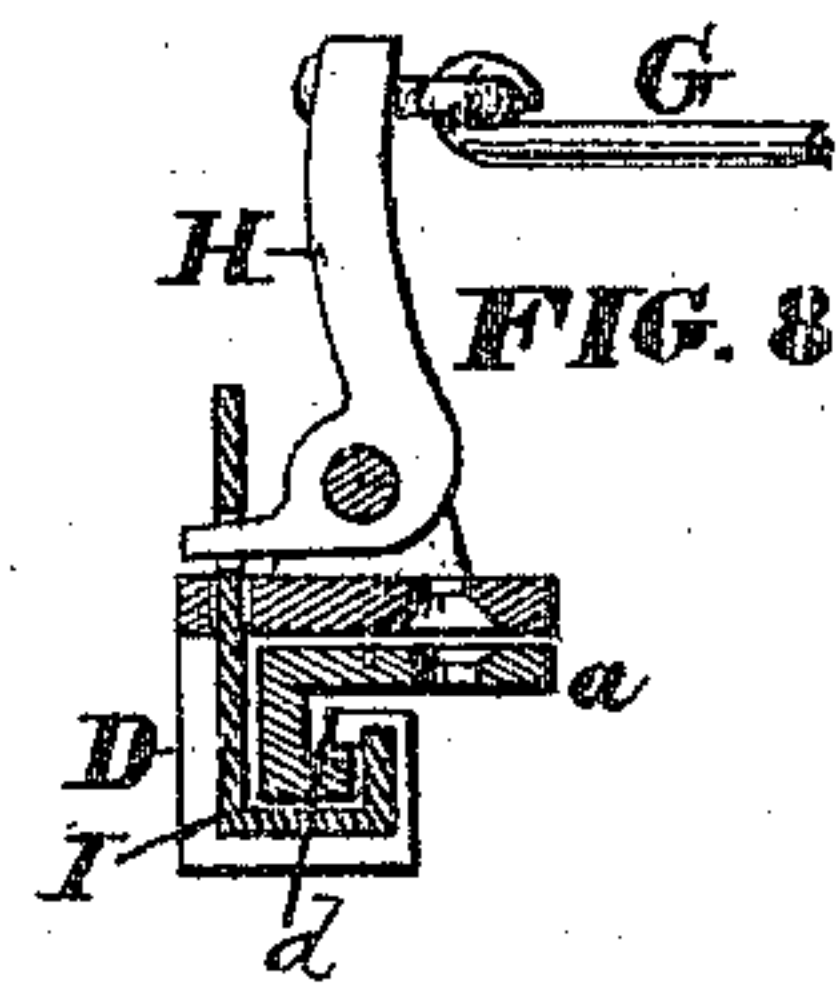


FIG. 8.



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# UNITED STATES PATENT OFFICE

JACOB N. MILLER, OF BELLEFONTAINE, OHIO, ASSIGNOR TO MILLER BROTHERS, OF SAME PLACE.

## IMPROVEMENT IN CARRIAGE-SEATS.

Specification forming part of Letters Patent No. **141,065**, dated July 22, 1873; application filed February 21, 1873.

*To all whom it may concern:*

Be it known that I, JACOB N. MILLER, of Bellefontaine, in the county of Logan and State of Ohio, have invented an Improved Shifting-Seat Buggy or Convertible Carriage, of which the following is a specification:

My improved vehicle is convertible, at will, into a double-seat carriage or single-seat buggy, either with or without top. The invention especially relates to the manner of supporting and operating the main seat, which is fitted to slide on concealed guides; also, to devices for locking the said seat firmly in any desired position; also, to a device for limiting the movement of the said seat, and permitting its detachment, if necessary; also, to a mode of applying and operating a secondary or front seat, which may be set in three different positions, and to certain details in construction of the supports of the said seat.

In the accompanying drawings, Figure 1 is a plan or top view of a carriage-body with two seats, illustrating my invention. Fig. 2 is a vertical longitudinal section of the same on the line *x x*, Fig. 1. Fig. 3 is a vertical longitudinal section through the center, showing it arranged as a single-seat carriage. Fig. 4 is a vertical longitudinal section, showing the second arranged as a children's seat. Fig. 5 is a vertical transverse section on the line *y y*, Fig. 1. Fig. 6 is an under-side view of the rear seat. Fig. 7 is an elevation, showing one of the seat-rails and clamps in a preferred and modified form, and on a larger scale. Fig. 8 is a vertical section on the line *z z*, Fig. 7. Fig. 9 is a perspective view of one of the hinged legs of the front seat, on a still larger scale. Fig. 10 is a section through the axis of the said hinged leg. Fig. 11 is an elevation, showing another modification in construction of the hinged leg and front seat attachment.

A represents the bed or body of the vehicle. B C are two shifting seats. The main seat B is attached to the seat-risers *b b* by screws *s*, which permit separation, if necessary. Projecting downward and inward from the bottom of the seat-risers are slides D,

which extend around the rails *a* of the carriage body in the form of hooks, and rest in concealed grooves *d*, so that no friction will come on the tops of the rails or on any exposed part of the carriage. The sliding hooks D may be turned downward and rest at the bottom of the grooves *d*, as shown in Fig. 5, or they may be turned upward and inward so as to enter the grooves horizontally, as shown in Figs. 7 and 8. The effect is the same in either case. T T represent bolts or pins passed down through the seat, and engaging between stops *t t*, which project from the inner edges of the iron rails *a a*. This limits the sliding movement of the seat; but when the bolts T are withdrawn the seat may be slipped forward completely clear of the rails, and thus removed.

The arrangement described for supporting and guiding the seat causes it to slide freely without side friction or cramping, and without any rubbing of the paint or varnish.

To securely lock the seat B at any desired point, the following devices are employed: E is an endless thumb-screw or worm-cylinder working in bearings beneath the center of the seat near its front edge. The thread of this thumb-screw engages with teeth on the end of a lever, F, which is fulcrumed at *f* under the seat, its cogged end forming an arc concentric with the said fulcrum. G G are rods connected to the lever F on opposite sides of its fulcrum, so that one movement of the lever will draw both rods toward the center, and the opposite movement will relax both. The outer ends of the rods are connected to vertical bell-crank levers H H, which are fulcrumed within the base of the seat, and the short arms of which occupy holes in vertically-sliding clamps I I, the hooked lower ends of which engage under and around the rails *a*, so that the seat may be clamped to the rails by turning the screw E forward, and may be released by turning it backward. The peculiar advantages of the worm or screw are that it can be turned to adapt itself to a hair's thickness, and will remain just as it is left without working



loose. The front seat C is connected to the body by hinged legs J J, constructed with peculiar attachments or bearings at both ends. The lower end is formed with a tapering hollow stud, *j*, fitting within a metallic bushing or socket-piece, K, let into the sill of the carriage. The head or flange of the bushing K is formed on its face with an annular groove, *k*, shown in Fig. 10, which receives a corresponding annular flange, *k'*, on the leg J, as represented in section in Fig. 9. *k*<sup>2</sup> are holes to receive screws, by which the bushing or socket piece is secured to the sill of the carriage. The pivot-stud *j* is fastened in its socket by a bolt, L, and nut *l*. The upper ends of the legs may be bifurcated, as shown in Figs. 5 and 10, or formed with extended sockets, as in Fig. 11. In Figs. 5 and 11 they are secured by bolts M passing through lugs N attached to the under side of the seat. In Fig. 10, studs *m m*, projecting horizontally from the forked ends of the legs, are adapted to fit within the lugs N without requiring a separate bolt.

My preferred mode of constructing and securing the upper end of the leg is that shown in Fig. 11, in which it is formed with a very long eye or socket, *j'*, fitting between the two irons or lugs N N, and fastened by the bolt M. This affords perfect security against uneven or wobbling motion. These various modes of fastening the ends of the hinged legs, and affording extended bearings thereto, effectually prevent any lateral, uneven, or wobbling motion, as the seat is moved from one to another of the various positions presently to be described.

The rear edge of the front seat is supported by rigid legs P P, which rest in sockets *p*<sup>1</sup>, *p*<sup>2</sup>, or *p*<sup>3</sup>, according to the position of the seat. The seat-backs Q Q are constructed with pivot-hooks *q q*, fitting in sockets R prepared for them in the center of the seats. This mode of attaching the backs permits them to be readily removed and replaced, and when they are in position affords them firm support without nuts or other fastenings. If, moreover, they are made singly, or two single backs to each double seat, as illustrated in Figs. 1, 4, and 5, they may be revolved so as to face in either direction without removing them from their sockets, or may be placed endwise against the arms O of the seat if not wanted. In Fig. 4 I have shown one of the backs turned toward the dash and the other folded down, as not in use.

Cushions and upholstery are omitted for clearness of representation of the parts to which my invention relate.

I employ in connection with my convertible buggy and carriage either a calash top of common form or an extensible top of any suitable construction, which may be adapted for either one or two seats.

My mode of applying and operating the sliding seat B possesses a great advantage in

permitting the back part of the carriage to be completely covered in, the seat sliding over the said covered part without contact.

Figs. 1 and 2 show the parts arranged to constitute a complete two-seated carriage, the main seat B being in its rearmost position, and the front seat C in its central and elevated position, its rear legs P resting in the sockets *p*<sup>2</sup>. To change it to a single-seat buggy the backs and arms of the front seat are folded down, and the said seat set back and down to the position shown in Fig. 3, with the legs P in the rear sockets *p*<sup>3</sup>. The main seat B is then unclamped and slipped forward over the seat C and there fastened. If a child's seat be desired in front the seat C is lowered toward the front instead of toward the back, and the legs P then occupy the sockets *p*<sup>1</sup>. This arrangement is represented in Fig. 4, one of the backs being shown folded down, as not in use. The main seat B may now be set in any desired position.

I do not claim, broadly, a carriage with a sliding main seat and a movable second seat adjustable in three positions, so that it may be used either as a child's seat or a driving-seat, or disused entirely, as I am aware that such vehicles have been made before.

I am aware that a seat has been made to slide on rails arranged within the outer sides of the carriage bed or body; but, as these rails were exposed to view from above, the object of this part of my invention—to wit, having the seat-supports to slide on concealed rails—was not attained. Another great advantage of my invention consists in arranging the guides and supports of the sliding seat on the outer sides of the bed or body, so that the rear part may be entirely closed in and paneled. This arrangement is also useful in preventing any spreading of the sides. I am also aware that a movable seat has been arranged to be used as a child's seat by turning it over against the dash.

My front seat is adjustable without inversion, and I am thus enabled to provide a handsome cushioned seat in each position.

The following is claimed as new:

1. The seat B supported on ways *d*, concealed beneath the upper plates or rails of the sides of the bed, substantially as set forth.
2. The slides D extending around the outer and upper edges of the sides of the body, so as to avoid any interference with closing in and paneling the top of the rear part of the bed, substantially as set forth.
3. The screw-cylinder E, lever F, rods G G, bell-crank levers H H, and clamps I I, combined and arranged to operate in connection with the seats B and rails D, substantially as set forth.
4. The bolts or pins T and stops *t* employed to limit the movement of the seat B in the manner substantially as set forth.
5. The movable front seat C attached by

hinged legs J, and having short rear legs P on which it rests when in either position, in combination with the sockets  $p^1$ , which support it in position for a driving-seat, substantially as set forth.

6. The construction and combination of the bearing or bushing K  $k$ , stud  $j$ , bolt L, and hinged leg J, substantially as set forth.

7. The seat-backs Q constructed with pivot-hooks  $q$  and supported by sockets R, arranged centrally between the front and rear edges to admit of reversing the said backs, substantially as set forth.

Witnesses: JACOB N. MILLER.

S. P. MILLER,  
J. P. COST.