

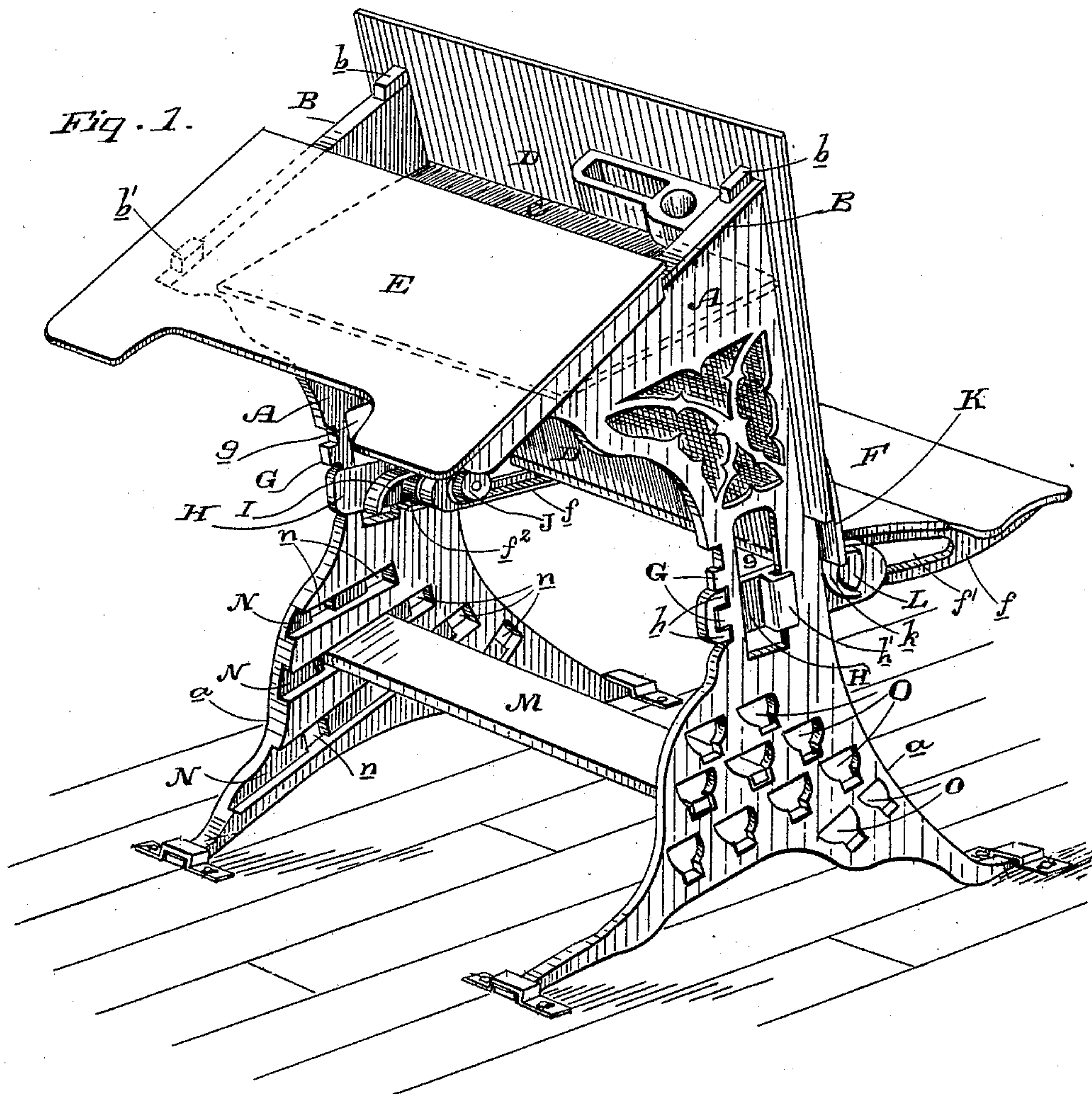
(No Model.)

2 Sheets—Sheet 1.

C. B. TOWLE.
SCHOOL DESK.

No. 436,642.

Patented Sept. 16, 1890.



Witnesses,
Geo. H. Strong
J. H. Morse

Inventor,
Charles B. Towle
By Dewey & Co.
attys

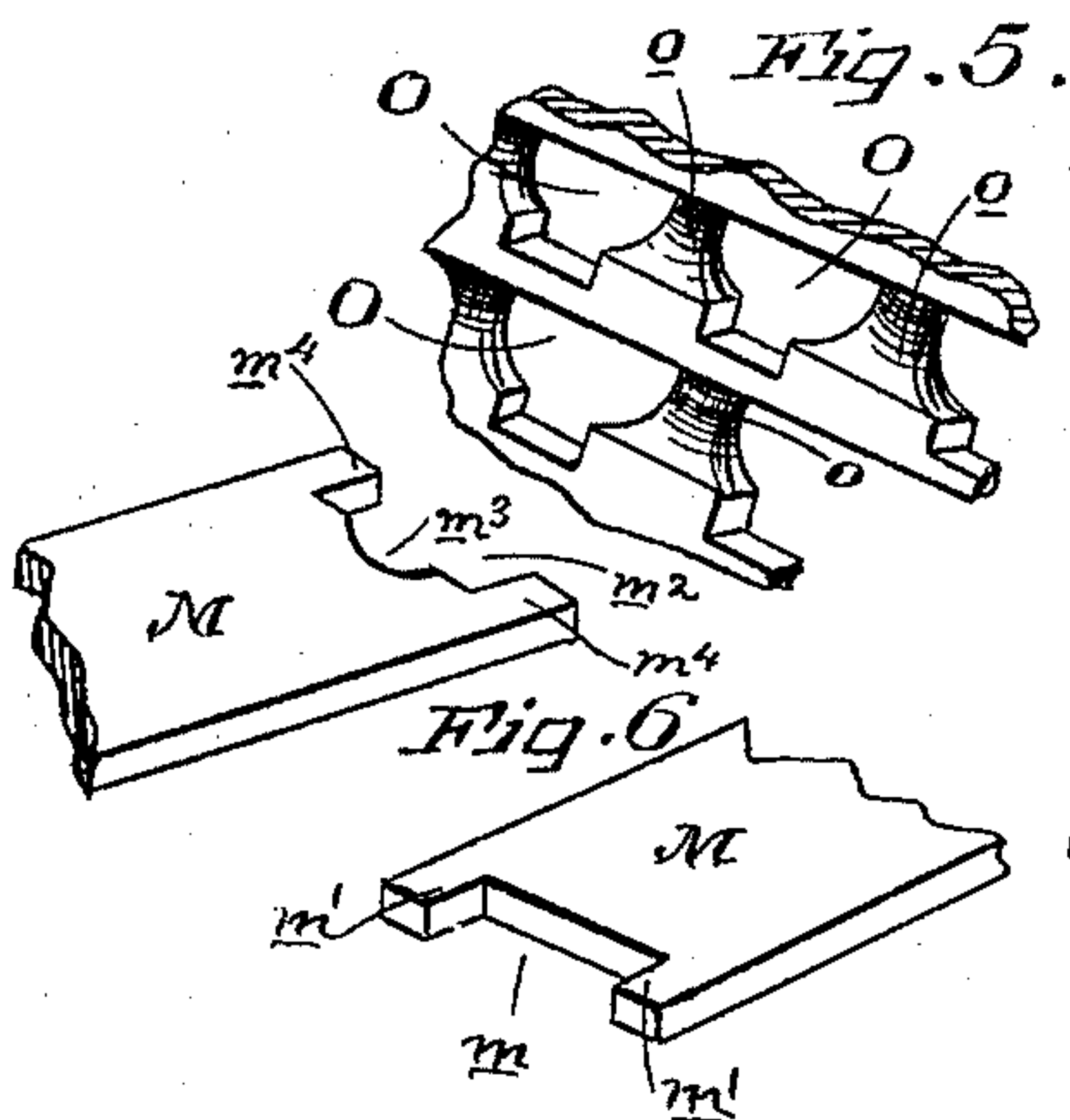
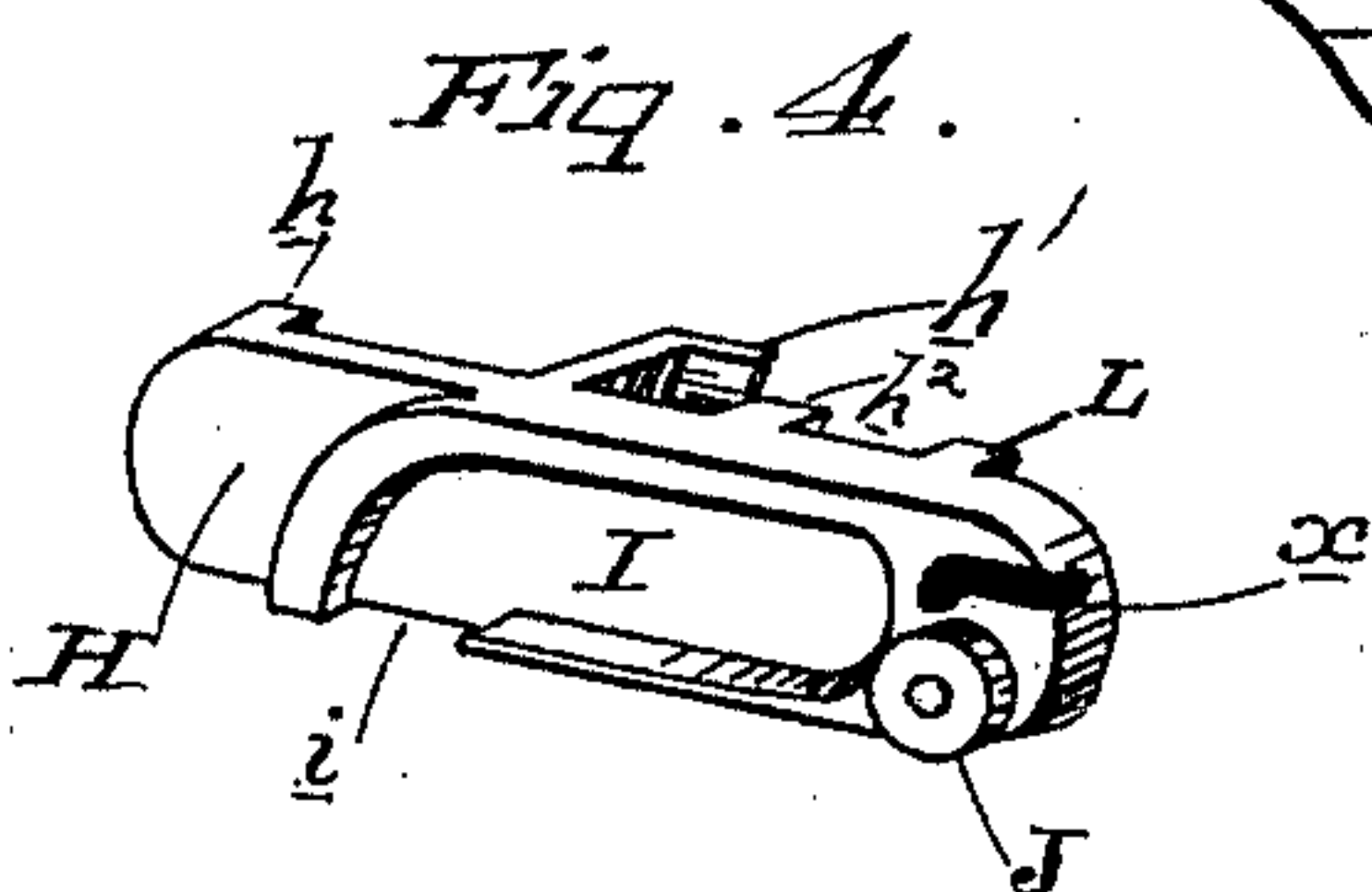
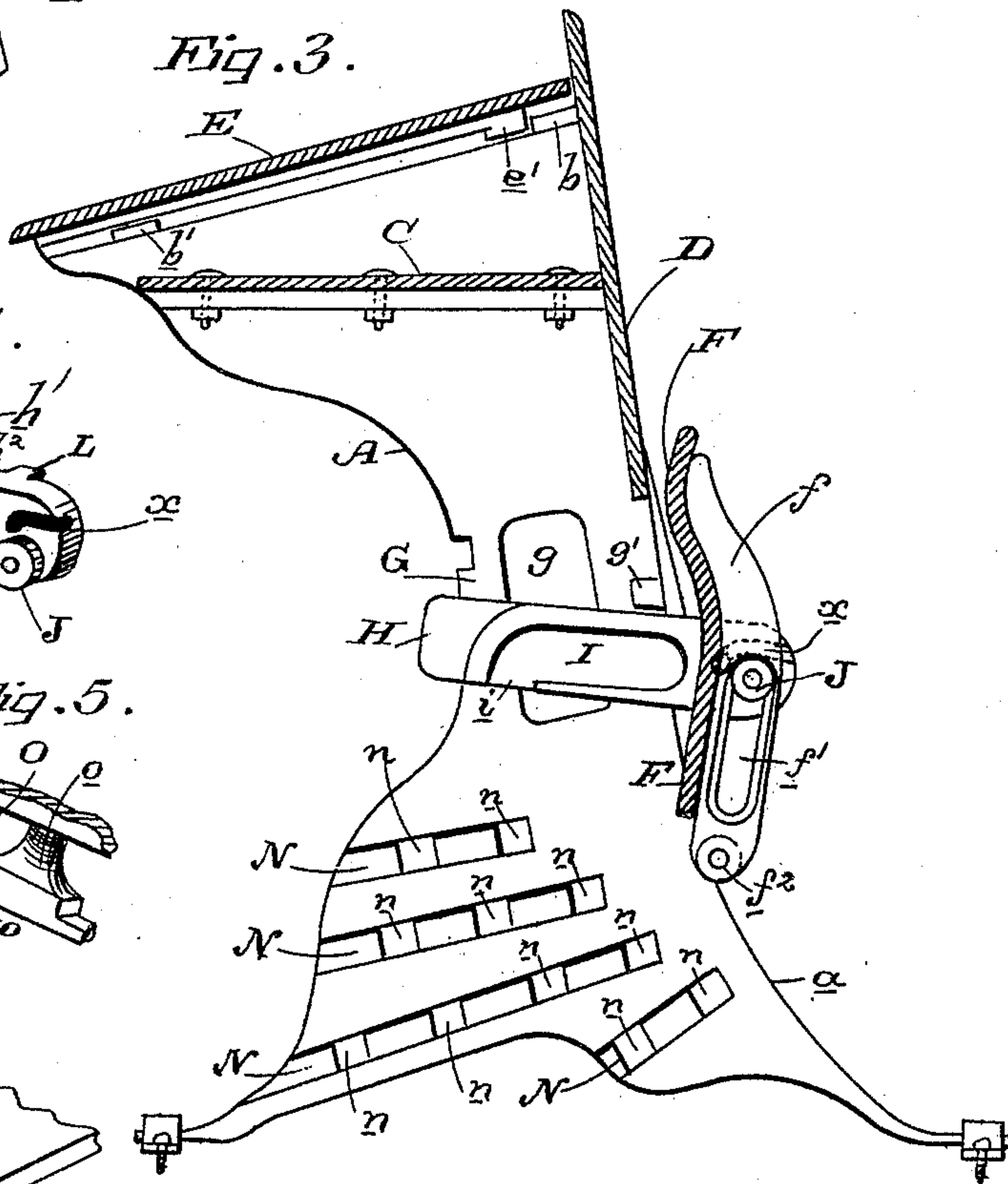
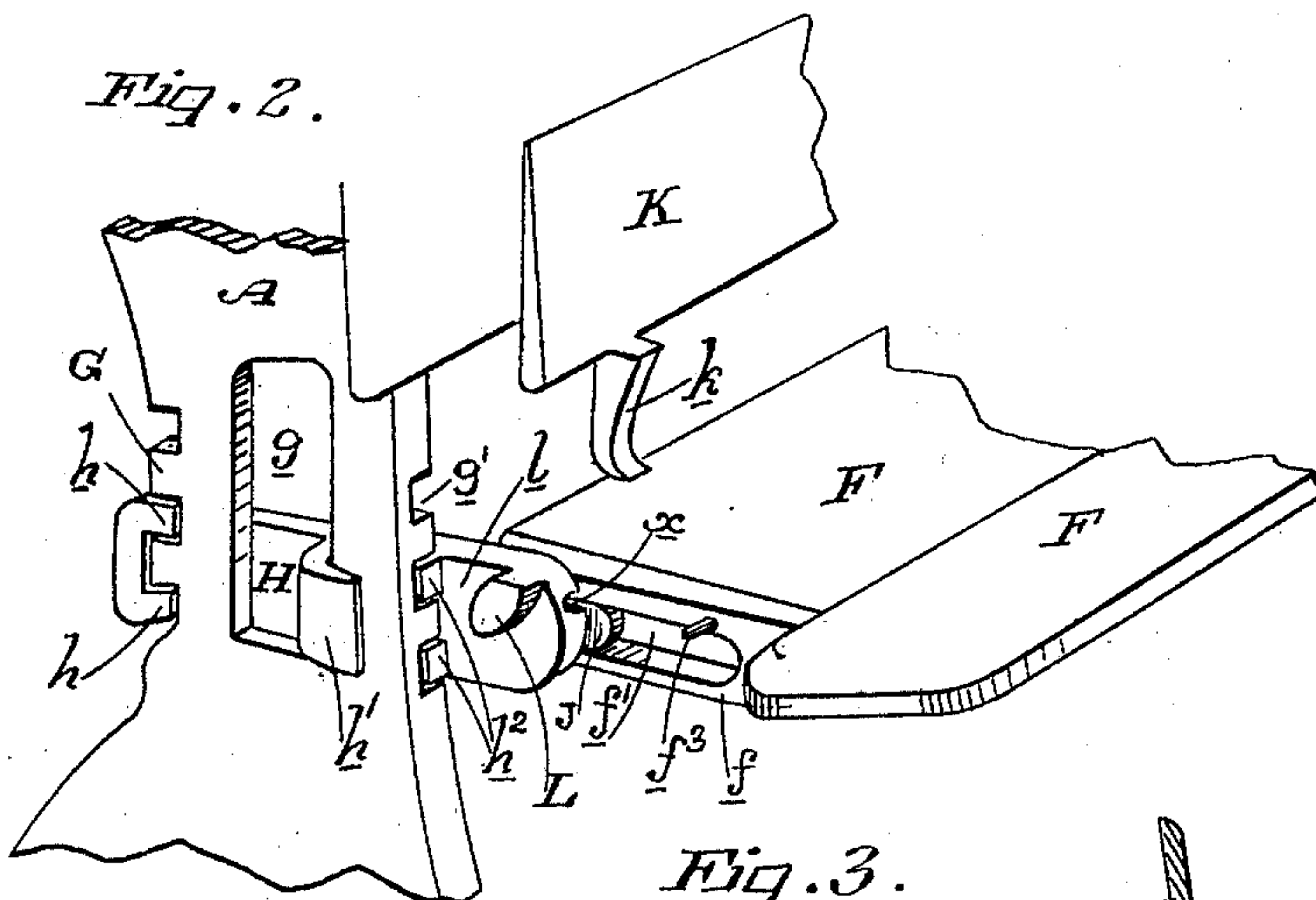
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UNITED STATES PATENT OFFICE.

CHARLES B. TOWLE, OF VALLEJO, CALIFORNIA.

SCHOOL-DESK.

SPECIFICATION forming part of Letters Patent No. 436,642, dated September 16, 1890.

Application filed February 5, 1890. Serial No. 339,303. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. TOWLE, a citizen of the United States, residing at Vallejo, Solano county, State of California, have invented an Improvement in School-Desks; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of school-desks which are provided with a sliding or adjustable top, a vertically-adjustable seat, and a vertically-adjustable foot-rest.

My invention consists in the novel details of construction and arrangement relating to these several parts and to other features, all of which will be hereinafter fully described, and specifically pointed out in the claims.

The object of my invention is to provide a school-desk of this class, simple in construction and economical in manufacture.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of my desk, the sliding top being partially drawn down. Fig. 2 is a detail perspective showing the adjustable seat. Fig. 3 is a vertical section of my desk. Fig. 4 is a perspective of bracket H. Fig. 5 is a perspective of the lower portion of one of the standards, showing the holes O. Fig. 6 is a view of the two ends of the foot-rest.

A are the sides of the desk, the lower portion of which forms the legs *a*. These sides are to be made of cast metal of proper design. Their tops are formed with outwardly-projecting flanges B, which serve as guides for the sliding top. The sides A are held firmly and rigidly together by the intervening plate C, which is supported between them.

D is the back of the desk, which serves as the back of the seat, said back being secured properly and rigidly to the front edges of the sides A.

E is the sliding top of the desk, the movement of which is limited and defined by means of the metal stops *b* at the upper ends of the tops of the sides and the metal stops *b'* at their lower ends. Between these stops and adapted to come in contact with them are the wooden stops *e'* under the sliding top. The top can therefore be pulled down toward the person only a certain distance, whereby it is prevented from being pulled off entirely, and

in being moved up again it comes to its closed position with accuracy, both limitations being effected without noise, as the contact is between wood and iron.

F is the seat of the desk. This is secured and is rendered vertically adjustable by the following construction: On the rear edges of the sides of the desk, about midway of their length, are formed the vertical series of teeth G. In the sides of the desk are formed the openings *g*, and upon the sides on their inner surfaces forward of these openings are formed the vertical series of grooves *g'*.

H are brackets having at their inner or back ends on their outer surfaces the notched projections *h*, which are adapted to fit the teeth G on the rear edges of the sides A. These brackets have also on their outer surfaces, near the middle portions, the grooved or flanged projections *h'*, which extend through the openings *g* in the sides of the desk and overlap the sides forward of said openings. The brackets are also provided on their outer surfaces with lugs *h²*, which are adapted to enter the grooves *g'* on the inner surfaces of the sides.

The brackets are connected with the sides by first placing them on the inner surface thereof with their flanged or grooved projections *h'* opposite the openings *g*. Said projections are then passed through the openings, and the brackets are moved forwardly until the projections overlap the outer surface of the sides forward of the openings. The notched rear projections *h* engage the teeth G on the back edges of the sides, and the lugs *h²* engage the grooves *g'* on the inner surfaces of the sides. Thus the brackets are held firmly, and when it is desired to vertically move them they are moved backwardly until their various engagements are broken, whereupon they may be moved up or down; and upon being moved forwardly again come to proper engagement once more in their new position. The seat, being secured to these brackets, is thereby moved up and down with them, and consequently vertically adjusted.

The manner of securing the seat to the brackets is as follows: On the inner surface of the brackets is formed a rearwardly-extending groove I, the back end of which turns downwardly and is open below, as shown at *i*.

Under the seat *F* are the usual seat-irons *f*, which have in their inner ends the elongated slots *f'*. Secured to the outer surface of the rear ends of these irons are the anti-friction rollers *f*², which are fitted and adapted to travel in the grooves *I* of the brackets, and on the forward ends of the inner surface of the brackets are mounted the anti-friction rollers *J*, which are adapted to travel in the slots *f'* of the seat-irons. Now when the seat is extended to its forward position for use, the rollers *f*² of the seat-irons are limited by the forward ends of the grooves *I*, and the rollers *J* of the brackets limit the rear ends of the slots *f'* of the seat-irons, so that the seat is thereby supported firmly upon two bearings and is held well in position. To turn it to a position out of the way, the seat is run back, moving on its two sets of rollers until the rollers *f*² reach the curved inner ends of the grooves *I*, whereupon the seat may be turned to a vertical position, its rollers passing out of the open ends *i* of the grooves, the whole seat turning about the bracket-rollers *J* as fulcrums.

On the outer side of the seat-irons *f* are fixed the stops *f*³, which when the seat is pushed back enter grooves *x* on the inner surface of the front ends of brackets, and come to a stop in the base of said grooves. These stops serve two purposes—namely, prevent the seat from being raised bodily when in a position out of use, and also prevent the seat when pushed back from coming in contact with the locking-bar *K*. It will be observed that the front of the seat *F* is made longer than the back portion. This is for the purpose of making the seat practically as long as the desk is wide and yet have its back portion short enough to play between the brackets *H*.

K is the locking-bar, which also forms the continuation between the rear end of the seat and the back of the desk. This bar also serves as a positive lock for holding the brackets *H* in place. The forward ends of the brackets on their outer surfaces are provided with curved backed lugs *L*, forming between themselves and the forward edges of the sides *A* hook-shaped spaces *l*. The bar *K* is provided on its lower edge with corresponding hook-shaped arms *k*. By holding the bar at an angle forwardly these hook-shaped arms are adapted to enter the corresponding spaces *l* between the brackets and side *A*, and as they fit to place the bar is turned to its proper position against the back of the desk, its arms passing down in the spaces between the lugs *L* and the forward edges of the sides *A* of the desk and serving as wedges to hold the brackets firmly, and at the same time, by reason of their shape, preventing the bar *K* itself from being accidentally raised from place by the movement of the scholar in getting up from the seat.

M is the foot-rest. This is adjustably connected with the legs *a* of the desk by the fol-

lowing construction: On the inner surface of one of the legs of the desk are made inclined grooves *N* in vertical series. In the bottoms of these grooves are made at intervals the openings *n*, which pass entirely through the legs. In the other leg *a* of the desk, on its inner surface is made a vertical series of openings *O*, having straight bases and enlarged tops. Between the straight bases of the openings the material is left of normal thickness, but between the enlarged tops of the openings it is grooved or shallowed out, as shown at *o*. One end of the foot-rest *M* is formed with a plain notch *m*, leaving on each side the two projections *m'*. The other end of the foot-rest is formed with a notch *m*², the center of which is slightly indented, as shown at *m*³, said notch leaving on each side the projections *m*⁴. Now, in inserting the foot-rest to place, the last-named end (the right) is directed toward the right leg of the desk, and its points or projections *m*⁴ are caused to enter the enlarged tops of the openings *O*. The insertion is far enough, by reason of the indented base *m*³ of the groove or notch *m*² and the grooved intervening part *o* between the holes *O*, to permit the other end of the foot-rest to just enter its points *m'* in one of the grooves *N* of the other leg. The foot-rest is then pushed in at this last-named end (the left) until it is in a straight position, with its points or projections *m'* opposite two of the holes *n*. Thereupon it is slipped lengthwise, so that said points or projections enter the holes, and this movement brings the right-hand end of the foot-rest far enough over to allow its projections *m*⁴ to drop into the straight bases of the openings *O* and its notch *m*² to snugly embrace the thick material between said openings. In this position the foot-rest cannot be moved endwise or sidewise, and is firm in its position. Now to change it, so as to alter its position up or down or forward or back, or to remove it wholly, its right-hand end is raised, so that its projections *m*⁴ come up into the enlarged tops of the openings *O* and its indented notch *m*² comes opposite the groove *o* between said openings, whereupon it is pushed endwise to the right, so that the projections on its other end are freed from the openings *n* in the leg; but the movement is not sufficient to carry said projections out of the grooves *N*, so that while the rest may be moved in or out it cannot be accidentally kicked down or dropped while being changed. It is now turned outwardly to an angle until its left-hand end is free of the groove *N* and of the leg, whereupon its right-hand end may then be removed and the operation of putting it in again repeated.

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

1. In a school-desk, the combination of the sides thereof, having teeth and grooves on opposite edges, the vertically-adjustable seat-brackets having projections to fit said teeth

and grooves, said brackets having grooved inner surfaces, and a seat adapted to be placed on said brackets and having rollers fitting the grooved sides thereof and provided with a back portion which is short enough to lie and play between the brackets and a front portion longer to approximate the width of the desk, substantially as herein described.

2. In a school-desk, the sides thereof having on their back edges the vertical series of teeth *G*, the openings *g*, and the vertical series of grooves *g'* on their inner surfaces, in combination with the vertically-adjustable seat-brackets *H*, having at their rear ends the notched projections *h*, adapted to fit the teeth of the sides, the flanged projections *h'*, passing through the openings of the sides, and the lugs *h*², engaging the grooves of the sides, substantially as herein described.

3. In a school-desk, the sides thereof having on their rear edges the vertical series of teeth *G*, the openings *g*, and on their inner surfaces the vertical series of grooves *g'*, in combination with the vertically-adjustable seat-brackets *H*, having on their rear ends the notched projections *h*, adapted to fit the teeth of the sides, the flanged projections *h'*, passing through the openings of the sides, and the lugs *h*², adapted to fit the grooves of the sides, and the locking-bar *K*, having hook-shaped arms *k*, and the curved-backed lugs *L* on the brackets leaving hook-shaped spaces *l* between them and the forward edges of the sides to receive the arms of the locking-bar, substantially as herein described.

4. In a school-desk, the brackets *H*, having on their inner surfaces the grooves *I* with open rear ends and at their forward ends the

anti-friction rollers *J*, in combination with the seat *F*, having the seat-irons *f* with elongated slots *f'* receiving the anti-friction rollers of the brackets, and the anti-friction rollers *f*² on the rear ends of the seat-irons fitting the grooves *I* of the brackets, substantially as herein described.

5. In a school-desk, the brackets *H*, having on the inner surfaces the grooves *I* with open rear ends and at their forward ends the anti-friction rollers *J* and stop-grooves *x*, in combination with the seat *F*, having the seat-irons *f* with elongated slots *f'* receiving the anti-friction rollers of the brackets, the anti-friction rollers *f*² on the rear ends of the seat-irons fitting the grooves *I* of the brackets, and the projecting stops *f*³ of said seat-irons adapted to enter the grooves *x* of the brackets, substantially as and for the purpose herein described.

6. In a school-desk, the sides *A*, having the leg portions *a*, the vertical series of grooves *N* on the inner surface of one of said legs having the openings *n*, the vertical series of openings *O* in the other leg, said openings having straight bases and enlarged tops, and the grooved or cut-away portions *o* between said tops, in combination with a foot-rest *M*, having the plain notch *m* at one end and the indented notch *m*² at the other end, substantially as herein described.

In witness whereof I have hereunto set my hand.

CHARLES B. TOWLE.

Witnesses:

JOS. R. ENGLISH,
J. W. BREED.