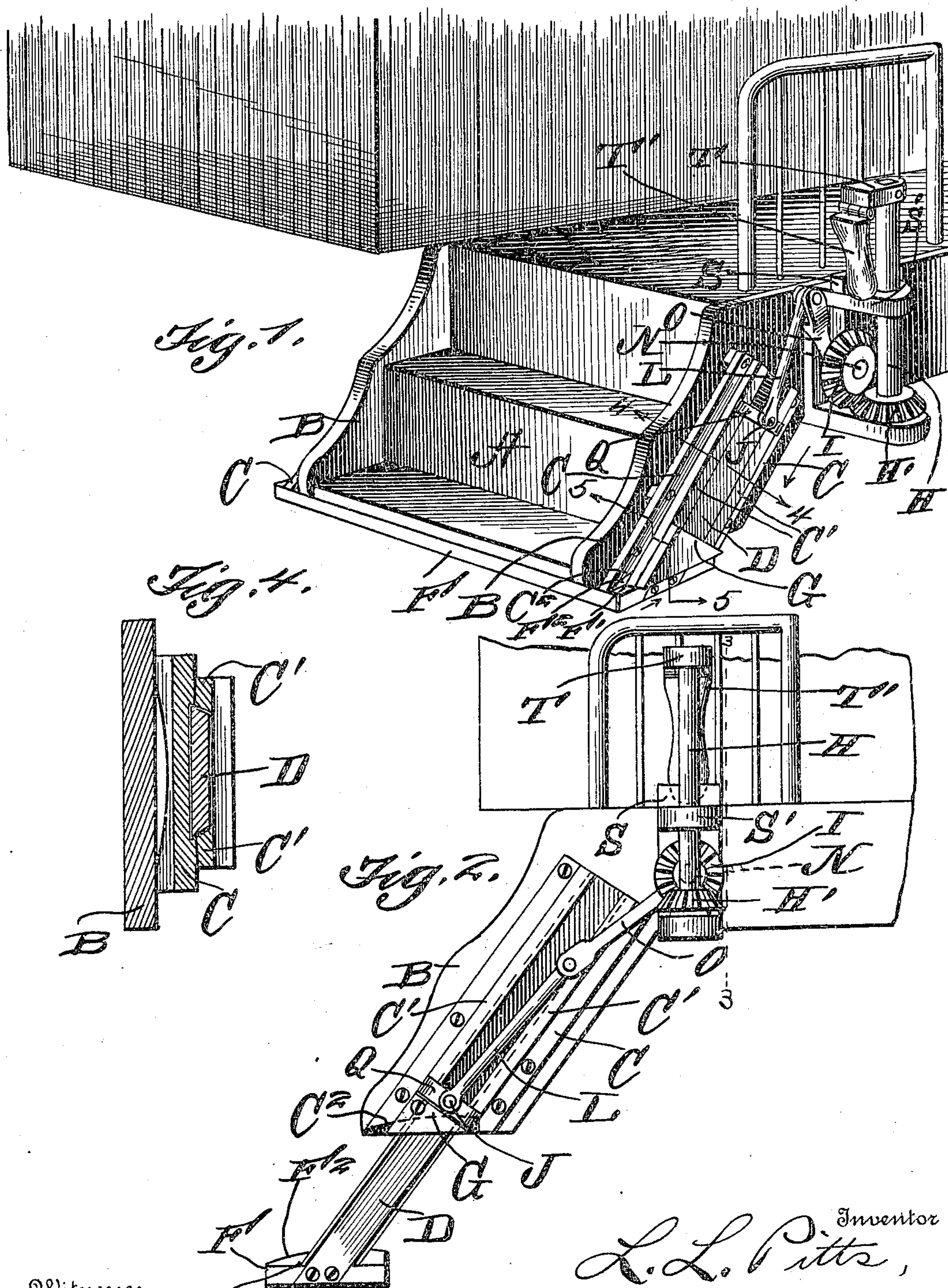


953,395.

L. LE F. PITTS.  
SLIDING EXTENSIBLE STEP.  
APPLICATION FILED AUG. 11, 1909.

Patented Mar. 29, 1910.

2 SHEETS—SHEET 1.



Witnesses

*R. H. Fowler*  
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*L. L. Pitts*  
By *Franklin D. Hays*  
Attorney

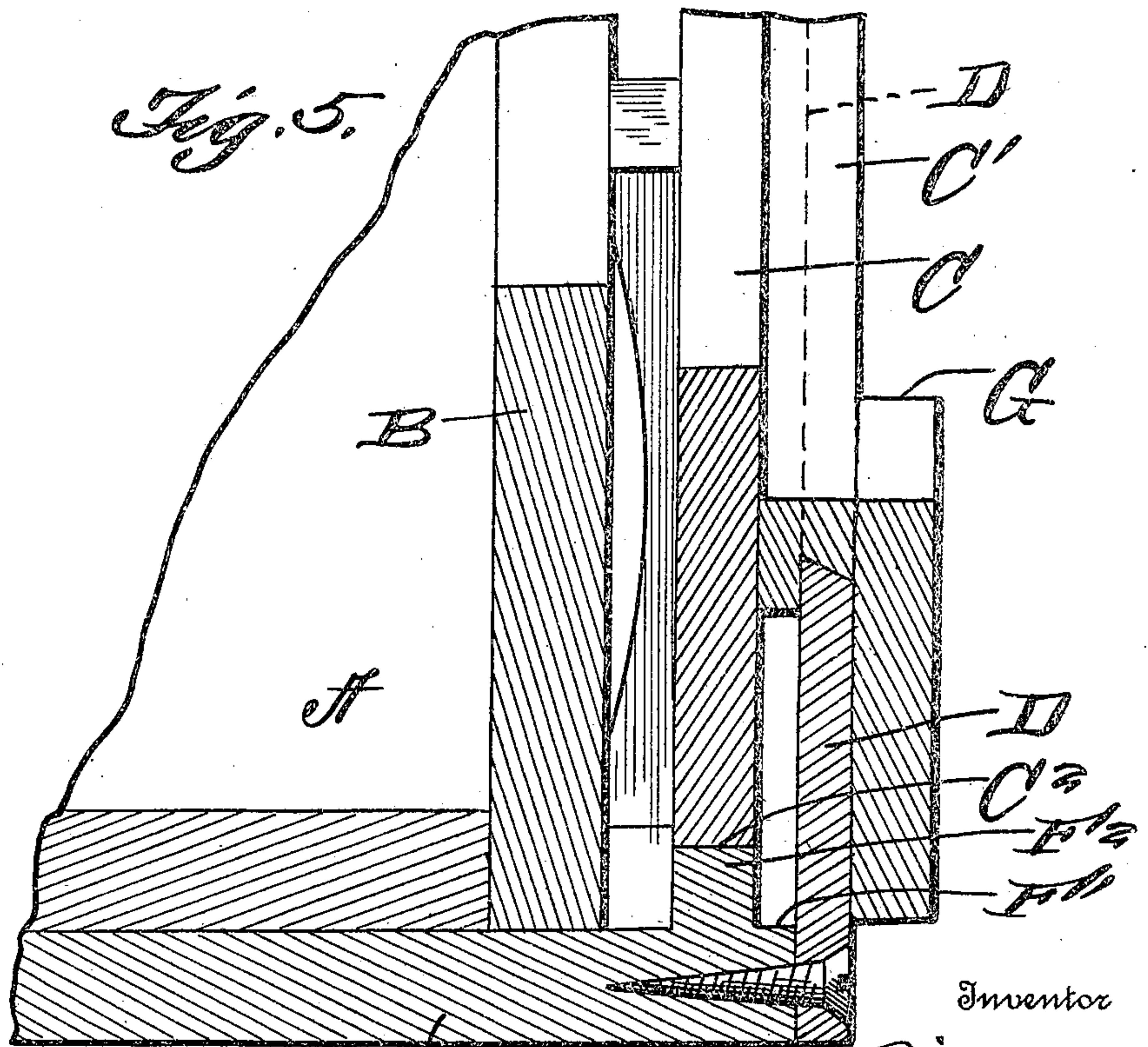
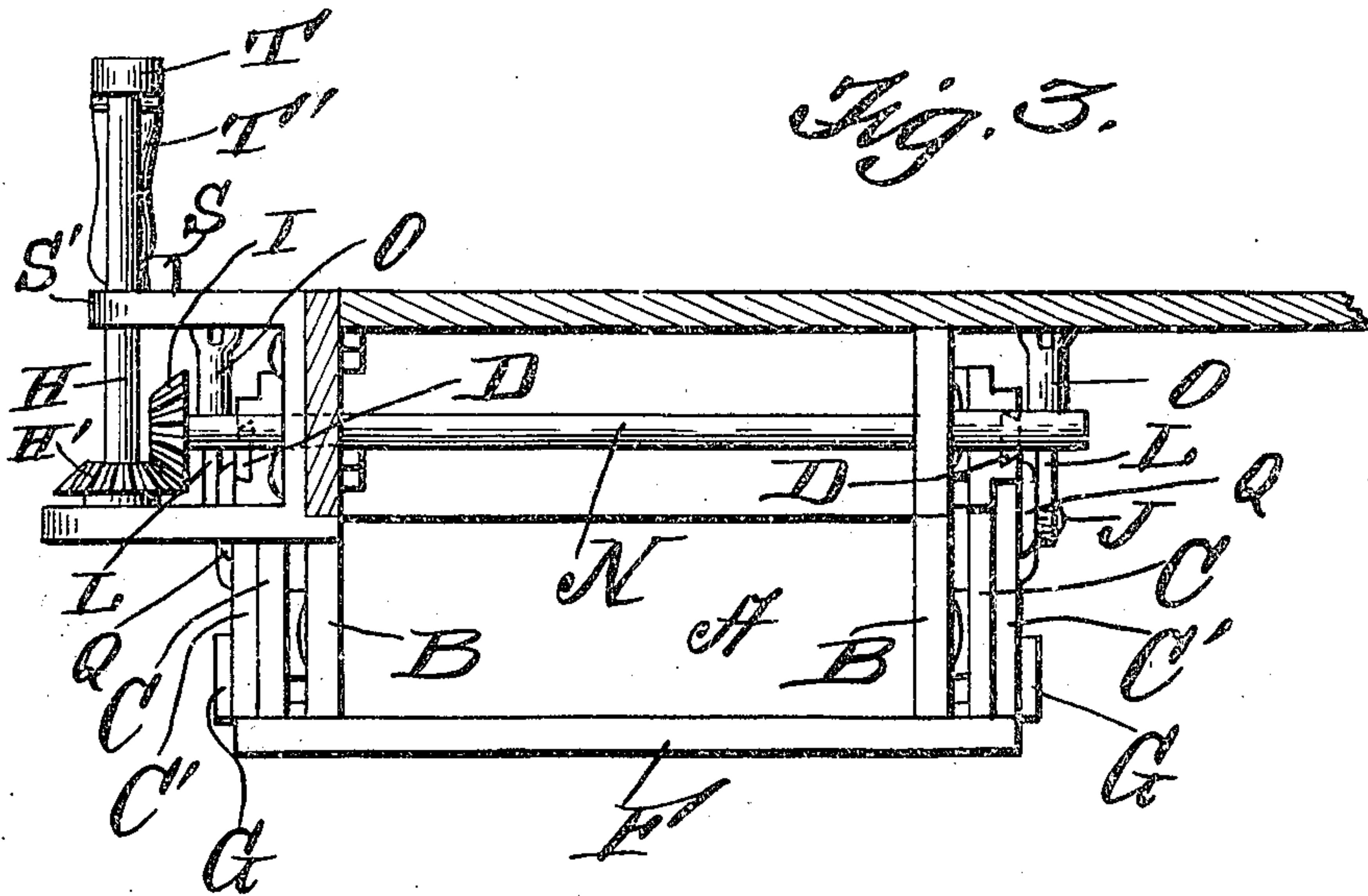


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Witnesses

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Inventor

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*By Franklin D. Hough*  
Attorney



# UNITED STATES PATENT OFFICE.

LON LEFORE PITTS, OF LOCUST GROVE, GEORGIA.

SLIDING EXTENSIBLE STEP.

953,395.

Specification of Letters Patent. Patented Mar. 29, 1910.

Application filed August 11, 1909. Serial No. 512,430.

*To all whom it may concern:*

Be it known that I, LON L. PITTS, a citizen of the United States, residing at Locust Grove, in the county of Henry and State of Georgia, have invented certain new and useful Improvements in Sliding Extensible Steps; and I do hereby 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 appertains 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 new and useful improvements in sliding folding steps for cars and comprises a simple and efficient device of this nature having various details of construction, combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a perspective view of a car step made in accordance with my invention with the lower step folded. Fig. 2 is a side elevation of the step showing the sliding folding step extended. Fig. 3 is a sectional view taken on line 3—3 of Fig. 2, showing parts in elevation. Fig. 4 is a sectional view on line 4—4 of Fig. 1, and Fig. 5 is an enlarged sectional view on line 5—5 of Fig. 1.

Reference now being had to the details of the drawings by letter, A designates the usual steps of a car to which my sliding extension step is adapted to be attached, it being understood that my device is so constructed that it may be readily applied to steps as usually constructed. To the outer faces of said rails B of said steps is fastened a plate C to which are fastened the guide plates C' spaced apart and their inner edges undercut, forming a dove-tail groove in which the dove-tail strips D have longitudinal movement. To the lower ends of said strips D is fastened the extensible step F which is positioned parallel with the steps A when withdrawn against the lower of the steps A or when extended. Said step F has a shouldered portion F' at each end adapted to receive the projecting ends of the guide plates C', as shown clearly in the sectional view of the drawings, said extending ends serving to hold the extensible step from lateral movement when folded. The

lower end of the plate C is recessed away as at C<sup>2</sup> forming means for receiving the flange F<sup>2</sup> formed at the end of the step F. It will be noted that, when the extensible step is folded, its outer marginal edge is flush with the bottom of the car steps.

Mounted in suitable bearings projecting from the sides of the steps A is a vertically disposed rotatable shaft H having a beveled gear wheel H' at its lower end which is in mesh with a similar gear wheel I fixed to the shaft N which is journaled in suitable bearings in projecting portions of sides of the step. Fixed to said shaft N, one adjacent to each end of the shaft, is an arm O pivotally connected to a link L which in turn is pivotally connected to a pin J which is secured to the strip D and also to the cross piece Q, thus forming means whereby, as the shaft H is given a partial rotary movement in one direction or the other, the sliding extensible step may be moved in one direction or the other. While in the drawings I have shown complete bevel gear wheels, it will be understood that these gears may be segments if desired, as it will only require a partial revolution of the wheel to accomplish the purpose for which they are intended.

Fastened to the lower ends of the plates C' and bridging the space intermediate the same is a plate G which is adapted to form a stop against which the cross piece Q extends to limit the downward movement of the extensible step.

Fixed to the upper end of the shaft H is a laterally projecting plate T to which a handle T' is pivotally connected and which, when not in use, is adapted to assume the position shown in Fig. 2 of the drawings in which it rests by gravity at right angles to said plate T and against the projection S upon the plate S' in which the vertical shaft H has a bearing, thus forming means whereby the step may be held at its highest throw or folded against the under surface of the lower of the steps A.

In operation, when it is desired to lower the extensible step, the handle T is thrown to a horizontal position and through the medium of said handle a partial rotary movement may be given to the shaft H which, through the gear connections, will cause the step to be extended. A reverse movement of the handle and shaft H will return the step to its normal raised position and, by drop-



ping the handle, the step will be automatically locked.

What I claim to be new is:—

1. A sliding extensible step comprising, in combination with the steps of a car, a plate secured to the sidings of the steps, guide strips mounted upon said plate and spaced apart and having their inner adjacent edges undercut, an extensible step, strips fastened thereto and having dove-tail edges working in the space intermediate said undercut steps, a rotatable shaft, link and gear connections between the same and said dove-tail strips, a handle for rotating said shaft, and means for locking the handle and shaft from rotation.

2. A sliding extensible step comprising, in combination with the steps of a car, a plate secured to the sidings of the steps, guide strips mounted upon said plate and spaced apart and having their inner adjacent edges undercut, an extensible step, strips fastened thereto and having dove-tail edges working in the space intermediate said undercut steps, a rotatable shaft, link and gear connections between the same and said dove-tail strips, a handle for rotating said shaft, means for locking the handle and shaft from rotation, and means for limiting the downward throw of the extensible step.

3. A sliding extensible step comprising, in combination with the steps of a car, a plate secured to the sidings of the steps, guide strips mounted upon said plate and spaced apart and having their inner adjacent edges undercut, an extensible step, strips fastened thereto and having dove-tail edges working in the space intermediate said undercut strips, a projection extending across said steps intermediate the guide strips, a cross-piece fixed to the dove-tail strips, a link connected to said cross-piece, a rotatable shaft, a handle fixed thereto, means cooperating with said handle for holding the shaft from movement in one direction, and gear connections between said shaft and link.

4. A sliding extensible step comprising, in combination with the steps of a car, a plate secured to the sidings of the steps, guide strips mounted upon said plate and spaced apart and having their inner adjacent edges undercut, an extensible step, strips fastened thereto and having dove-tail edges working in the space intermediate said

undercut strips, a projection extending across said steps intermediate the guide strips, a cross-piece fixed to the dove-tail strips, a link connected to said cross-piece, a vertically rotatable shaft mounted in suitable bearings, a handle fixed to said shaft, a gear wheel rotating with said shaft, a horizontally mounted shaft, a beveled gear upon the latter meshing with the gear upon the vertically disposed shaft, and an arm fixed to said horizontally disposed shaft and pivotally connected to said link.

5. A sliding extensible step comprising, in combination with the steps of a car, a plate secured to the sidings of the steps, guide strips mounted upon said plate and spaced apart and having their inner adjacent edges undercut, an extensible step, strips fastened thereto and having dove-tail edges working in the space intermediate said undercut strips, a projection extending across said steps intermediate the guide strips, a cross-piece fixed to the dove-tail strips, a link connected to said cross-piece, a vertically rotatable shaft mounted in suitable bearings, gear connections between said shaft and link, a plate secured to the vertically disposed shaft, a handle pivoted to said plate and hanging normally at right angles thereto, a projection upon the bearing of said vertically disposed shaft adapted to form a stop to prevent said shaft from turning when the handle hangs by gravity.

6. In combination with car steps, a plate fastened at each end thereof and having its lower end recessed, strips fastened to the outer face of said plate and spaced apart and having their inner edges undercut, an extensible step, a flange at each end forming a shoulder, said undercut strips projecting over a recess at the lower end of said plate and in which said flange is adapted to engage when the step is raised to its highest limit, dove-tail strips fastened to the extensible step and movable in said steps between the strips having undercut edges, and means for raising and lowering said extensible step.

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

LON LEFORE PITTS.

Witnesses:

F. L. WALKER,  
J. W. BONE.