

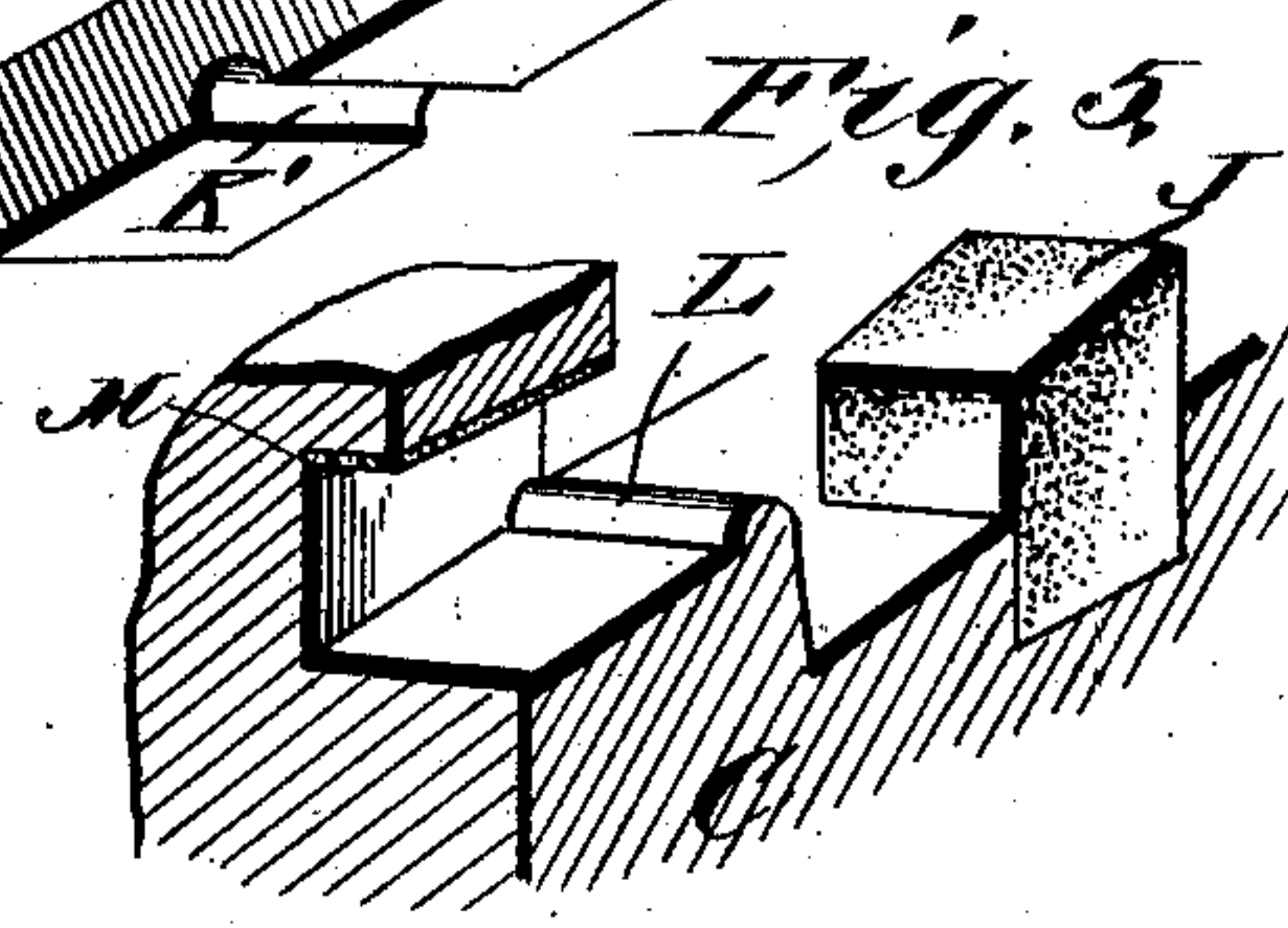
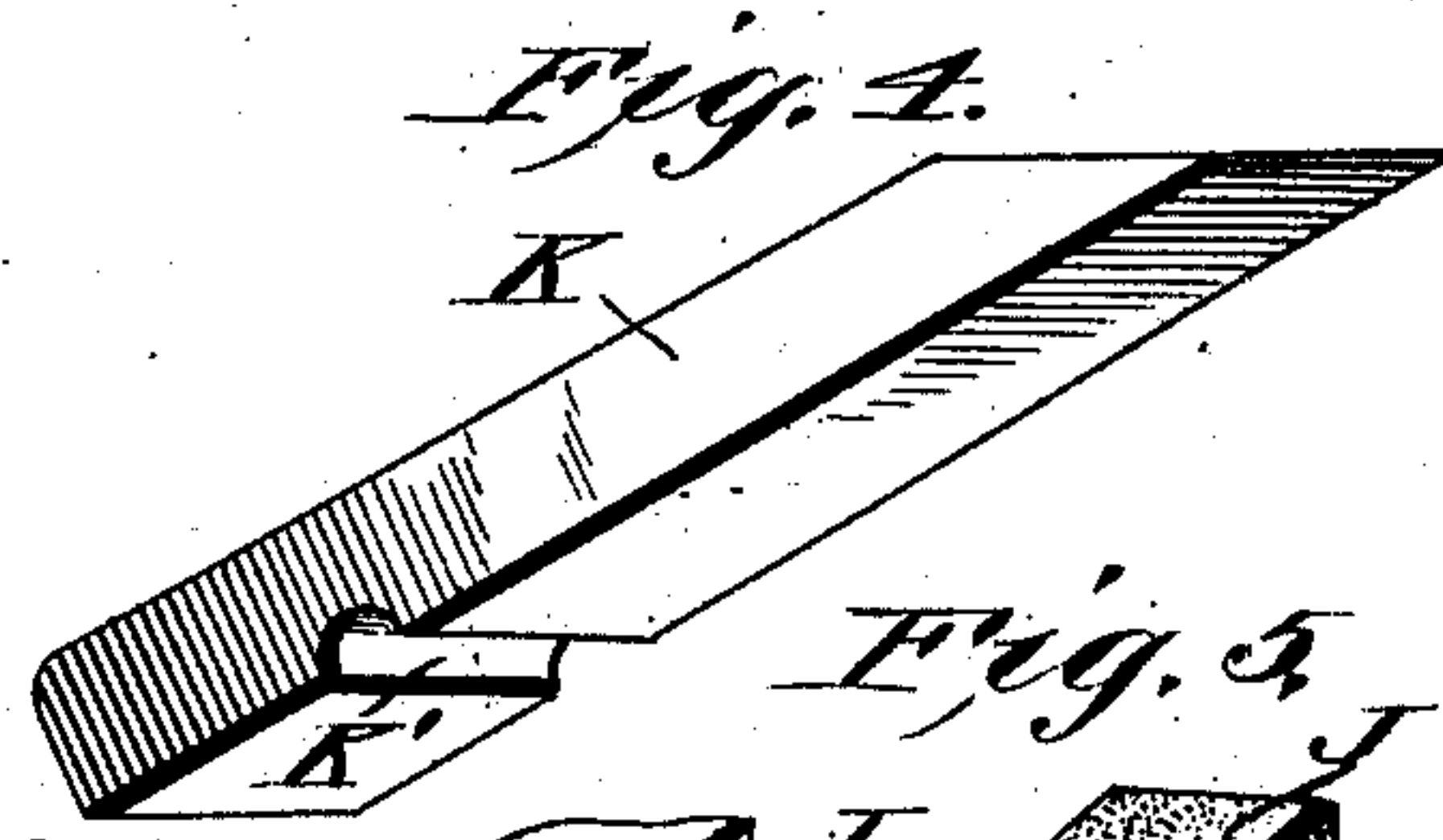
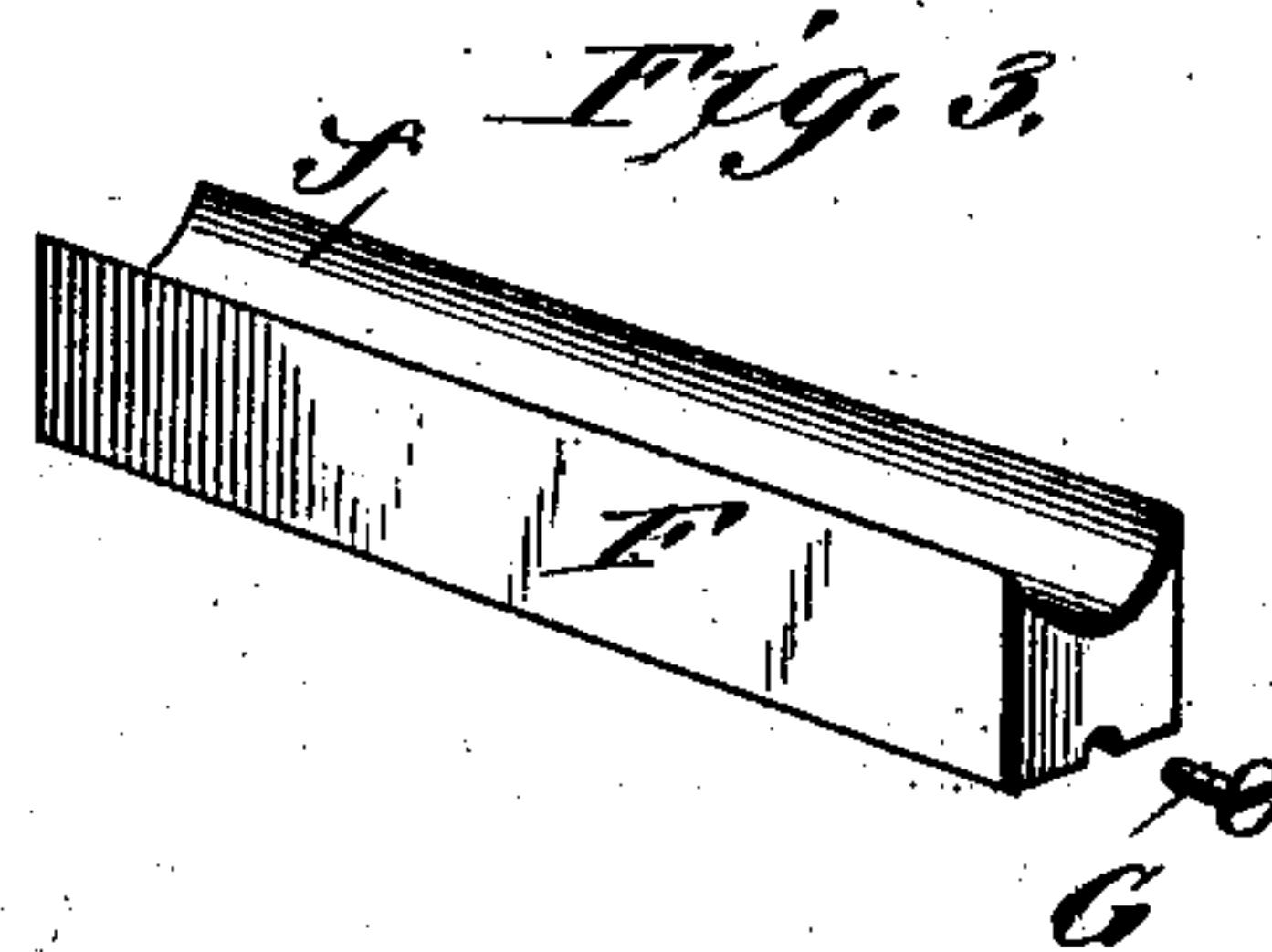
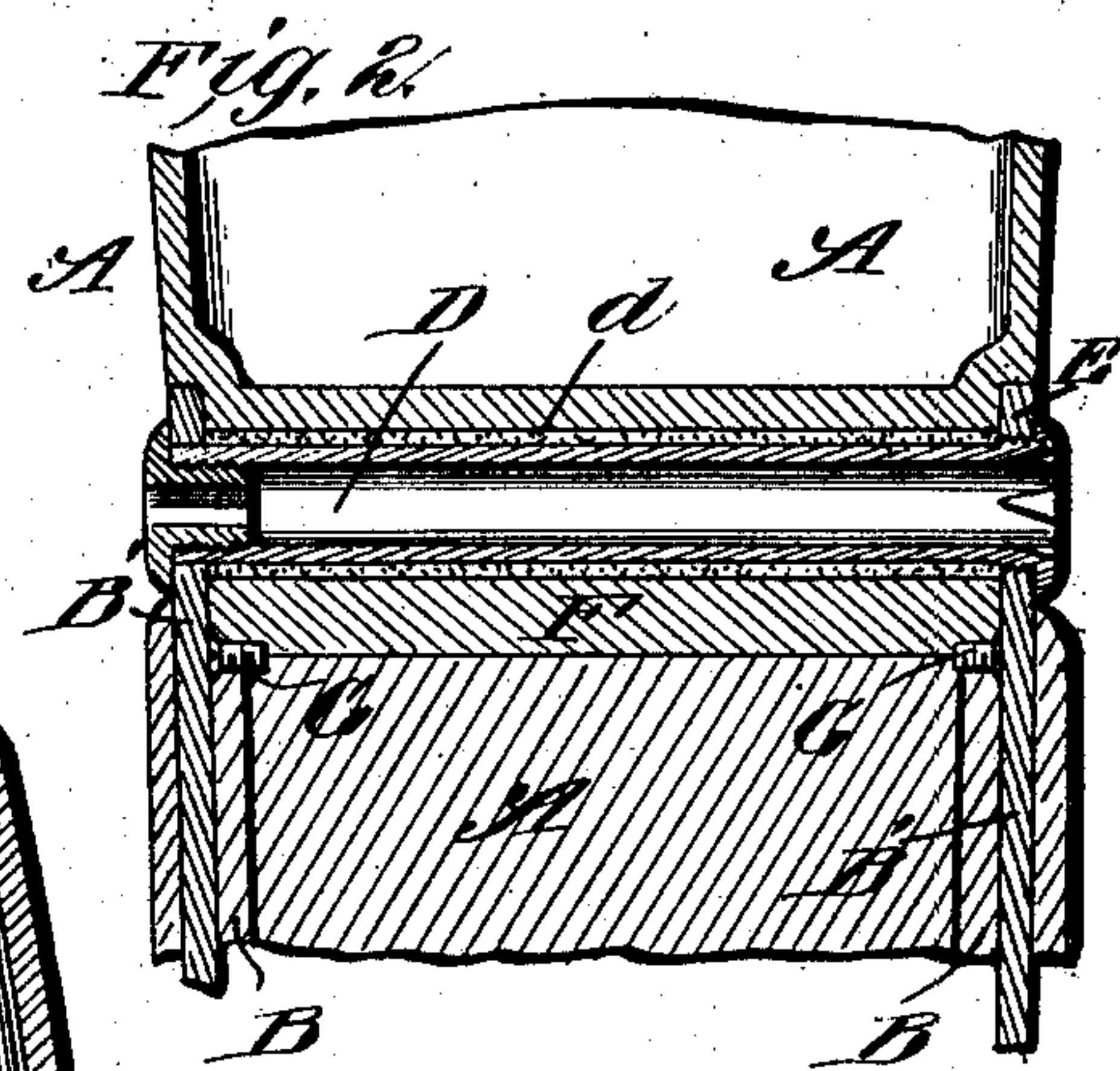
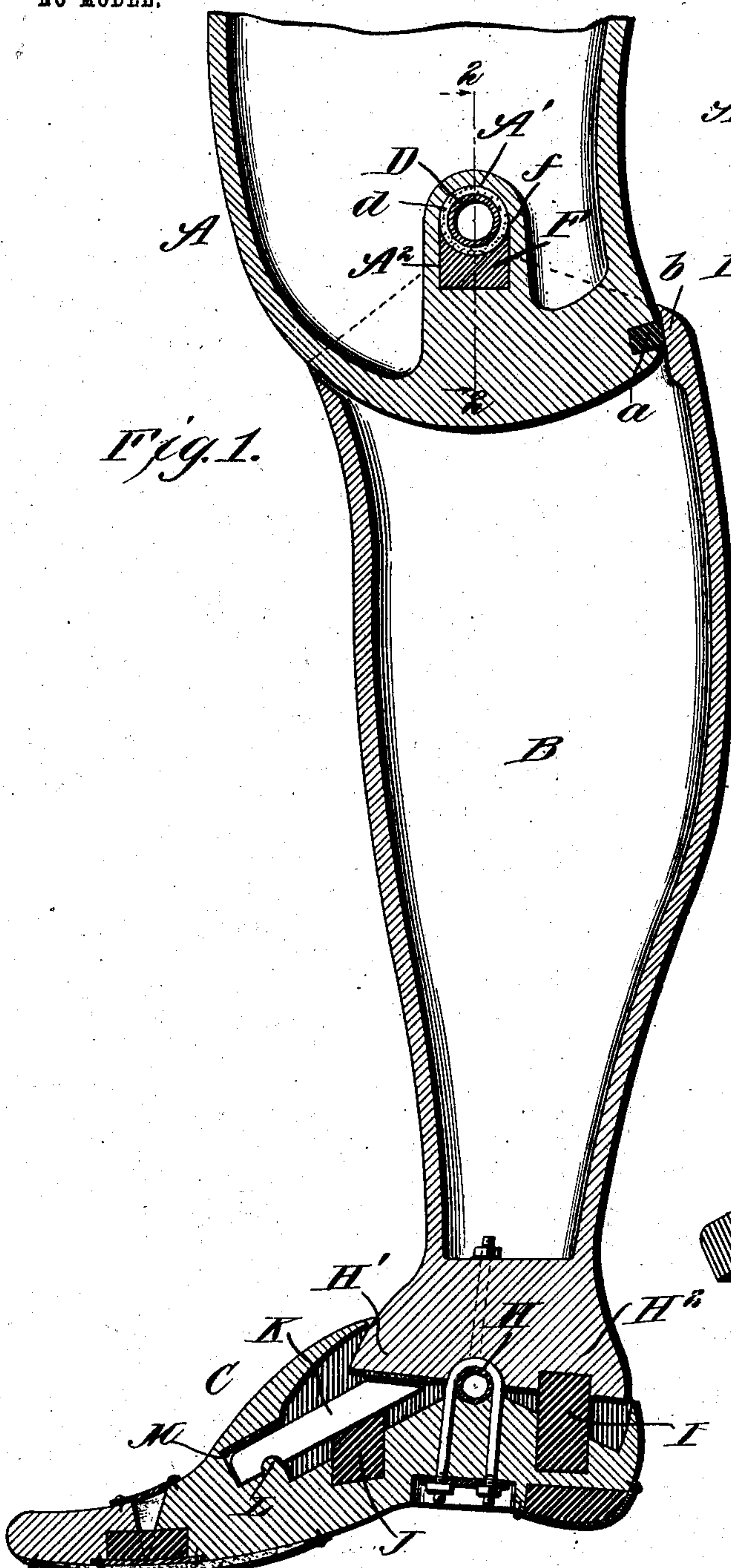
No. 757,287.

PATENTED APR. 12, 1904.

L. DUGGAN.
ARTIFICIAL LEG.

APPLICATION FILED NOV. 20, 1903.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

LEE DUGGAN, OF ROCKY MOUNT, NORTH CAROLINA.

ARTIFICIAL LEG.

SPECIFICATION forming part of Letters Patent No. 757,287, dated April 12, 1904.

Application filed November 20, 1903. Serial No. 181,979. (No model.)

To all whom it may concern:

Be it known that I, LEE DUGGAN, a citizen of the United States, residing at Rocky Mount, in the county of Nash and State of North Carolina, have made certain new and useful Improvements in Artificial Legs, of which the following is a specification.

My invention is an improvement in artificial legs, having for objects, among others, to provide a novel construction at the knee-joint and also to provide means in the foot whereby to render the cushioning operation more effective in the use of the device; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a vertical section of a portion of a leg embodying my invention. Fig. 2 is a detail section on about line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of the bearing-block. Fig. 4 is a detail perspective view of the foot-covering; and Fig. 5 is a detail sectional perspective of a portion of the foot, showing the cushion and fulcrum for the lever.

The leg, as shown, includes the thigh-section A, the calf or lower section B, and the foot C. The knee-joint is effected by means of a bolt D passing through openings at E in the side portion B' at the upper end of the lower section B and suitably secured by nuts or otherwise, as will be understood by Fig. 2. The opening A' for the bolt D is extended downwardly at A² and receives the bearing-block F, which conforms to the extension A² of the opening A', is concaved in its upper side at f' to fit the bolt D, and may be secured by the screws G, turning between the lower edge of the block F and the base of the recess A². It may be desirable in practice to cover the bolt D with a sheepskin or other sleeve d, and as it becomes necessary from time to time one or both of the screws G may be removed and the block set up against the bolt by inserting strips of paper or other thin material between such block and the base of the recess A². This construction enables me to secure a tight bearing on the bolt D within the thigh-section A at all times, said bearing being the same the entire length of the bolt D.

As the section B swings forwardly at its

lower end, it is desirable to stop it in the upright position shown in Fig. 1. To this end the upper rear edge of the section B at b extends in such position that it will abut a cushion α , secured on the rear face of the lower end of the section A. By this means the section B will be stopped in the position shown in Fig. 1 and the noise will be deadened, so that no disagreeable click will be heard as the leg straightens to the position shown in Fig. 1.

Any suitable means may be provided for throwing the lower section of the leg forward in walking, as will be well understood by those skilled in the art.

The foot C has an ankle-joint connection H with the lower end of the leg-section B and extends at H' in advance and at H² in rear of the ankle-joint, the front and rear portions of the lower end of the section B being cushioned in the manner presently described. To this end I provide a cushion I between the rear portion H² and the opposite or heel portion of the foot C, and a cushion J is arranged in advance of the ankle-joint and bears between the foot and the lower side of the rear end of the lever K, the upper side of such end of the lever K bearing beneath the front portion H' of the lower end of the leg B and said lever fulcruming between its ends at L upon a boss projecting upwardly from the front end of the lower wall of a recess M, in which the front end of the said lever K fits, as shown in Fig. 1 of the drawings. The lever K is provided in its under side with a curved recess K', extending transversely and receiving the boss L on the foot, as best shown in Fig. 1 of the drawings.

In operation the foot may rock on the ankle-joint, being cushioned in one direction by the block I and in the other direction by the block J, bearing between the lever K and the foot, and said lever also bearing at its rear end beneath the front portion of the lower end of the leg-section B and fulcruming upon a portion of the foot, as shown and before described.

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

1. The combination of the lower leg-section, the foot jointed thereto, a cushion between

the rear portion of the leg-section and the foot, a lever provided in its under side with a recess, the foot having a boss entering said recess, such lever bearing at its rear end beneath the front portion of the lower end of the leg-section, and the cushion between the under side of the rear end of said lever and the foot, substantially as set forth.

2. The combination with the foot and the lower leg-section jointed to the foot, and having a portion extending in front of said joint, and the lever bearing at its rear end beneath the front portion of the lower end of the leg-section and cushioned, substantially as set forth.

3. The combination of the thigh-section, the lower leg-section, the bolt connecting said sections, the bearing-block conformed in its upper face to the said bolt and seated in the

thigh-section and adapted for adjustment, and fastening devices at the ends of and operating beneath said bearing-block, substantially as set forth.

4. The combination with the lower leg-section, and the thigh-section having an opening for the joint-bolt, and a recess below such opening for the bearing-block, the lower leg-section, the bolt connecting the thigh-section and lower leg-section, the bearing-block in the recess below the bolt and conformed at its upper side to said bolt, and the screws operating beneath said bearing-block at the ends of the latter for securing said bearing-block, substantially as set forth.

LEE DUGGAN.

Witnesses:

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L. F. TILLERY.