(No Model.)

A. GARTNER.

SHUTTLE BOX SUPPORTING ROD.

No. 554,258. Patented Feb. 11, 1896.

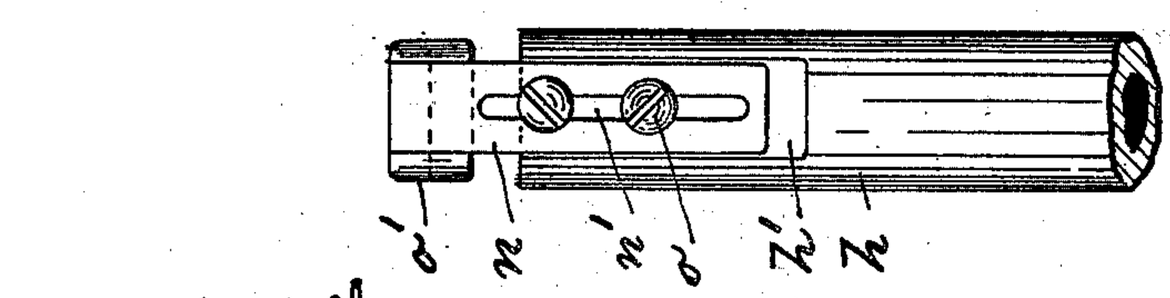

Fig. 3.

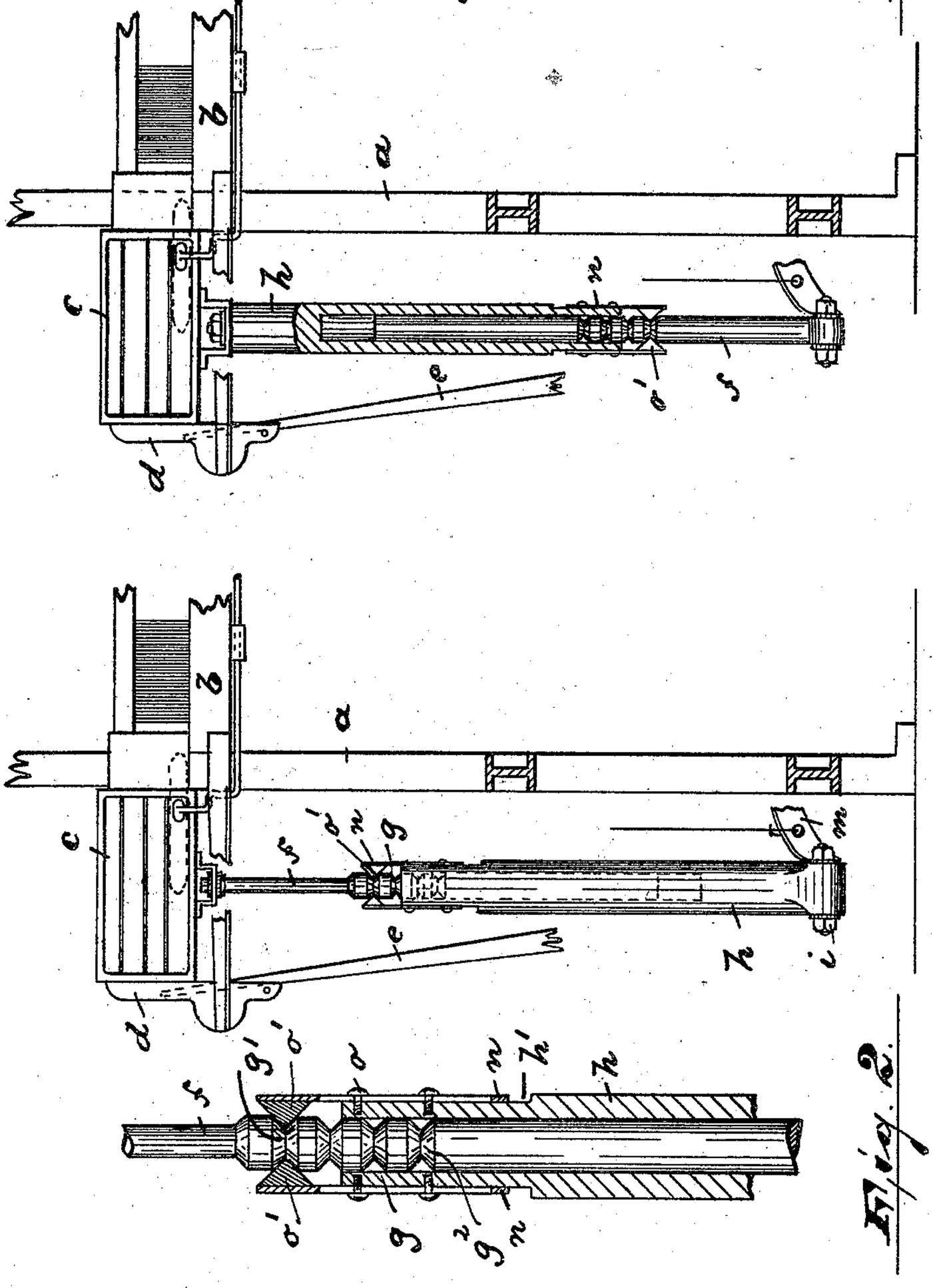

Fig. 1.

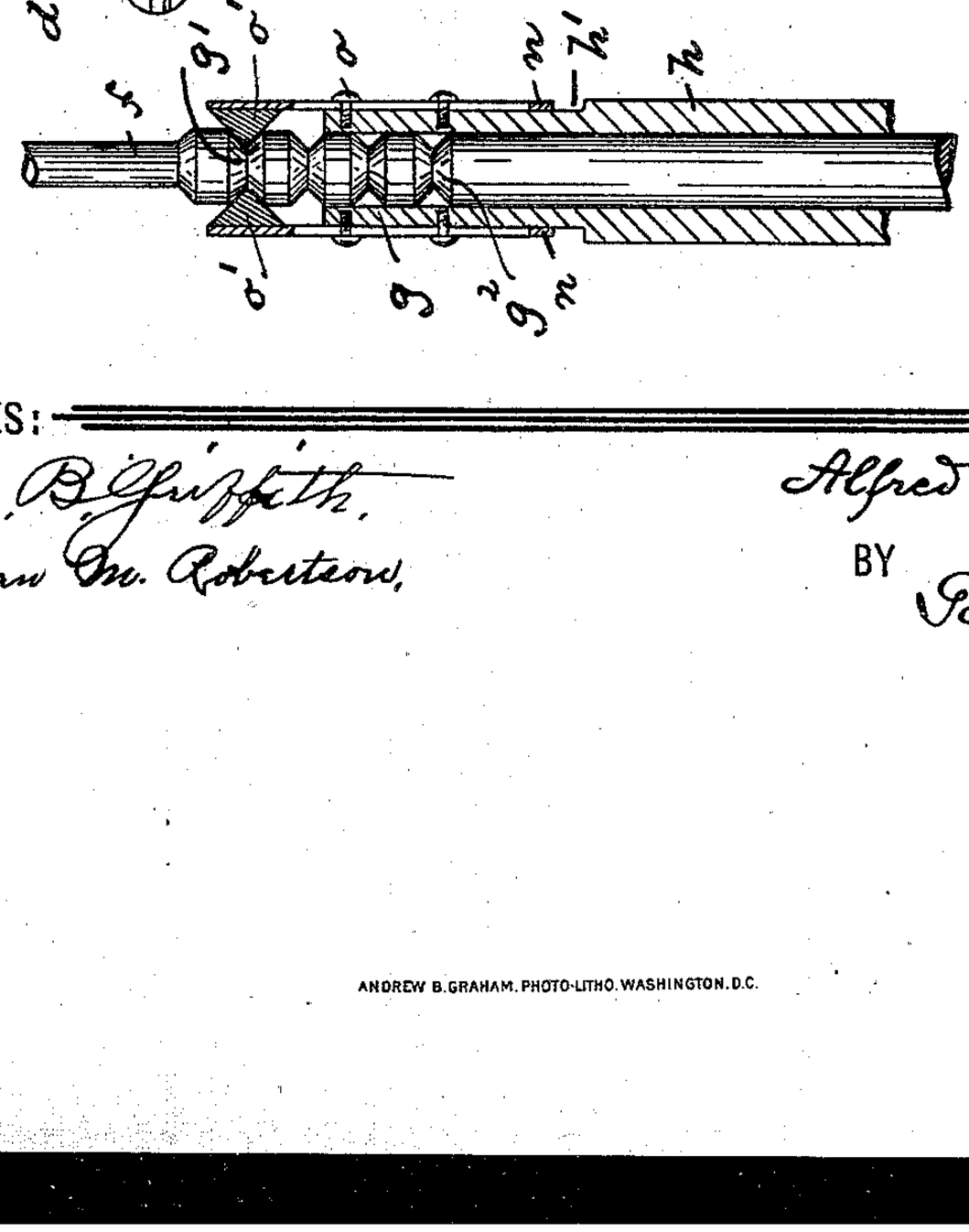

Fig. 2.

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UNITED STATES PATENT OFFICE.

ALFRED GARTNER, OF NEWARK, ASSIGNOR TO ROBERT ATHERTON, OF PATERSON, NEW JERSEY.

SHUTTLE-BOX-SUPPORTING ROD.

SPECIFICATION forming part of Letters Patent No. 554,258, dated February 11, 1896.

Application filed July 2, 1895. Serial No. 554,704. (No model.)

To all whom it may concern:

Be it known that I, ALFRED GARTNER, a citizen of the United States, residing at Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Adjustable and Self-Adjustable Shuttle-Box-Supporting Rods; 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 letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide an adjustable and self-adjustable supporting-rod for the shuttle-boxes in a loom of simple and durable construction and reliable in operation.

The invention consists in the improved shuttle-box-supporting rod and in the combination and arrangement of the various parts thereof, substantially as will be hereinafter more fully described and claimed.

In the drawings, Figure 1 is a front elevation of a portion of a loom provided with my improvement; Fig. 2, an enlarged detail sectional view of the self-adjustable shuttle-box-supporting rod; Fig. 3, an enlarged detail view of a certain spring locking mechanism, and Fig. 4 a view similar to Fig. 1 illustrating a modified form of my improved device.

In said drawings, *a* is the loom-frame; *b*, the lay; *c*, the shuttle-box; *d*, the extended portion of the lay, and *e* the picker-stick, all said parts being of usual well-known construction.

To the bottom of the shuttle-box *c* is secured the shuttle-box-supporting rod *f*, provided at its enlarged portion *g* with a series of annular V-shaped grooves *g'*, as clearly shown in the drawings. Said enlarged portion *g* of the rod *f* is arranged and adapted to operate in the tube or hollow rod *h*, pivotally secured, as at *i*, to arm *m*, which latter again is connected to the shuttle-box-operating mechanism in the usual manner.

In the upper portion of the tube are arranged a series of vertical grooves *h'*, in each of which is adjustably secured a flat spring *n*, provided with a vertical slot *n'*, through which the tightening-screws *o* pass.

The upwardly-projecting portion of the spring *n* is provided with a V-shaped block *o'*, adapted to rest, when in normal position, in one of the grooves *g'*.

In operation, should a shuttle become jammed between the box and the raceway or should the shuttle-box be stopped in its downward movement by any other cause the block *o'* will be forced outward out of engagement with the V-shaped groove *g'* and the rod *f*, with its enlarged portion *g*, will slide down in the tube *h*, thereby avoiding breakage, without interfering with the movement of the shuttle-supporting-rod operating mechanism, as will be manifest.

In the modified form shown in Fig. 4 the device is reversed—that is to say, the tube *h* is secured to the bottom of the shuttle-box, while the rod *f*, operating in said tube, is pivotally secured to the arm *m*.

The operation is similar to the one heretofore described.

The arrangement of a series of similar V-shaped grooves on the rod *f* or on its enlarged portion is of great importance, as by that means my improved device can be applied to looms of different makes, which generally requires shuttle-box-supporting rods of different length.

A finer or more complete adjustment is obtained by the adjustable block-carrying springs *n*, as will be manifest.

I am aware that supporting-rods for shuttle-boxes have heretofore been made of two telescopic sections held in normal position by a spring-controlled clamping mechanism, thus rendering the supporting-rod self-adjustable, and therefore I do not make any broad claim to such construction; but

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

1. A supporting-rod for shuttle-boxes, consisting of an outer tube having in its upper portion a series of vertically-arranged grooves or recesses, a rod arranged and adapted to slide in said tube and provided with a series of annular V-shaped grooves, a series of flat springs arranged in said vertical grooves and

parallel with the rod, each of said springs being provided with a vertical elongated slot, tightening-screws passing through said slots into the tube, and thus rendering said springs capable of being adjusted on the tube in a direction parallel to the rod, and a V-shaped block on each of the slotted springs and adapted to engage the V-shaped grooves in the rod, all said parts combined and arranged so as to render the device adjustable and self-adjustable, substantially as and for the purposes described.

2. As a new article of manufacture, an adjustable and self-adjustable shuttle-box-supporting rod, consisting of an outer tube having in its upper portion a series of grooves or recesses arranged vertically and diametrically opposite each other, a rod having an enlarged portion arranged and adapted to slide in said tube and provided on said enlarged portion with a series of annular V-shaped grooves, a series of flat springs arranged in said vertical grooves and parallel with the rod, each of said springs being provided with a vertical elongated slot, tightening-screws passing through said slots into the tube, and a V-shaped block on each of the slotted springs and adapted to engage the V-shaped grooves in the rod, substantially as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of June, 1895.

ALFRED GARTNER.

Witnesses:
WM. D. BELL,
H. B. GRIFFITH.