

(No Model.)

4 Sheets—Sheet 1.

H. WYMAN & G. POOLE.  
PILE FABRIC LOOM.

No. 529,150.

Patented Nov. 13, 1894.

FIG. 1.

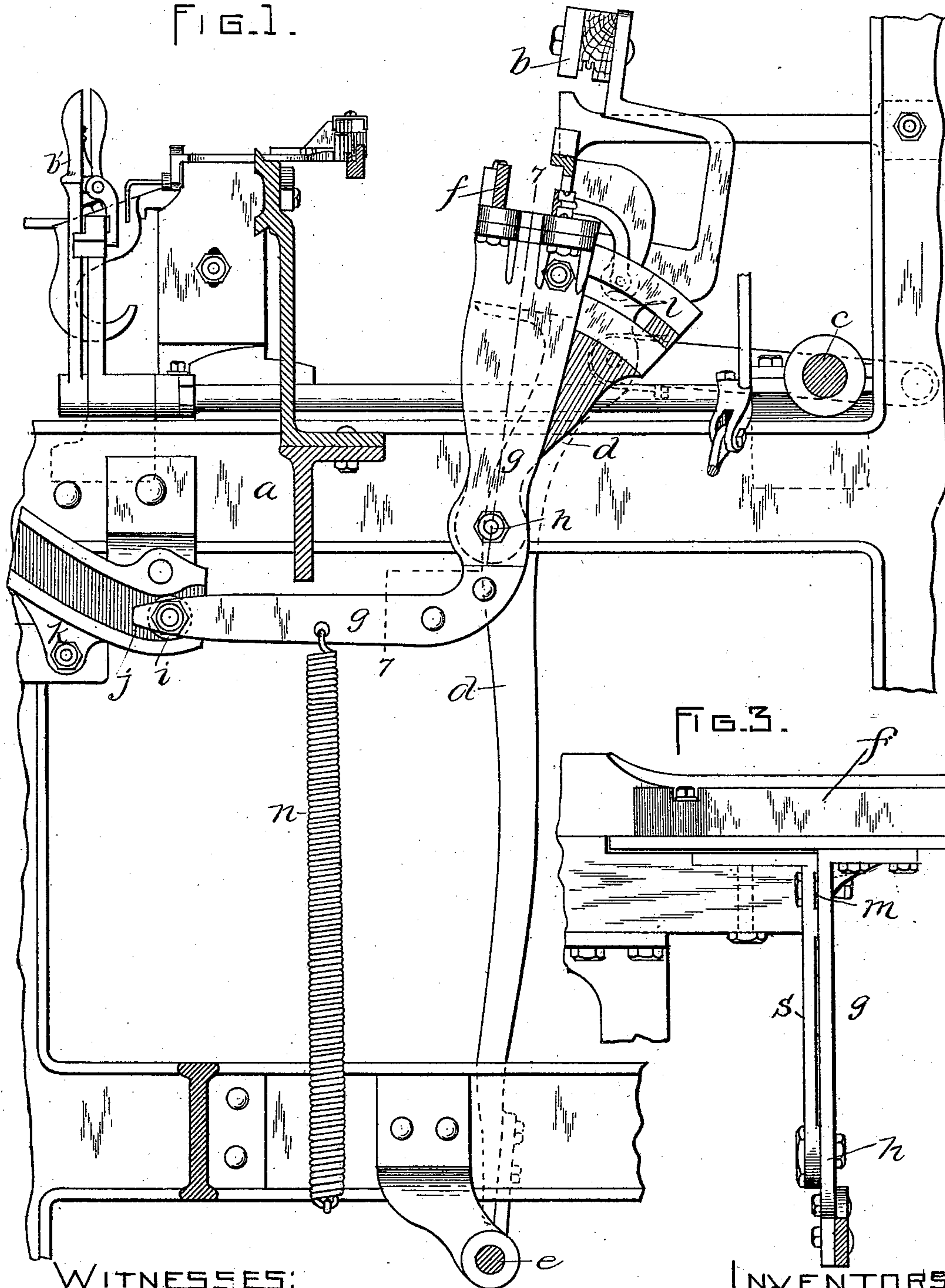
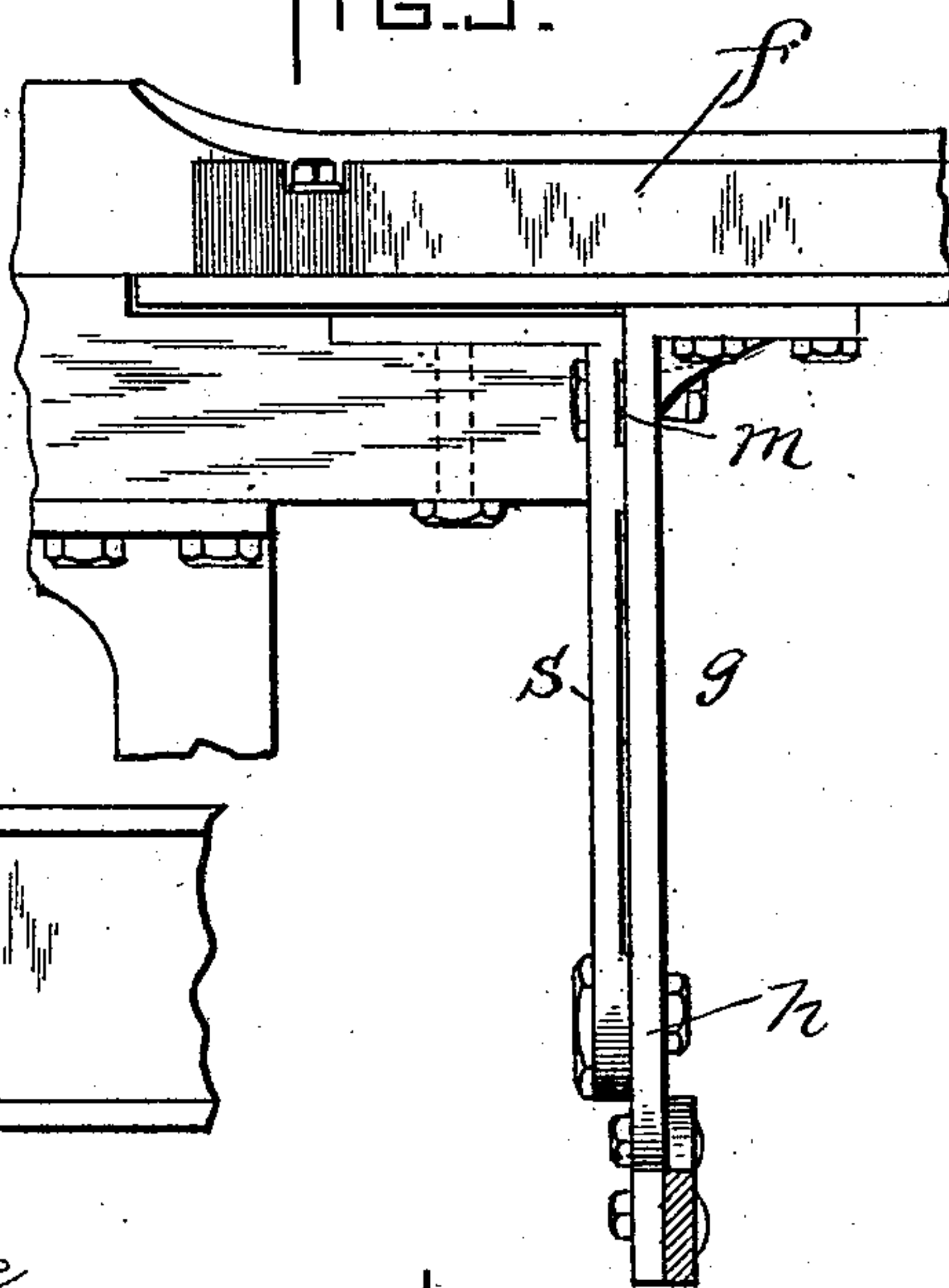


FIG. 3.



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*Justin A. Ware*  
*John D. Lyne*

INVENTORS

*Horace Wyman*  
*George Poole*

(No Model.)

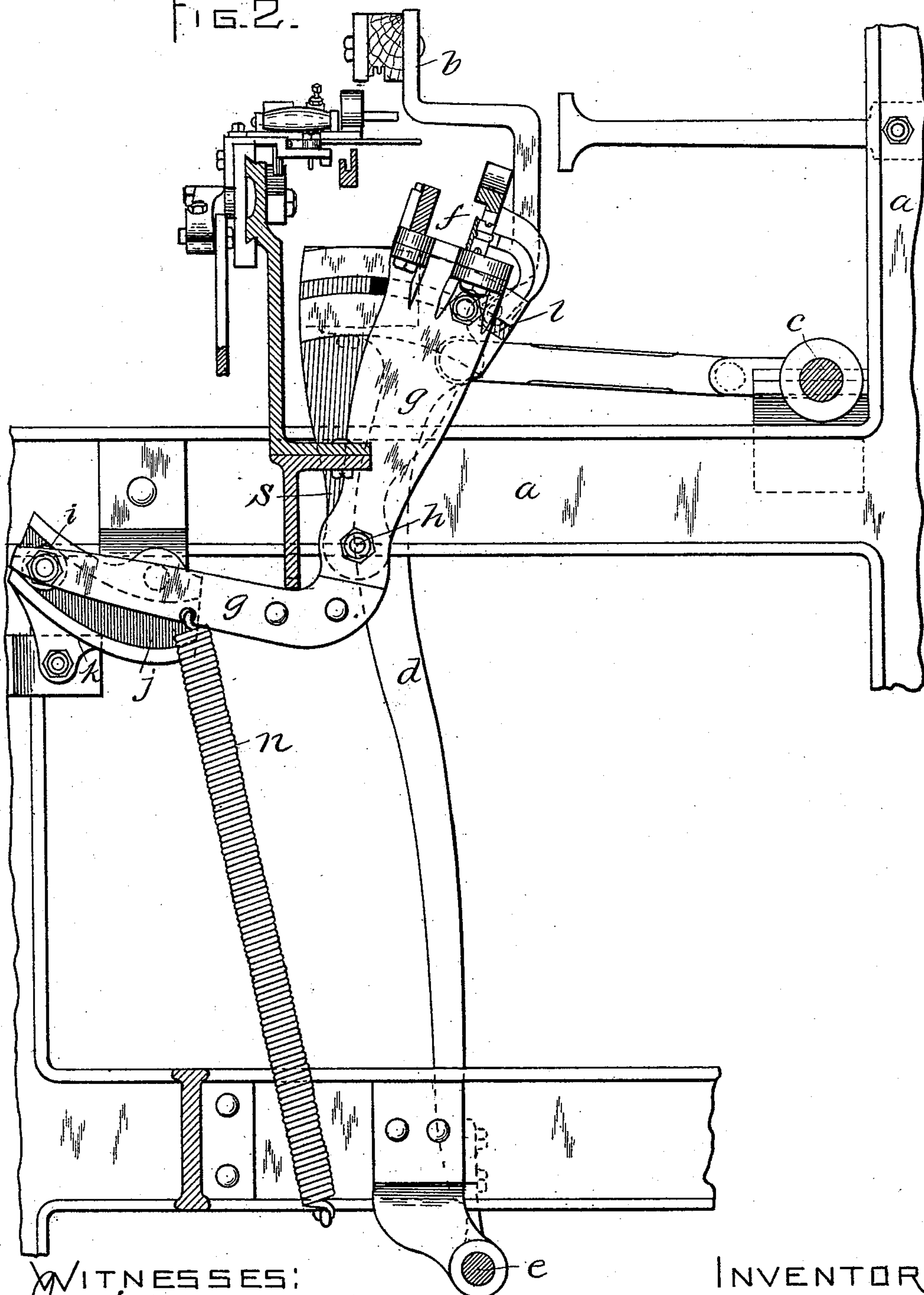
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Fig. 2.



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FIG. 4.

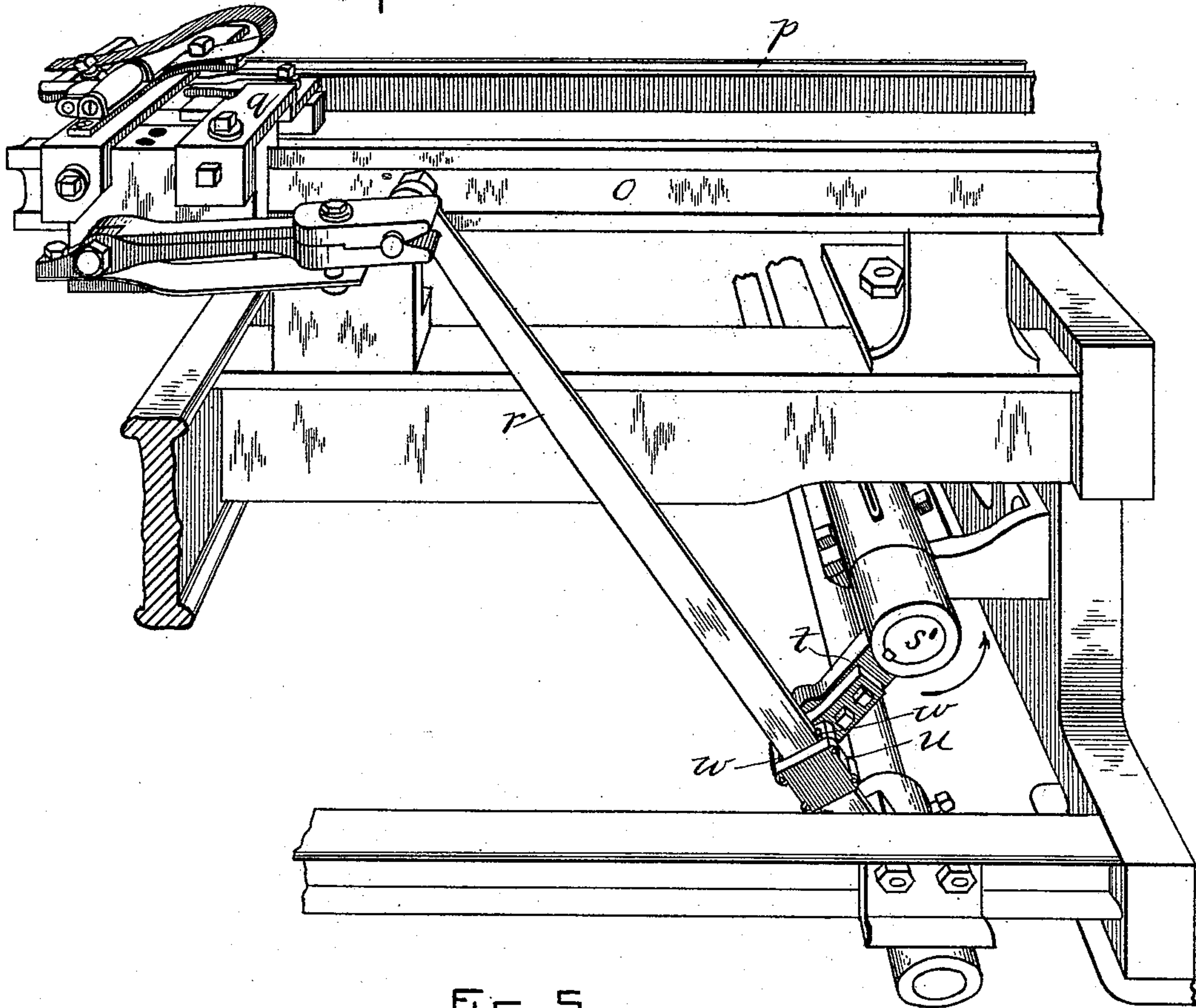
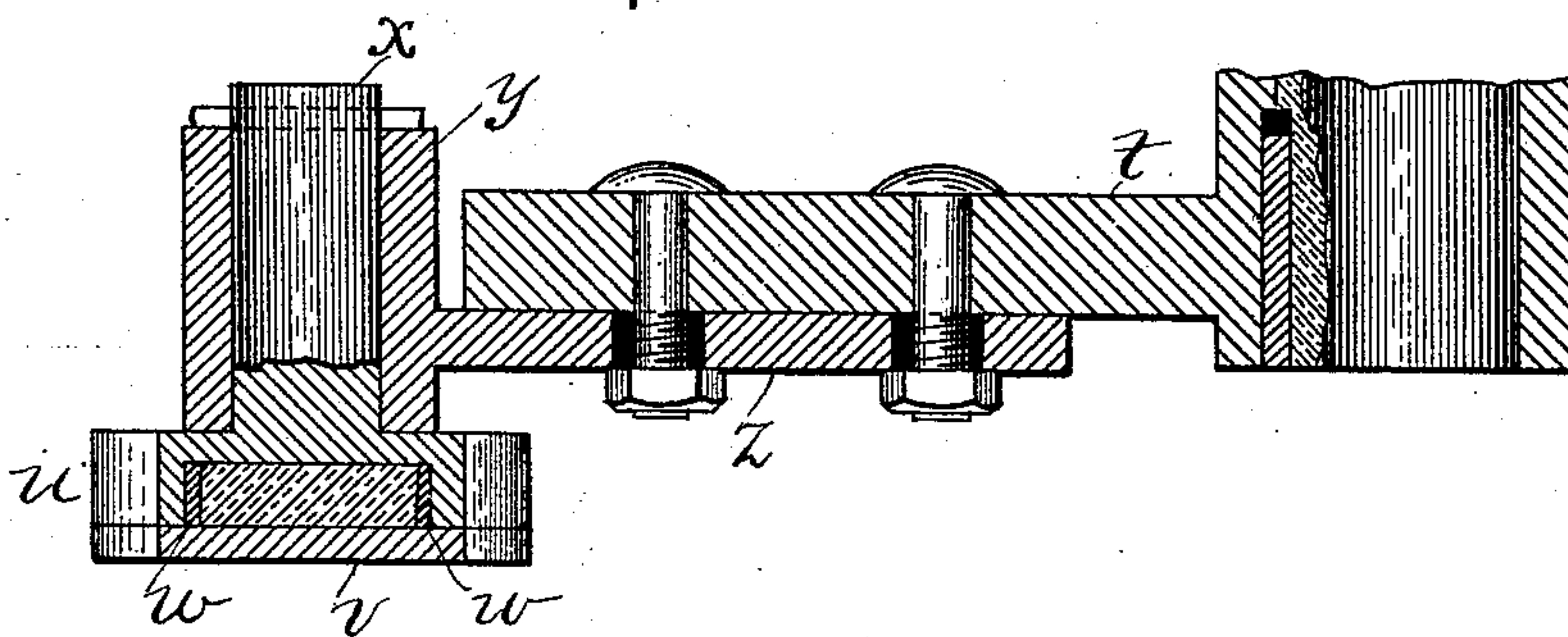


FIG. 5.



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(No Model.)

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FIG. 6.

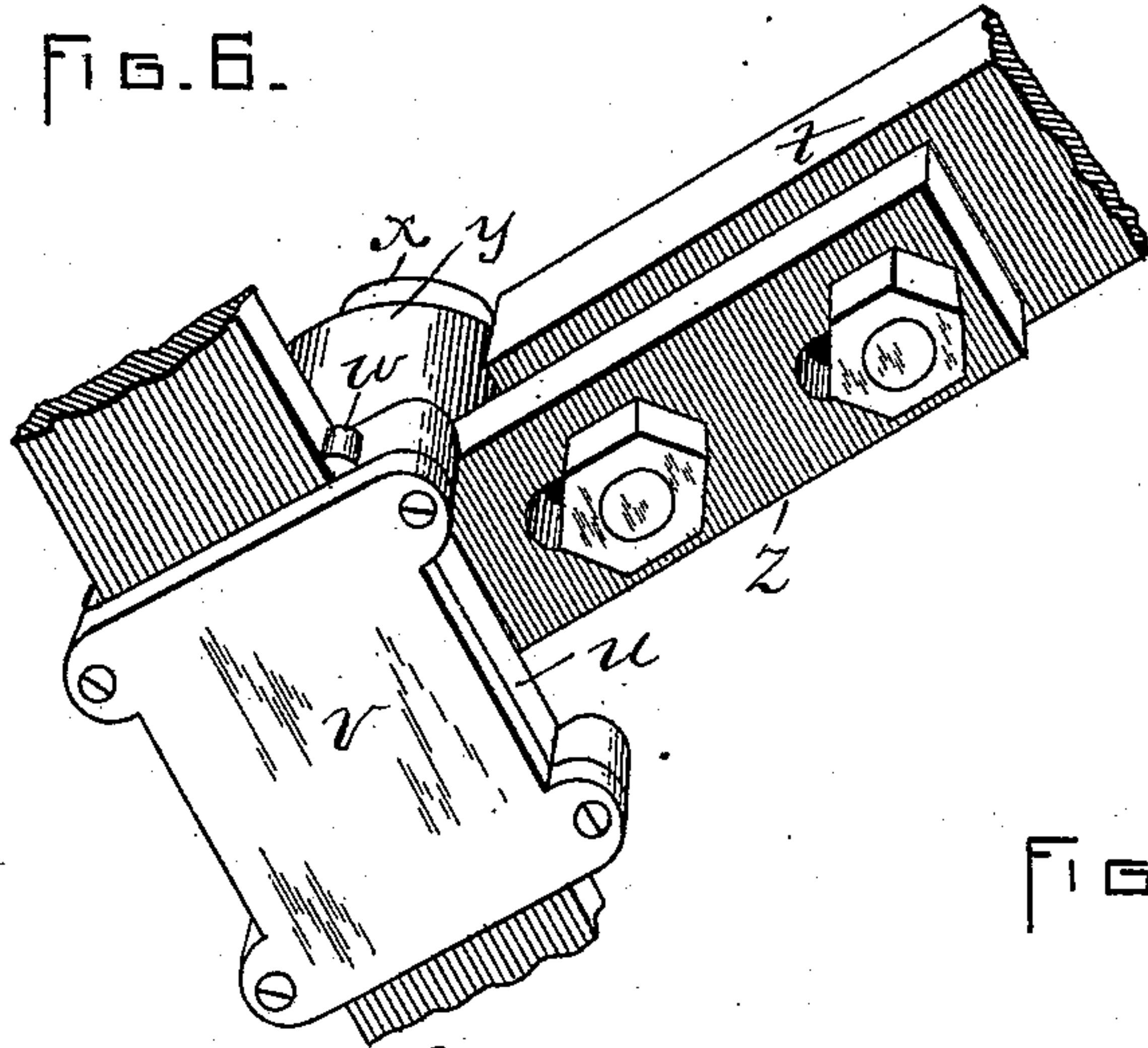
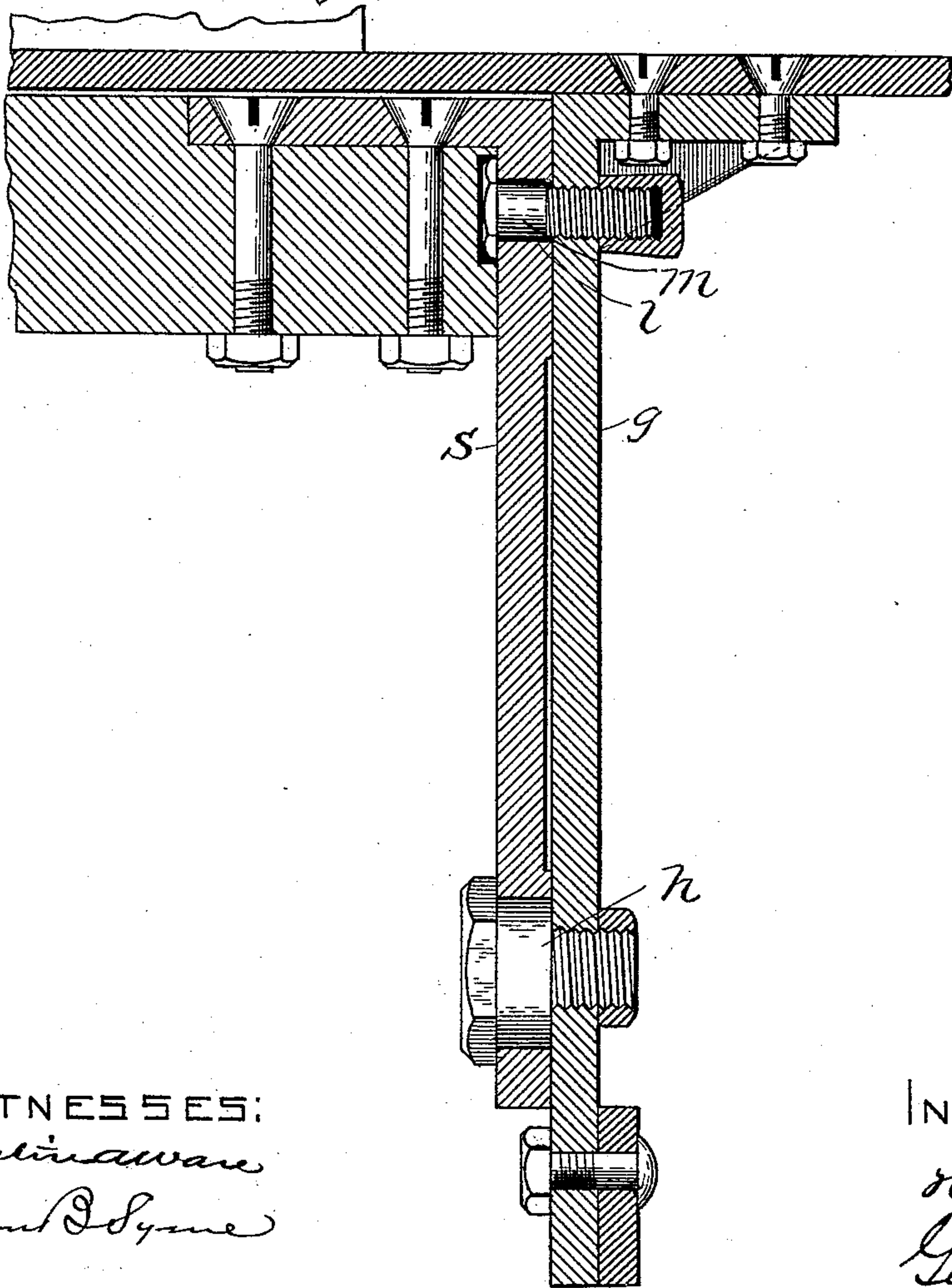


FIG. 7.



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# UNITED STATES PATENT OFFICE.

HORACE WYMAN, OF WORCESTER, AND GEORGE POOLE, OF LOWELL,  
ASSIGNORS TO THE MASSACHUSETTS MOHAIR PLUSH COMPANY,  
OF BOSTON, AND THE CROMPTON LOOM WORKS, OF WORCESTER,  
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## PILE-FABRIC LOOM.

SPECIFICATION forming part of Letters Patent No. 529,150, dated November 13, 1894.

Application filed September 2, 1892. Serial No. 444,892. (No model.)

*To all whom it may concern:*

Be it known that we, HORACE WYMAN, of Worcester, in the county of Worcester, and GEORGE POOLE, of Lowell, in the county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Pile-Fabric Looms, of which the following is a specification.

This invention has relation to looms designed for the production of plushes, velvets, Brussels carpets, fustians, &c.

It is the object of the invention to provide, first, improvements whereby the shuttle-box, on the side of the loom upon which the wire-motion is located, may be moved or held back out of the way when the lay moves forward so as not to interfere with the operation of the wire motion; second, improvements in the means for operating the carriage or slide of the wire motion, whereby the same is given a steadier motion, is made easier of operation than heretofore, and is at the same time simplified in construction.

To these ends the invention consists of the improved parts and groups of parts which we will now proceed to describe and claim, making references to the annexed drawings and the letters marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

Of the said drawings—Figure 1 is an end view partially in section of a portion of a loom equipped with one feature of our invention, the lay being represented as having been moved back to its utmost limit and the shuttle box as in position to have a shuttle picked through the shed. Fig. 2 is a view similar to Fig. 1, but with the lay moved forward to its utmost limit and the shuttle-box tipped or rocked back out of the way of the wire motion. Fig. 3 is a front or edge view of a fractional part of the construction shown in Fig. 1. Fig. 4 is a front view of the chief parts of a wire motion, in which another feature of the invention appears. Fig. 5 is a sectional detail view, in plan, illustrating the salient parts of the improvements shown in Fig. 4. Fig. 6 is a perspective view of the parts shown

in Fig. 5. Fig. 7 is a sectional view, drawn 50 to an enlarged scale, taken on the line 7 7 of Fig. 1.

In the drawings *a* designates the loom frame which may be of any suitable form.

*b* is the lay which carries the usual reed 55 (not shown) and which may be operated from the crank shaft *c*, as represented, or in any other desired way.

*b'* represents the ordinary lever used to operate the shipper-rod. 60

*d* designates the lay-sword which supports the lay, the said lay-sword being, in turn, pivotally supported upon the rock shaft *e*.

*f* designates the shuttle-box, connected with the base of which is one end of one arm of an 65 angular lever *g*, pivoted at *h* upon an arm *s* rigidly secured to one end of the lay. The end of the other arm of the lever *g* is provided with anti-friction roller *i* which extends into a cam groove *j* formed in a bracket 70 *k* connected with the loom frame.

The upper portion of the arm *s* is broadened, as shown, and is provided with a slot *l* into which a stud *m*, connected with the upper part of the arm *g*, extends. The up- 75 wardly extending arm of the lever *g* is also quite broad, as shown, and the stud *m* in the present instance consists of the shank of a bolt, the screw-threaded portion of which is turned through the upper arm of the lever *g*, 80 and the head of which bolt operates in the slot in the upper end of the arm *s*.

*n* is a spring connected with the lower arm of the lever *g* and a stationary part of the loom, which spring operates to prevent back- 85 lash when the parts become worn.

With this construction and arrangement of parts, it will be seen that when the lay moves forward the shuttle box will be moved or tipped back by the action of the anti-fric- 90 tion roller *i* on the lower arm of lever *g* in the groove *j*, as shown in Fig. 2, so as to be out of the way of the wire motion; and when the lay moves back the shuttle-box will be moved forward and righted so as to bring the shut- 95 tle in proper position to be picked through the shed, as is shown in Fig. 1. The broad surfaces of the upper end of the arm *s* and of



the lever *g* acting together, tend to steady the parts in their movements.

Referring to Figs. 4, 5 and 6 *o* is the slide rail, *p* is the wire bar, *q* is the carriage or slide, *r* is the lever or arm by which the carriage is moved, *s'* is a crank shaft, and *t* a crank arm connecting the shaft with the lever in order that the latter may be operated, the several parts mentioned being elements of the wire motion.

In the operation of wire motions it is necessary, in order to secure the most desirable results, that the lever which reciprocates the carriage should be operated in a steady manner without back lash or jerky motion of any kind. To secure this end, and at the same time simplify the construction, render it light, and ready of adjustment, we provide a box by forming a groove in the face of a block *u* of sufficient width and depth to receive the lever *r*, and screw or otherwise secure to the face of said block a plate *v*, so that the lever may move freely in the box thus formed, but have no appreciable play therein.

In some instances the groove formed in the face of the block *u* may be made slightly wider than the lever *r* and adjusting gibs *w* arranged on both sides or edges of the lever in order to take up wear of the parts.

The block *u* is provided with a round shank *x* which is arranged in a bearing *y* formed in the outer end of a bar or strap *z* adjustably secured to the crank arm *t*, the last mentioned part being keyed or otherwise fixed upon the shaft *s'*.

The box before mentioned is offset from the crank arm *t* a sufficient distance to insure the escape of the lever *r* from contact with the shaft *s'*, in the operation of the devices.

By the means described the results hereinbefore cited are attained, and a highly efficient contrivance for operating the carriage lever is secured.

It is obvious that changes may be made in the form and arrangements of parts constituting the invention without departing from the nature or spirit thereof.

Having thus explained the nature of the in-

vention and described a way of constructing and using the same, though without attempting to set forth all of the forms in which it may be made or all of its modes of use, it is declared that what is claimed is—

1. In a loom for weaving pile fabrics, in combination, a lay having a depending arm, (*s*), provided with a curved slot, a shuttle-box, an angular lever pivoted on the arm, (*s*), one arm of said lever being connected with the shuttle-box and provided with a stud entering into said slot, the other arm of said lever being provided with an anti-friction roller, and a bracket provided with a curved groove into which said roller extends, substantially as and for the purpose described.

2. In a loom for weaving pile fabrics, in combination, a lay having a depending arm, (*s*), whose upper portion is broadened and provided with a curved slot, a shuttle-box, an angular lever pivoted on the arm, (*s*), one arm of said lever being connected with the shuttle-box and broadened to correspond with the broad portion of the arm, (*s*), and provided with a stud entering the slot in the arm, (*s*), the other arm of said lever being provided with an anti-friction roller, and a bracket provided with a curved groove into which said roller extends, substantially as and for the purpose described.

3. In a loom for weaving pile fabrics, in combination, a shaft, (*s'*), a lever, (*r*), the crank-arm, (*t*), a block, (*u*), grooved to receive the lever, (*r*), the plate, (*v*), a round shank, (*x*), on said block (*u*) and the strap, (*z*), formed with a bearing at one end to engage the said shank, and at its other end joined to the said crank-arm, substantially as and for the purpose described.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 19th day of July, A. D. 1892.

HORACE WYMAN.  
GEORGE POOLE.

Witnesses:

JUSTIN A. WARE,  
JOHN B. SYME.