

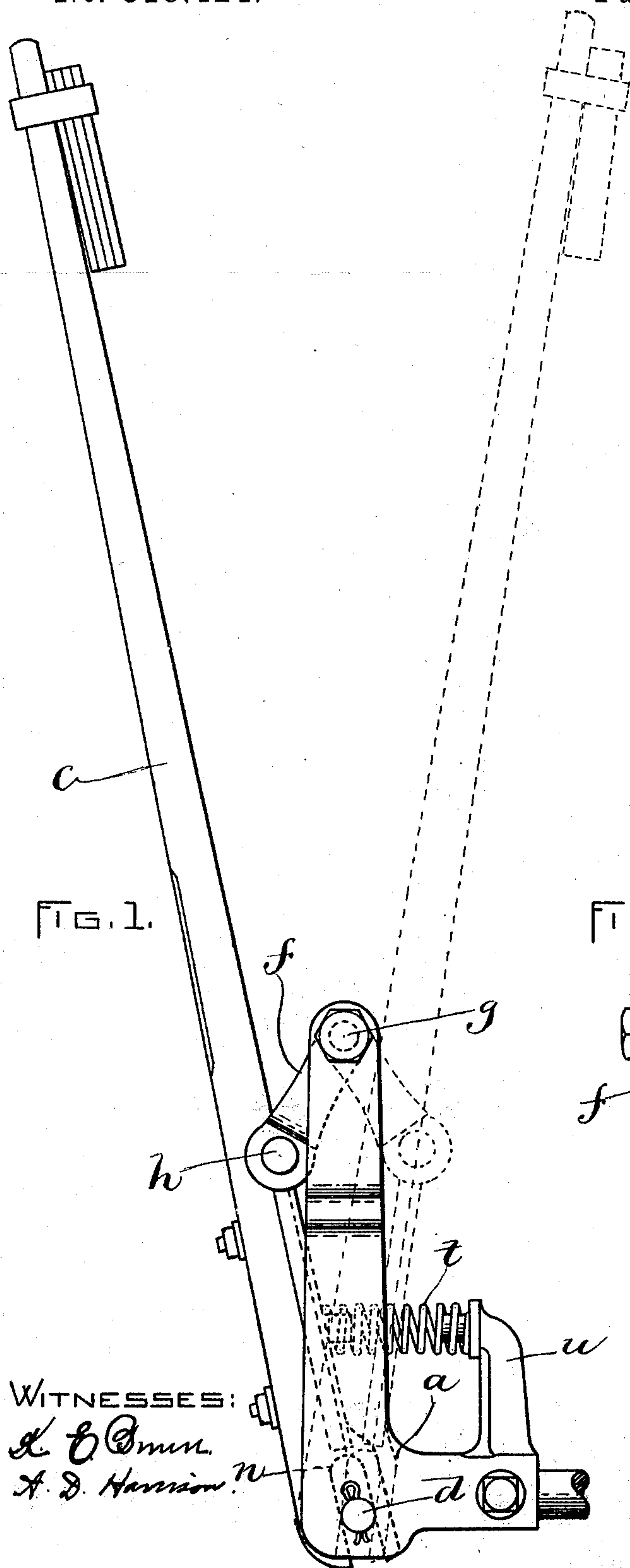
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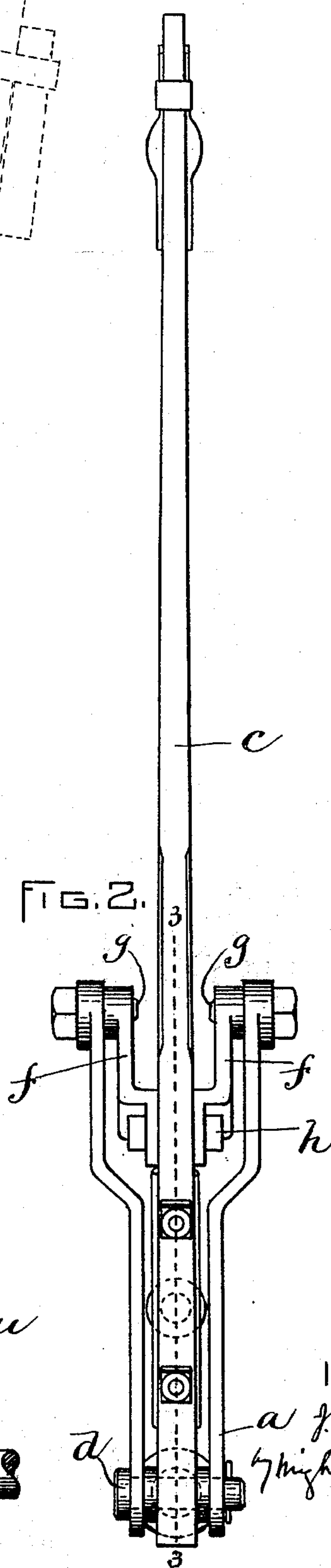
J. H. PAIGE.
PICKER MOTION FOR LOOMS.

No. 518,424.

Patented Apr. 17, 1894.



WITNESSES:
A. B. Green
A. D. Harrison



INVENTOR:
J. H. Paige
by Knight Brown & Co. Secy
Atty.

(No Model.)

2 Sheets—Sheet 2.

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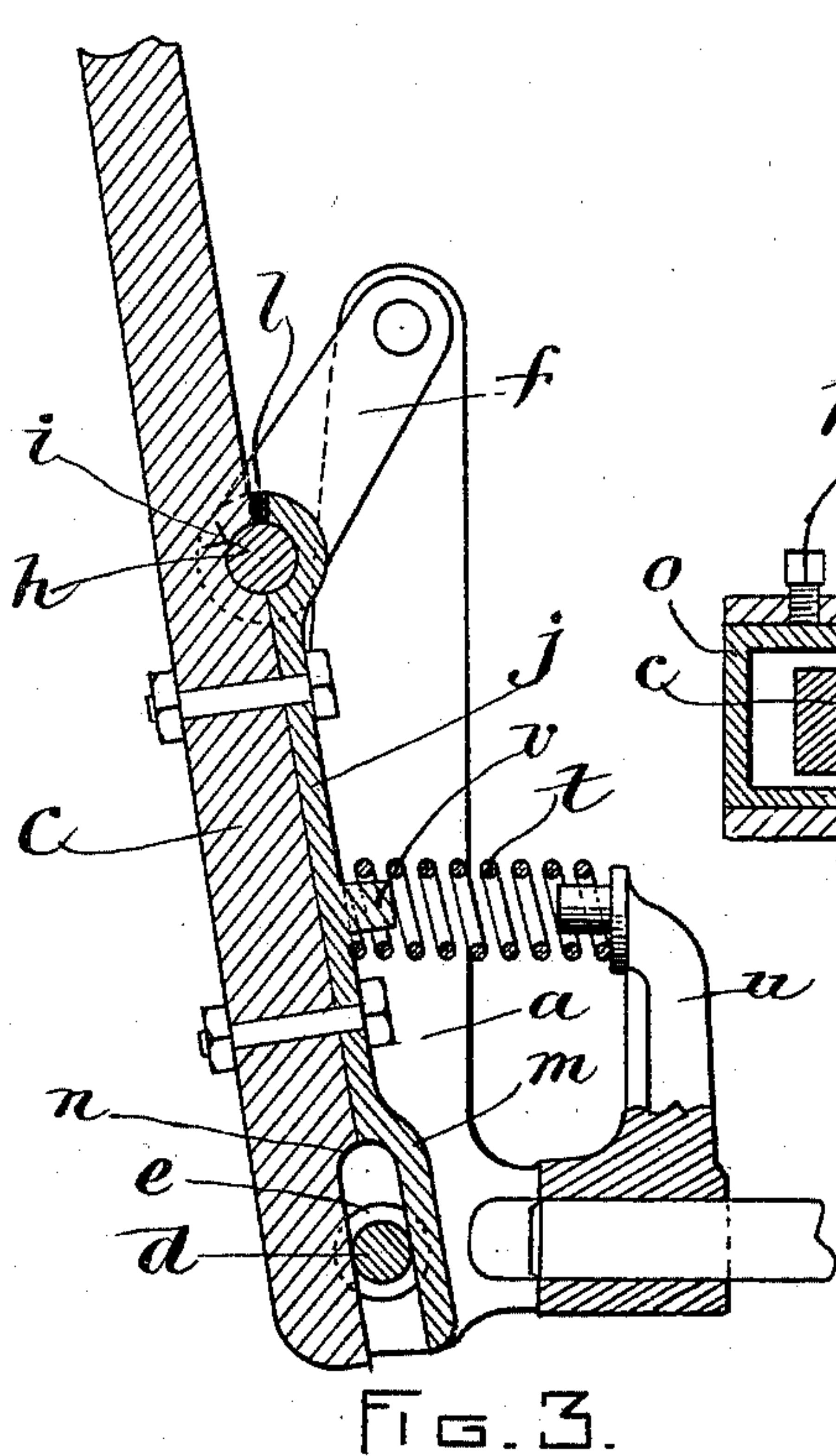


FIG. 3.

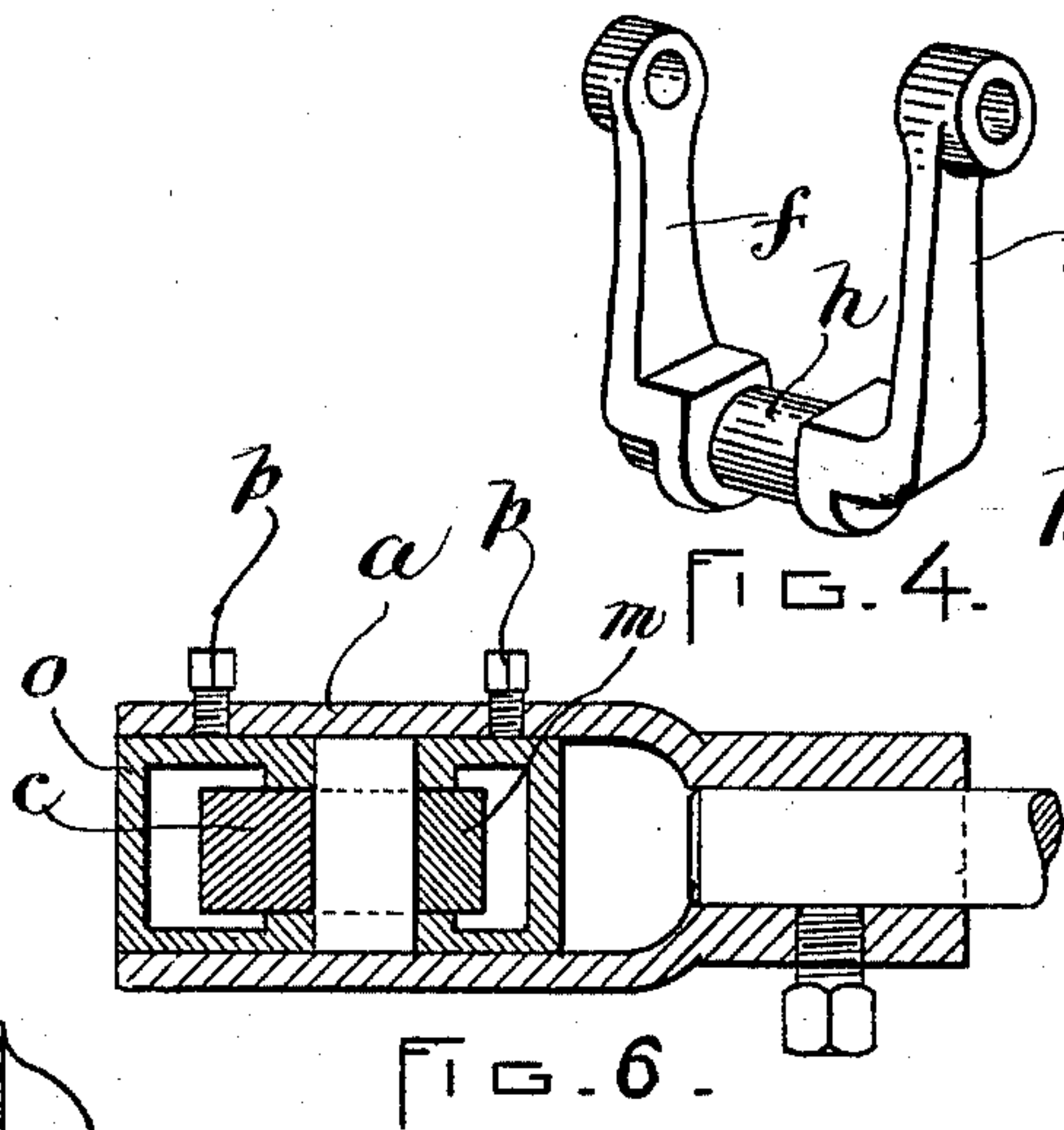


FIG. 4.

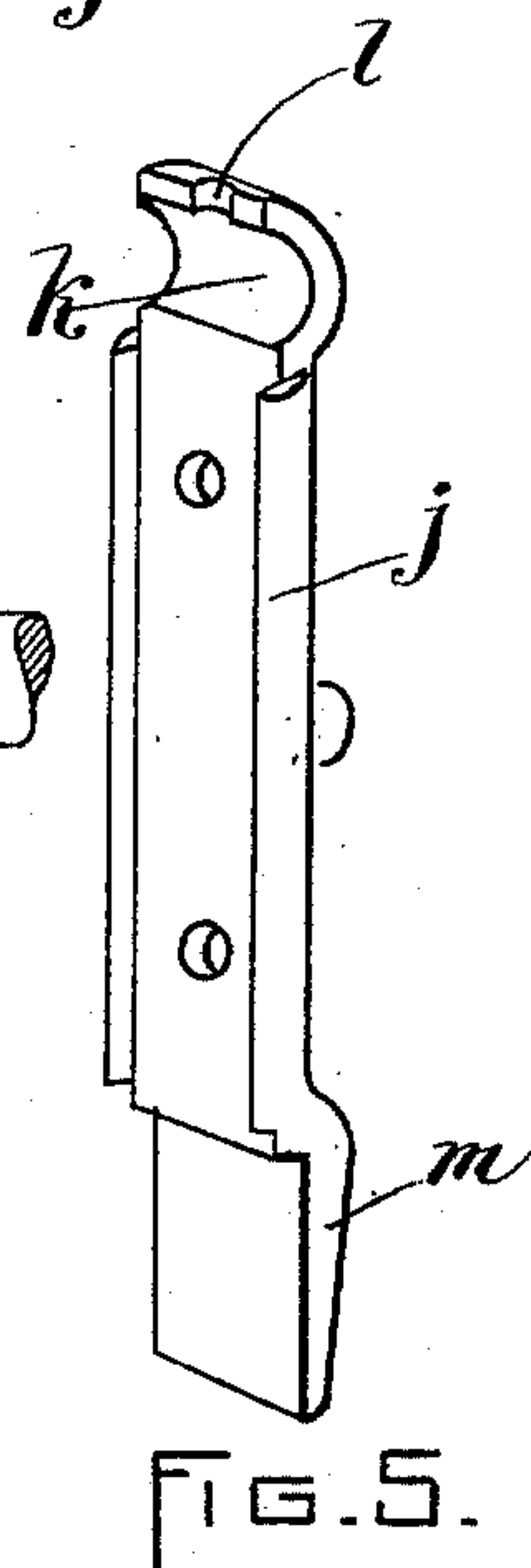


FIG. 5.

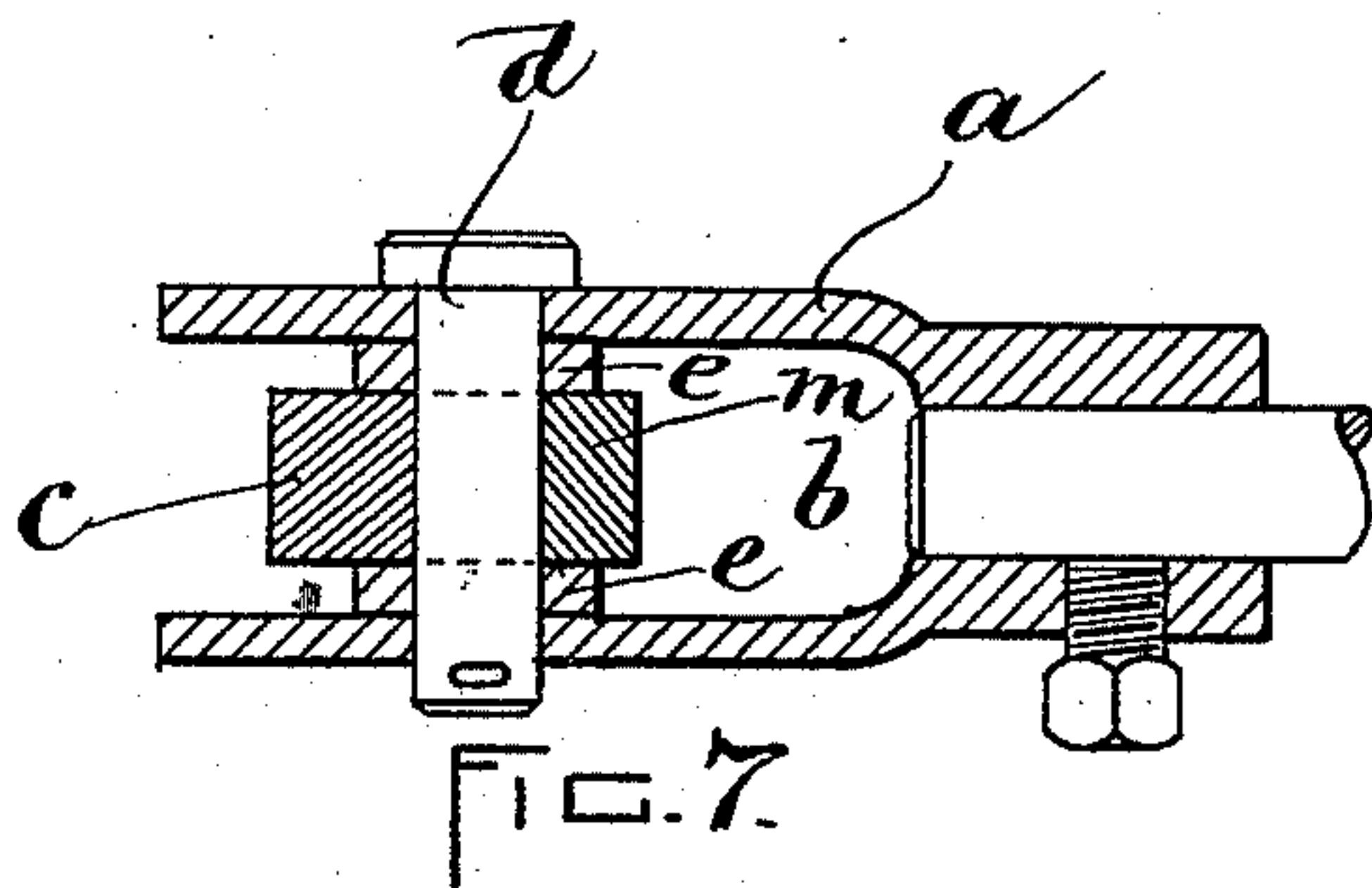


FIG. 7.

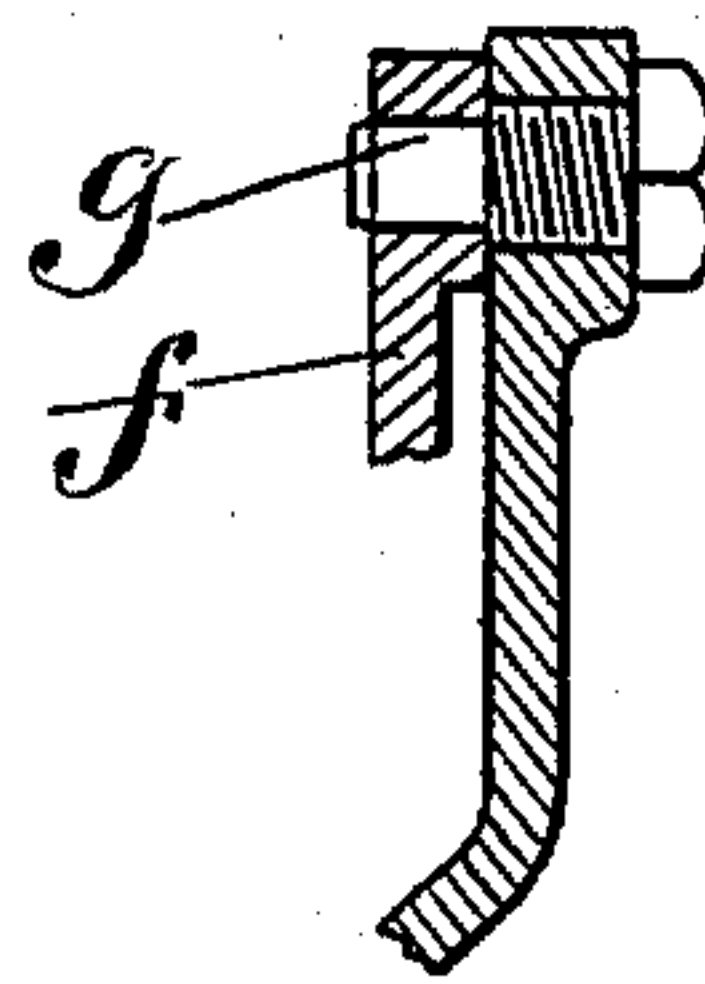


FIG. 8.

WITNESSES:
K. E. Brown.
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UNITED STATES PATENT OFFICE.

JAMES H. PAIGE, OF MANCHESTER, NEW HAMPSHIRE, ASSIGNOR OF ONE-HALF TO GEORGE S. VARNEY, OF SAME PLACE.

PICKER-MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 518,424, dated April 17, 1894.

Application filed February 17, 1893. Serial No. 462,724. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. PAIGE, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Picker-Motions for Looms, of which the following is a specification.

This invention has relation, broadly, to "picker-motions," so called, by which is understood that system of means employed in looms for impelling the shuttle through the shed; and it has reference more particularly to that class of picker-motions in which a picker staff is employed, to the upper part of which a picker is attached, usually composed of leather or rawhide, which picker comes into contact with the shuttle to pick or move it. The fact that the picker is in contact with the shuttle but for a short distance of its travel from shuttle-box to shuttle-box, and such contact is at the start of its movement, the shuttle is left to complete its journey through the shed to the opposite shuttle-box, without any means to guide it but the momentum imparted to it by the picker, and its course throughout will tend to be on a line corresponding to that upon which it is started. It, therefore, becomes important that the picker, while in driving contact with the shuttle, should move in a straight line, or line parallel with the shed, or course the shuttle should have through the shed.

It has been common, heretofore, among other shuttle motions, to affix the lower end of the picker staff in a rocker or rocking shoe, so that by varying the position or line of movement of the base of the stick to compensate for the tendency of the upper end or part carrying the picker to move out of horizontal or straight line, and thus secure a "parallel motion." With this system, by reason of the fact that the position of the axis of the stick was constantly changing in the use of the device, a parallel motion has not been obtained; and in addition to this, the liability to undue raising, or tendency to "jump," of the upwardly-moving end of the rocker or shoe, caused frequent picking of the shuttle out of the shed and other and costly accidents.

By my improvements the difficulties and

objections mentioned are overcome, the said invention consisting in the improvements which I will now proceed to describe in detail and point out in the appended claims. 55

Reference is to be had to the annexed drawings and to 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. 60

Of the drawings—Figure 1 is a side view of my improved picker motion. Fig. 2 is a front view of the same. Fig. 3 is a side sectional view taken on the line 3, 3 of Fig. 2. Fig. 4 is a perspective view of the compensating guide which may be employed in connection with the picker staff above its pivotal point to guide it on a line the reverse of that which the upper end of the stick will have a tendency to normally describe. Fig. 5 is a perspective view of a box-strap, subserving several functions, and to be presently explained. Fig. 6 is a horizontal sectional view showing a form of means whereby the pivot at the base of the stick may be adjusted to suit varying circumstances. Fig. 7 shows a means for pivoting the base of the picking stick upon a fixed pivot. Fig. 8 is a sectional detail view, showing a way in which the pivoted crank guide shown in Fig. 4 may be mounted. 65 70 75 80

In carrying out my invention, I provide a suitable bracket or base *a*, adapted to be connected to the loom frame, which bracket may be bifurcated on its inner end, as shown at *b* in Fig. 7, so that the lower end of the picker staff or stick *c* may be pivoted in said bifurcation on a pivot pin *d* supported in the bracket. If need be, washers *e* may be arranged on the pivot pin, on both sides of the picker-stick. 85 90

One of the essential features of the invention is the provision of a guide for the picker-stick above its pivotal point at the base, which guide is connected with the picker-stick, and so constructed and arranged as that it may guide the stick on a line the reverse of that that would be normally described by the upper end of the stick, so as to cause the latter to move in a straight line. 95

As shown in Figs. 1, 2, and 3 the compensating guiding means consists of cranks or pend- 100
ent levers *f f*, pivotally supported at their up-

per ends upon the smooth inner ends of bolts or pins or trunnions *g* tapped through the upper ends of upright portions of the bracket *a* (see particularly, Fig. 8) the lower ends of the
 5 said guiding or compensating crank arms being constructed so as to support a suitable journal or pivot pin *h* (see Fig. 4) the whole constituting a swing.

The guiding or compensating crank arms
 10 are herein shown as connected with the picker-staff or stick by forming a round notch in the side of the latter, as indicated at *i*, Fig. 3, and bolting on said notched side the box-strap or bar *j*, clearly shown in Fig. 5. The said
 15 box-strap is provided in its upper inner side with a half-round recess *k*, which half-round recess, together with the half-round notch *i* in the picker-stick, form a complete box or bearing for the journal pin *h*.

20 By forming a notch or hole *l* in the upper end of the box strap, means are provided for lubricating the journal pin *h*.

The box-strap may be made to extend to the bottom of the picker-staff or stick, and by
 25 offsetting the same, as at *m*, and offsetting the picker-staff in the opposite direction, as at *n*, a bearing for the pivot pin *d* of the picker-staff may be provided, so that while the said picker-staff may move upon said pin without
 30 varying the position of its axis, it may also be allowed to move longitudinally, so as to allow the compensating guiding means to perform their functions of controlling the line of movement of the upper or picker-bearing end
 35 of the staff.

Instead of fulcruming or pivoting the lower end of the picker-staff upon a fixed pin *h*, the said pin may be secured in a box *o*, adjustable in the bracket *a*, by set screws *p p*, or
 40 other suitable means, (see Fig. 6.) By this means the picker-staff can be adjusted.

A spring *t* may be interposed between the picker-staff and the upper end of the upright part *u* of the bracket *a*, to secure the return
 45 of the picker-staff to normal position. If a spring of a helical kind should be employed, as shown, a pin or projection *v* on the picker-staff, and a like pin *w*, on the upright part *u* of the bracket, may be employed to keep the
 50 spring in place.

The operation of this invention has been so clearly indicated in the description of its construction, as to hardly need further elucidation. It may be remarked, however, that
 55 by my improvements, the compensating guiding means operate to lower the picker carrying point of the picker-staff or stick, while it

is in picking-contact with the shuttle in the exact ratio that said point has a tendency to rise, and to raise said point in the same manner and ratio when it has a tendency to lower, consequently a horizontal or straight line of movement of the picker is secured. It is to be further noted that with my invention a positive movement of the picker is secured,
 60 there being no liability of the picker "jumping" or being unduly raised or lowered in its movements.

Having thus explained the nature of the invention 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 the modes of its use, it is declared that what is claimed is—

1. A parallel picker-motion for looms, comprising in its construction a bracket having a horizontal portion adapted for attachment to the loom-frame and a vertical bifurcated portion forming a pair of standards, a pivot-pin
 75 extending across the lower end of the bifurcation, a picker-stick pivoted on said pin and adapted to play longitudinally thereon, and a swing comprising members pivoted to the vertical standards respectively and connected with the picker-stick by a common pivot-pin. 85

2. A parallel picker-motion for looms comprising in its construction a bracket supporting a pivot-pin, a pendent lever or crank pivoted at its upper end to a stationary support and having a pivot-pin at its lower end, a
 90 picker-stick, and a strap secured thereto and forming therewith a bifurcation at the lower end which embraces the pivot-pin thereat, and a bearing which receives the pivot-pin at the lower end of the pendent lever. 95

3. In a picker motion for looms, the combination, with a bifurcated bracket, of a picker stick, a pivot pin longitudinally adjustable in the bifurcation of said bracket, the said picker stick being pivoted at its lower end upon said
 100 pivot pin and constructed and arranged to move longitudinally on said pivot, and pendent levers or cranks pivoted at their upper ends in the bracket, and pivotally connected at their lower ends with the picker stick, as
 105 set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 11th day of February, A. D. 1893.

JAMES H. PAIGE.

Witnesses:

ARTHUR W. CROSSLEY,
 A. D. HARRISON.