

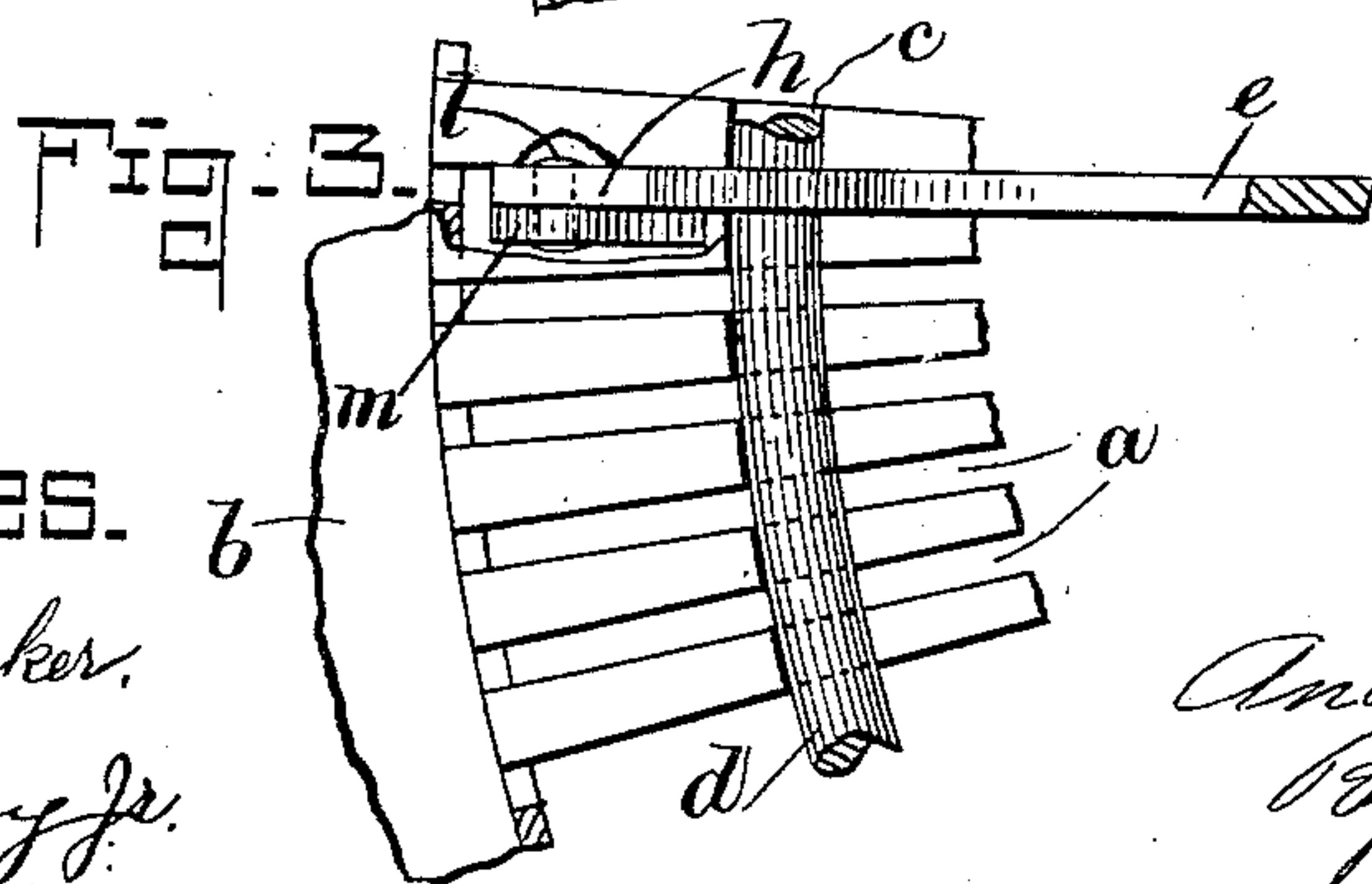
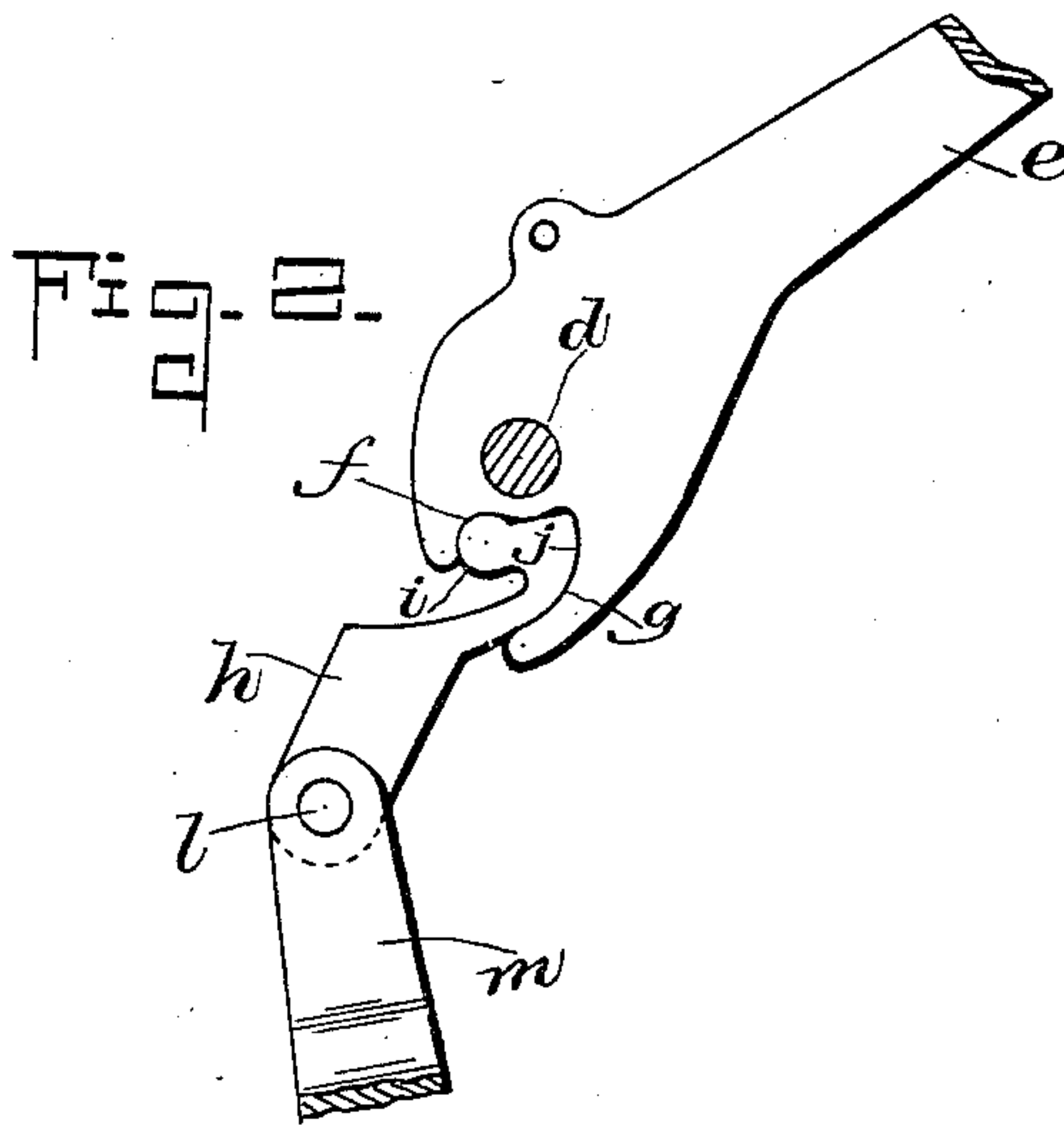
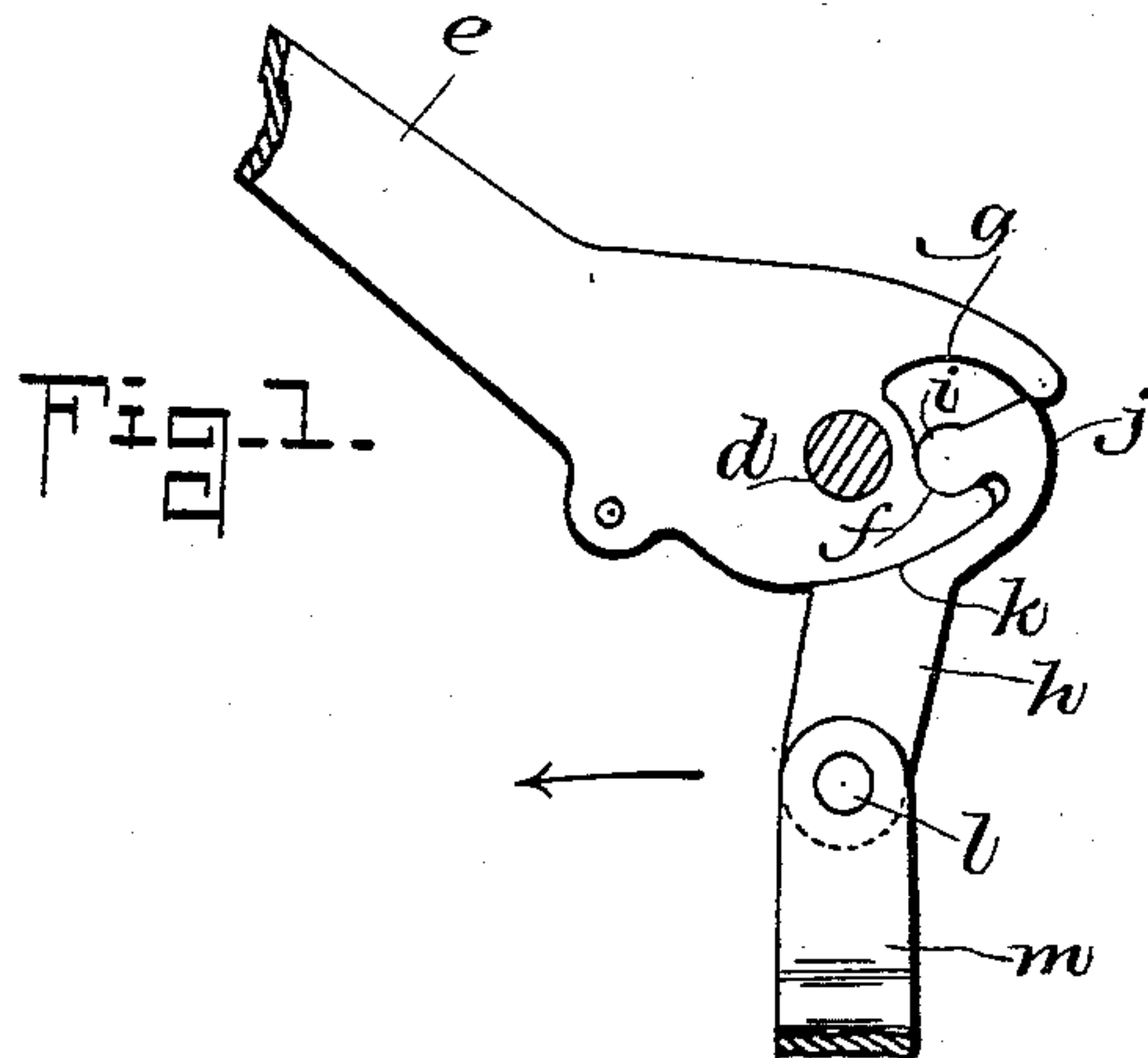
No. 677,430.

Patented July 2, 1901.

A. W. STEIGER.
DRIVING CONNECTION FOR TYPE BARS.

(Application filed Aug. 20, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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DRIVING CONNECTION FOR TYPE-BARS.

SPECIFICATION forming part of Letters Patent No. 677,430, dated July 2, 1901.

Application filed August 20, 1900. Serial No 27,421. (No model.)

To all whom it may concern:

Be it known that I, ANDREW W. STEIGER, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Driving Connections for Type-Bars, of which the following, taken in connection with the accompanying drawings, is a specification.

10 This invention in type-writers relates to the construction of the joint which forms the driving connection between the type-bar and the link. In this class of machines there are many jointed pieces arranged side by side, and as the space is limited it becomes a matter of some importance to make the joint as thin as possible without diminishing its efficiency.

20 To this end my invention consists in forming in the type-bar, which is made from thin flat steel, a segmental bearing and fitting flush thereto the pivot of a link made of thin metal, and I form on the link opposite the pivot a concentric segmental boss which, in connection with a projecting guard on the type-bar, serves to keep the pivot seated in the bearing. To prevent their lateral separation, I arrange the pieces in slots in the type-bar fulcrum-plate, which supports on a common pivot the series of type-bars. Another feature of this joint consists in providing a starting leverage to overcome the inertia of the parts greater than the traveling leverage for the type-bar. This is accomplished by arranging the link so that it rests in contact with the type-bar, which prevents the link turning in the type-bar until the type-bar is put in motion by the driving-crank pivoted to the extremity of the link. During this interval the type-bar is driven with a radius equal to the distance from the type-bar center to the connection of the link and driving-crank. As soon as the type-bar starts the driving-center shifts from the extremity of the link to the pivot-bearing of the link and type-bar, with the effect of putting the type-bar in much more rapid motion, as this last center is enough nearer the type-bar center to increase the velocity ratio for equal driving-crank motion about three and a half times.

The drawings illustrating an embodiment of the invention show, in Figure 1, an elevation of a type-bar and link provided with my joint; Fig. 2, a like view in a different position; Fig. 3, a plan of a fulcrum-plate with the bars in position.

A series of radiating grooves *a* are formed in the fulcrum-plate *b*, and they are intersected by a circular groove *c*, within which is supported a wire *d*, upon which the type-bars *e* are pivoted. For the purpose of swinging the type-bar about its pivot *d* I form a segmental bearing *f* in the type-bar, covering about a quadrant, and opposite the bearing *f* I form a concentric guard *g* of greater radius than the bearing *f*. From a thin sheet of steel I make a link *h* of equal thickness to the type-bar *e* and form at one end a pivot *i*, having about double the circular surface of the bearing *f*. Concentric with this pivot is a segmental boss *j* of the same radius as the guard *g* and of substantially the same extent.

To give a powerful start to the type-bar, I allow the link *h* when the parts are at rest to touch the type-bar *e* along the line *k*, which in effect makes them one piece. At its extremity the link is pivoted at *l* to the driving-crank *m*.

Normally the parts are as in Fig. 1. When the operator strikes a key, the driving-crank moves in the direction of the arrow. This cramps the pivot-bearing *i* and *f* along the line *k*, and the type-bar *e* is driven through the radius *d* to *l*. As soon as the bar is in motion the type-bar *e* and link *h* separate at the line *k*, the link *h* merely pulling on the bearing *f* and *i*, and from this time the type-bar will be driven through the radius *d* to *i*, which imparts the rapid motion required to effectively operate the type-bar.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a type-writer, a pivoted type-bar having a segmental bearing and a link having a segmental pivot seated in the bearing, combined with a segmental boss on the link concentric with and diametrically opposite to the said pivot and a segmental guard on the type-bar concentric with and diametrically opposite

site to the bearing, a fulcrum-plate to support the pivot of the type-bar and grooves in the plate having walls adapted to maintain the link and bar in alinement, substantially
5 as described.

2. In a type-writer, the combination with a link having a pivot, of a pivoted type-bar having an eccentric corresponding bearing and a guard to keep the pivot of the link
10 seated in the bearing of the type-bar, means for preventing the link from turning on its pivot in the bearing of the type-bar when first pulled in the direction to start the type-bar but after the type-bar moves allowing free
15 rotation of the pivot of the link in the bearing of the bar, substantially as described.

3. In a type-writer, a link having a permanent connection with a crank and a connection continuing but an instant after the key
20 is touched with a type-bar to give to it a starting twist about its pivot through a long leverage and a permanent connection between the link and bar to apply the pull of the crank to the bar through a shorter leverage
25 thereafter, substantially as described.

4. In a type-writer, a pivoted type-bar, a link pivoted to the type-bar and an actuating device pivoted to the link, combined with means to prevent the link from turning on its pivot in the type-bar until the actuating
30 device has started the said bar from its position of rest, substantially as described.

5. In a type-writer, a link permanently jointed to a crank and a type-bar permanently jointed to the link, a separable con-
35 tact between the link and bar that interlocks them to apply a momentary starting twist to the bar from the joint of the crank with the link, and means, acting upon separation of the link and bar at the separable contact, to
40 transmit the pull of the crank entirely to the joint of the link with the bar, substantially as described.

In testimony whereof I have hereunto subscribed my name this 27th day of December,
45 A. D. 1899.

ANDREW W. STEIGER.

Witnesses:

A. O. ORNE,

JOHN B. DALEY.