

No. 765,694.

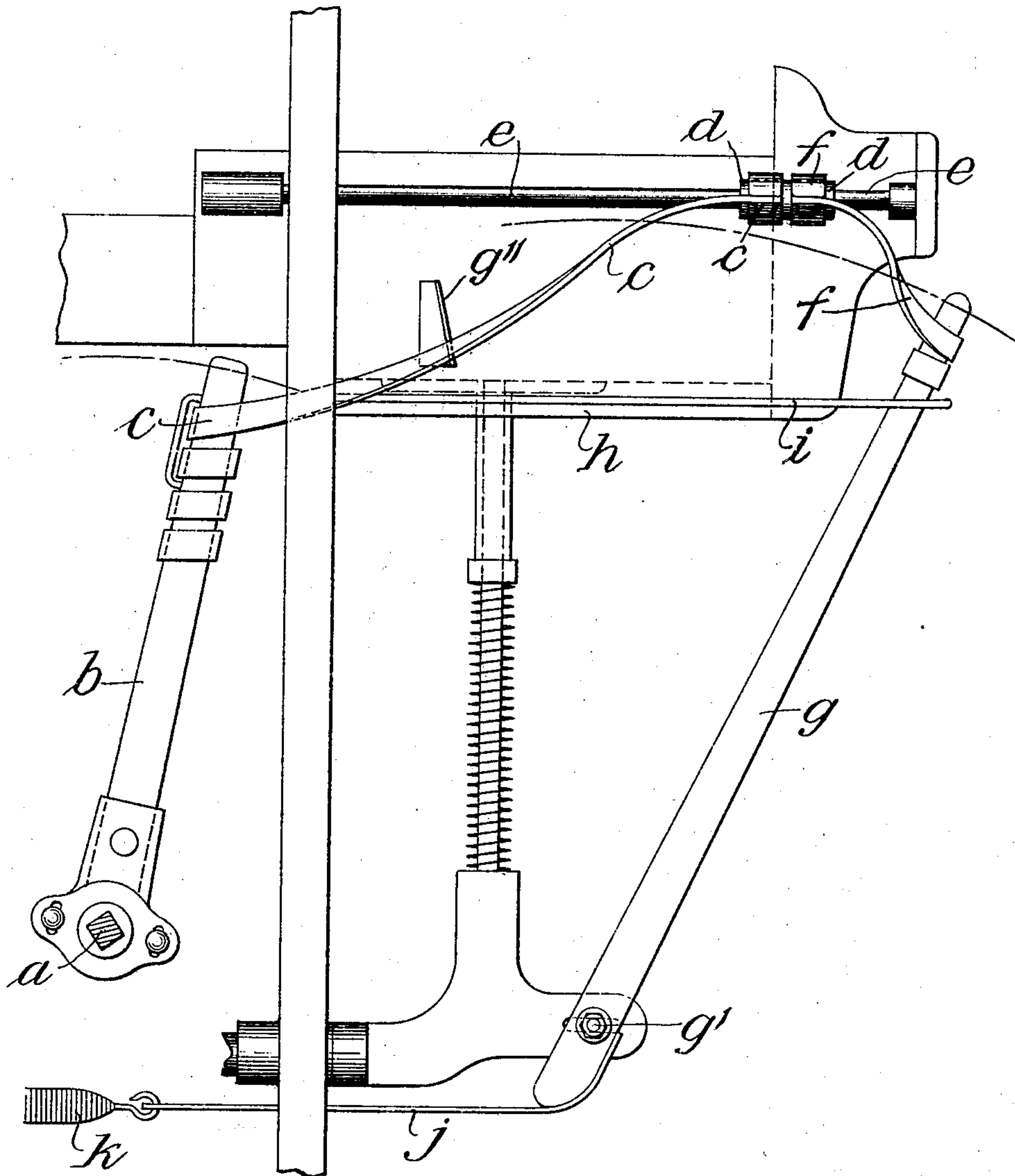
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J. S. AINLEY & E. HOLLINGWORTH.

UNDERPICK MOTION FOR LOOMS.

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NO MODEL.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN SHAW AINLEY, OF HUDDERSFIELD, AND EDWARD HOLLINGWORTH, OF DOBCROSS, ENGLAND; SAID HOLLINGWORTH ASSIGNOR TO CROMPTON & KNOWLES LOOM WORKS, A CORPORATION OF MASSACHUSETTS.

UNDERPICK MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 765,694, dated July 26, 1904.

Application filed November 20, 1903. Serial No. 181,918. (No model.)

To all whom it may concern:

Be it known that we, JOHN SHAW AINLEY, residing at Huddersfield, and EDWARD HOLLINGWORTH, residing at Dobcross, in the county of York, England, have invented certain new and useful Improvements in Underpick Motions of Looms for Weaving, of which the following is a specification.

This invention relates to underpick motions of looms for weaving.

The object of our invention is to provide new and novel means for actuating the pickers to throw the shuttles across the loom without the use of picking-sticks as now employed, in dispensing with which the noise and shocks occasioned by the blows of the picking-sticks against the pickers are avoided, and consequently the pickers are not subject to the same excessive wear and tear as at present and last considerably longer.

Our invention consists of the arrangement and combination of parts, as will be hereinafter fully described.

In the accompanying drawing, forming a part of this specification, we have shown one embodiment of our improvements in or connected with underpick motions as seen from the rear of the loom.

Our invention consists in mounting on each ordinary picking-shaft *a* (at the sides of the loom, one side only of the loom being shown) a vertical arm or lever *b*, to the upper end of which is attached a leather or other suitable flexible strap or connection *c*, whose opposite end is secured to the usual picker *d* on the picker-spindle *e*. The said picker is also connected by a flexible strap connection *f* with the upper end of an arm or stick *g*, either pivoted at *g'*, as shown, or mounted on a stud carried by a bracket at one side of the lay or going part *h* or in any other convenient and suitable position below the lay or going part.

The stick *g* may be arranged to extend between the picker-spindle *e* and the rear of the lay or to enter between same in its movement toward the loom. In this instance a

guide *i* is secured to the lay or going part *h* to guide the stick *g*. To the lower end of the arm or stick *g* is secured a strap *j*, connected to a spring *k*, which in turn is connected by a rod or link (not shown) to a corresponding spring similarly connected to a stick or arm, such as *g*, at the opposite side of the loom, or a spring may be attached at one end to the arm *g* and at the opposite end to a part of the lay in lieu of the arrangement shown.

The picking-shaft *a* is actuated by picking-bowls engaging a shoe (not shown) on said shaft in the ordinary manner or by cam or tappet acting against a cone on the picking-shaft, the motion of the shaft at each actuation oscillating the upright arm or lever *b*, fast thereon, toward the center of the loom, whereby, through the flexible connection *c*, the picker *d* is drawn sharply forward by a whip action to throw the shuttle across the loom, the pivoted arm or stick *g* being drawn forward along with the picker and expanding the spring *k*, which immediately the pick has been given acts through the arm *g* to draw back the picker *d* and lever *b* to their normal positions. The motion of the pulling-back stick *g* is checked by a buffer *g''*, in this instance located on the lay or going part *h*. By means of this underwhip pick motion there is no impact or blow upon the picker, the action being silent and smoother and easier than the ordinary underpick motion.

The arm or stick *b* may be secured to an extension on a hub secured to a disk or plate fast on the picking-shaft *a*, said hub being adjustable radially to adjust the position of the stick *b* to suit any alterations in the picking.

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

1. In underpick looms, an underpick motion comprising a picking arm or lever fast on the picking-shaft and connected by a strap or like flexible connection to the picker, and said picker in combination with a pulling-back stick or arm also connected by flexible connec-

tion to the picker, and a retracting-spring for drawing back the supplementary pulling-back stick, substantially as set forth.

2. In a loom, the combination with a picking arm or lever fast on the picking-shaft, and connected by a strap or flexible connection to the picker, and said picker, of a pulling-back stick or arm also connected by a flexible connection to the picker, and a spring

for drawing back said stick or arm, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN SHAW AINLEY.

EDWARD HOLLINGWORTH.

Witnesses:

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