

No. 897,528.

T. GREENWOOD.

PATENTED SEPT. 1, 1908.

LOOM FOR THE MANUFACTURE OF TUFTED OR PILE FABRICS.

APPLICATION FILED MAR. 20, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

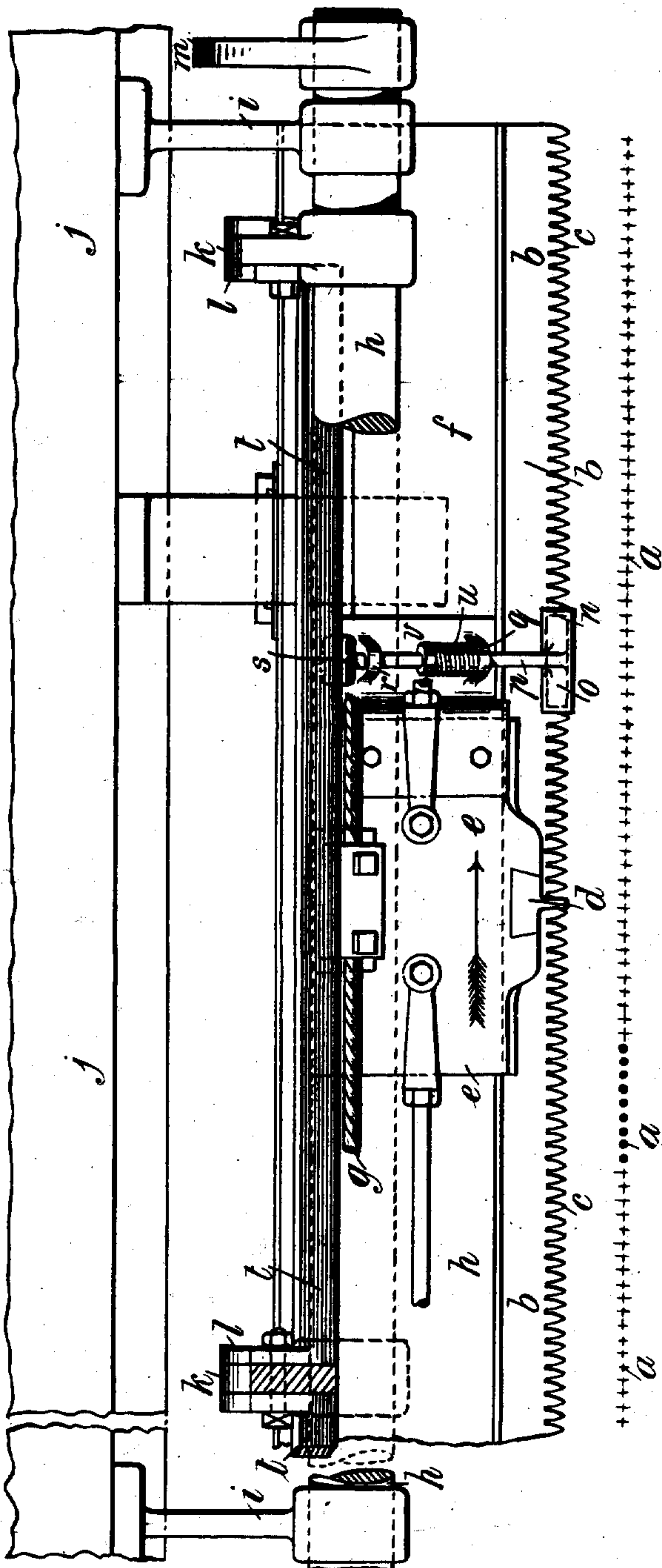
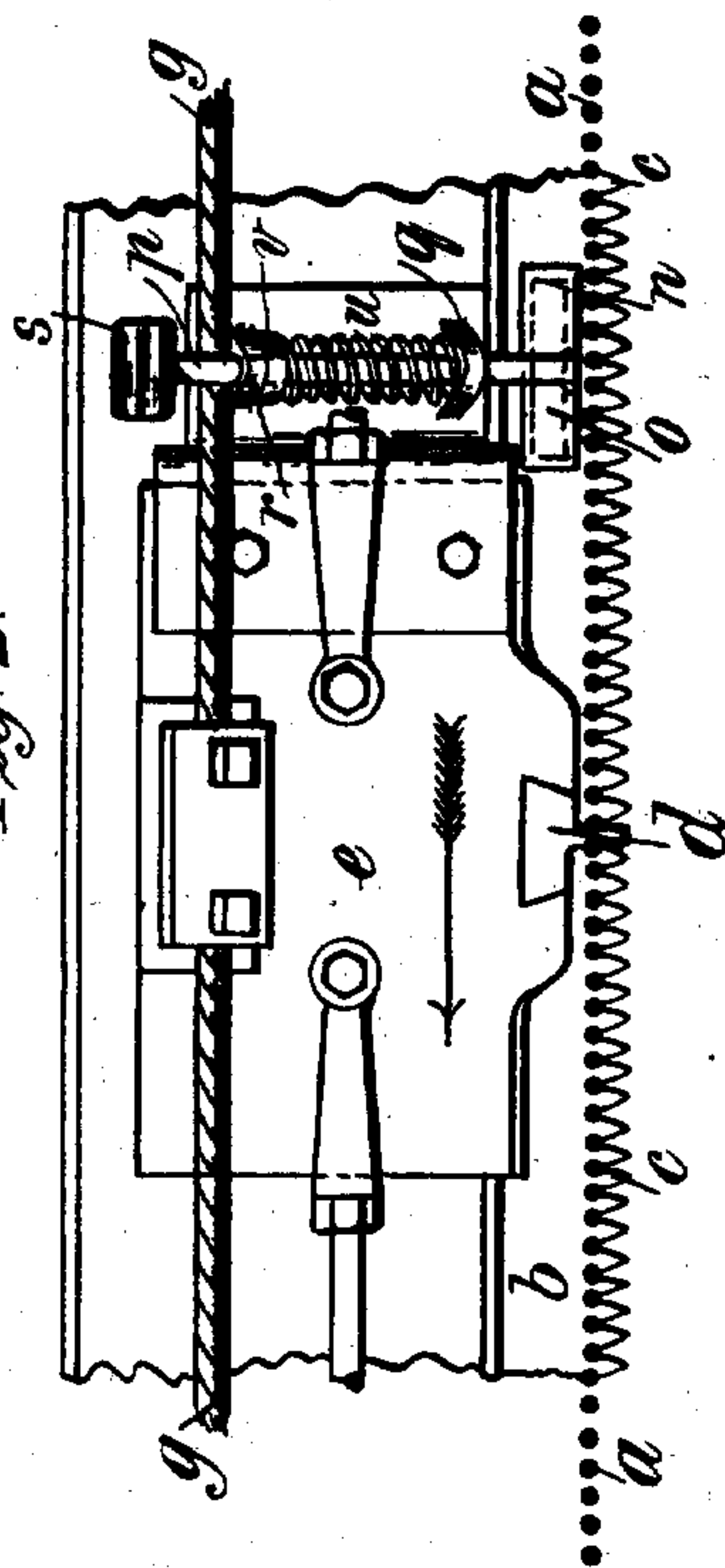


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3

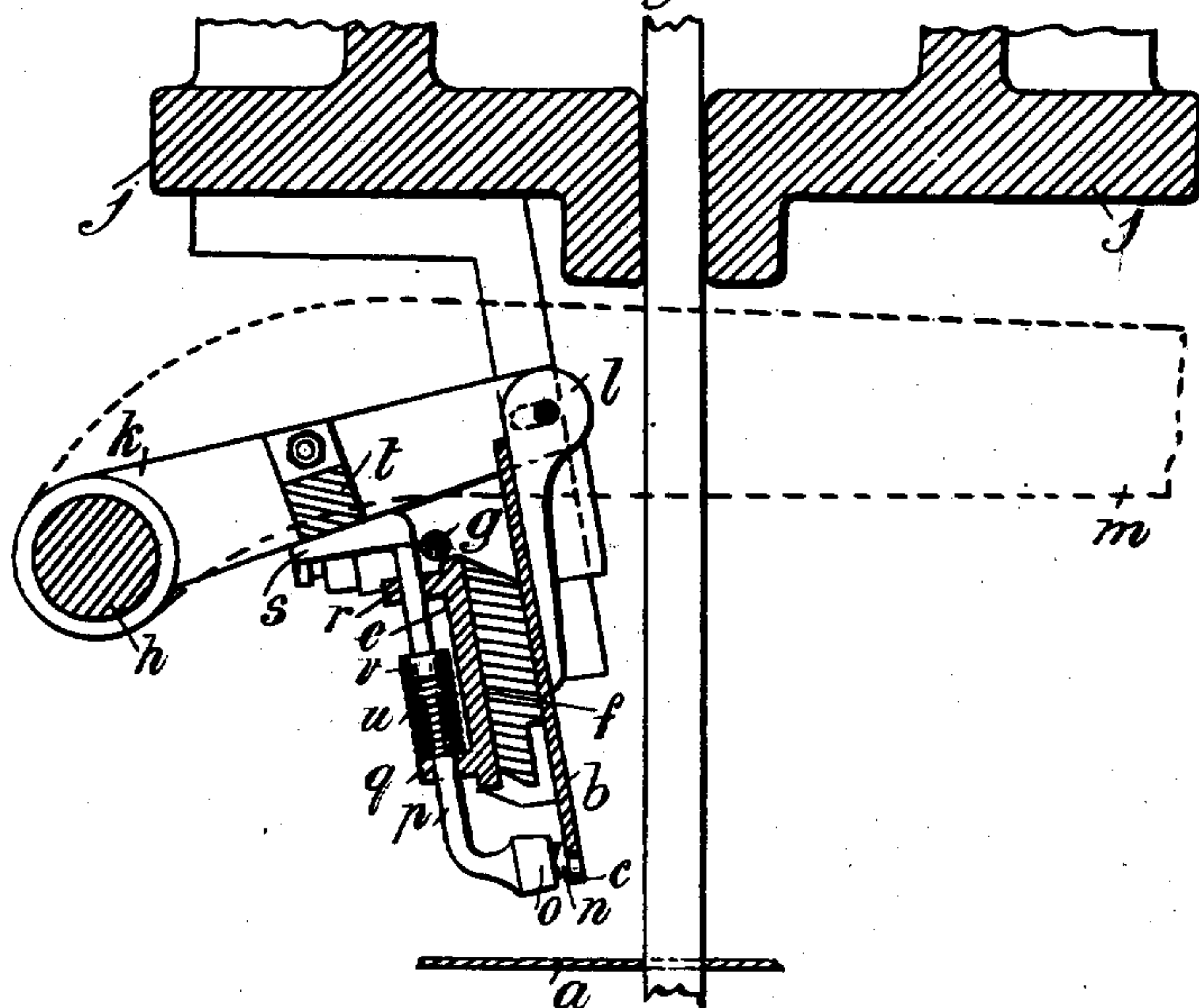
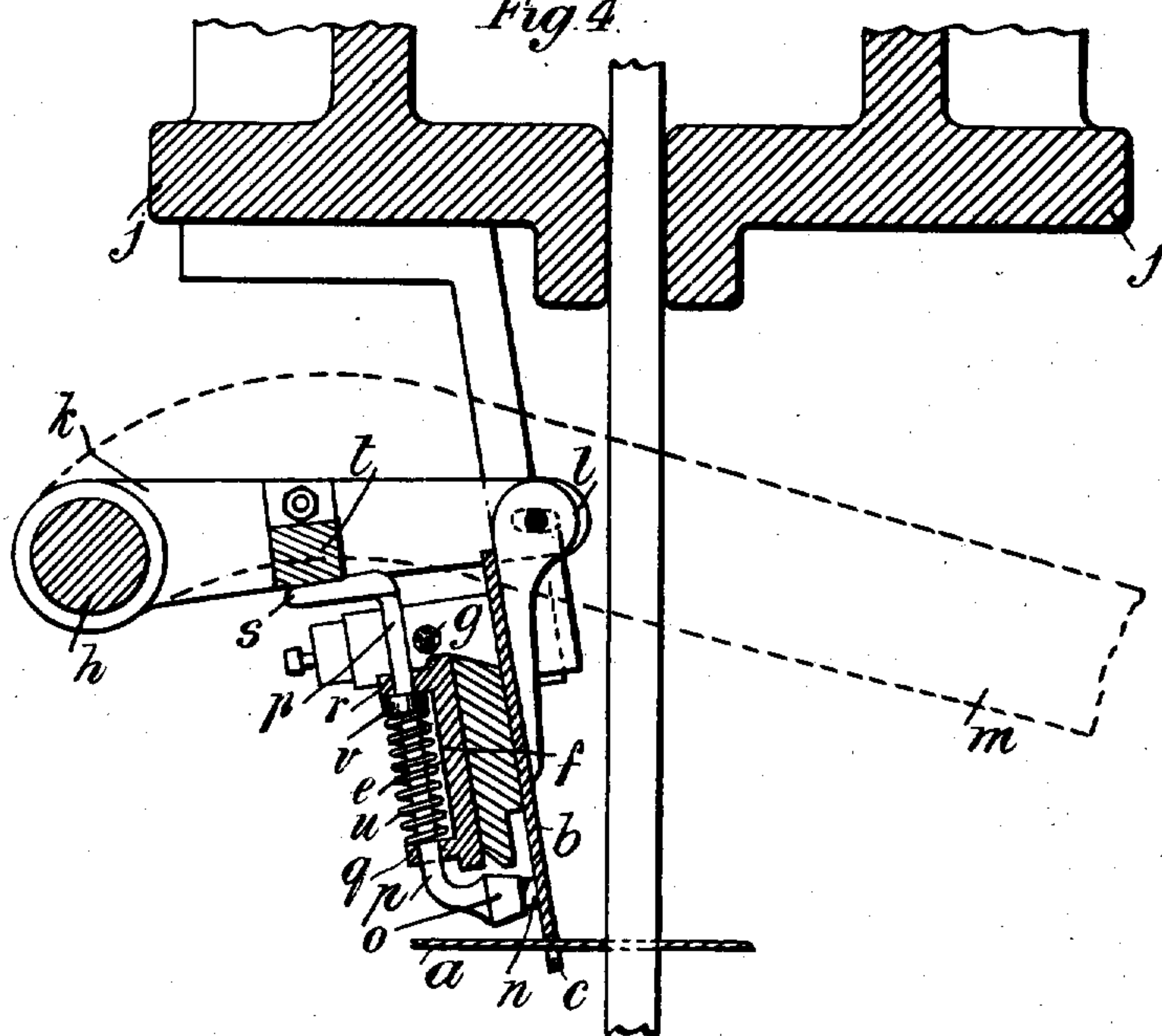


Fig. 4



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UNITED STATES PATENT OFFICE.

THOMAS GREENWOOD, OF WOLVERLEY, NEAR KIDDERMINSTER, ENGLAND.

LOOM FOR THE MANUFACTURE OF TUFTED OR PILE FABRICS.

No. 897,528.

Specification of Letters Patent.

Patented Sept. 1, 1908.

Application filed March 20, 1907. Serial No. 363,344.

To all whom it may concern:

Be it known that I, THOMAS GREENWOOD, subject of His Majesty the King of Great Britain and Ireland, and residing at The Shrubbery, Wolverley, near Kidderminster, in the county of Worcester, England, mechanic, have invented new and useful Improvements in Looms for the Manufacture of Tufted or Pile Fabrics, of which the following is a specification.

This invention has reference to looms for the manufacture of tufted or pile fabrics and more particularly of carpets or fabrics of the kind known as Royal Axminster or moquette.

A loom of the kind to which this invention relates is described in the specification of British Letters Patent No. 15,680 of 1890 and various improvements in the same loom are described in the subsequent British specifications Nos. 11268 of 1891, 24086 of 1892, 11397 of 1894 and 1095 of 1900. In a loom of the kind above referred to the pile of the carpet or fabric is formed of tufts which are severed from the pile yarns in the yarn carriers and are brought forward by grippers which lay the tufts against the fell of the carpet where the tufts are bound into the carpet by the weft when the latter is beaten up by the slay. In the said loom there is a combined horizontal knife blade and knife slide carried by the top beam or yarn carriage and along which the moving knife boxes and knives move to sever the ends of the yarns to form the tufts.

This invention consists of the herein described improved means for oiling the part of the long knife blade along which the moving knife or knives travel or travels my invention being so arranged as to prevent any oil getting on the ends of the yarns.

I will describe my invention by referring to the accompanying drawings on which

Figure 1 is a front elevation partly in section of the top beam or yarn carriage and a portion of the long knife blade and its accessories and the sliding knife box and knife with my invention applied this figure showing also the ends of the tuft yarns with the long knife and accessories raised as when the sliding knife is making its back stroke after severing the tufts; Fig. 2 shows some of the tuft yarns and a part of the long knife and my invention and the sliding knife box and sliding knife moving in the opposite direction and severing the tufts; Fig. 3 is a cross section of

the same on line X X of Fig. 1 but the moving knife is omitted and Fig. 4 shows the same parts as Fig. 3 but in the positions which they occupy when the moving knife is traveling in the direction indicated by Fig. 2 and severing the tuft yarns.

The ends of the tuft yarns are marked *a*; *b* is the long knife made with the serrated lower edge *c* and which moves upwardly to permit of the grippers gripping the ends of the tuft yarns *a* and then moves downwardly into position with its teeth between the ends of the tuft yarns while the moving knife *d* moves along the knife *b* to sever the end portions of the tuft yarns which are held by the grippers to form the tufts.

e is one of the sliding knife boxes which carries the knife *d* and which is moved to and fro along the knife guide *f* by the endless wire rope *g*.

h is the horizontal rocking shaft which is carried by brackets *i* from the underside of the top beam or yarn carriage *j* and on this shaft *h* there are mounted lever arms *k* the ends of which are connected to ears *l* fixed on the back of the knife *b* so that as the shaft *h* is rocked by the lever *m* in the working of the loom, the long knife *b* with its knife guide *f* and sliding knife box *e* and sliding knife *d* and accessories will be worked up and down as aforesaid.

The parts above described are known, and my invention for automatically lubricating the long knife *b* at the proper times is carried out as follows:—On one side of the sliding knife box *e* I provide a pad of felt or other absorbent material or suitable substance *n* which carries the lubricant and is fixed in a holder *o* provided with an upright vertical stem *p* which is adapted to slide up and down in eyes or guides *q*, *r* formed on the knife box *e*. The oiling pad *n* presses against the face of the long knife *b*. The top end of the stem *p* is cranked outwardly at *s* so as to take under a horizontal bar *t* which is carried by and fixed to the levers *k*, *k* which carry and operate the long knife *b*. The bottom edge of this bar *t* is flush with the bottom edges of the levers *k* so as to permit of the upper part *s* of the stem *p* sliding properly underneath the levers from one bar *t* to the next one, as may be required in the travel of the sliding knife box *e*. The cross bar *t* is situated in an intermediate position between the shaft *h* and the outer ends of the levers *k* so that when the levers *k* move up

and down on the rocking of the shaft *h*, the bar *t* and the stem *p* and oiler *n* have a smaller vertical travel than does the long knife *b*. The top part *s* of the stem *p* is kept in contact with the underside of the bar *t* by means of the coiled wire spring *u* on the stem *p* which spring acts between the lug or guide *q* and the collar *v* fixed on the stem *p*.

10 The appliance above described acts as follows:—When the long knife *b* is in its raised position as in Figs. 1 and 3 away from the yarn *a*, and the knife box *e* is making its back stroke, then the oiling pad *n* moves along over the teeth *c* of the knife *b* as shown in these figures thereby lubricating the face of the knife *b* for the moving knife *d* to slide along it. When, however, the long knife *b* is by the downward movement of the levers *k* moved down to the position shown by Figs. 2 and 4 for the teeth to come between the yarns so that the knife box *e* with the moving knife *d* will move in the opposite direction as indicated by the arrow in Fig. 2 and the moving knife *d* will sever the parts of the yarn which are protruding and held by the grippers, then, owing to the fact that the bar *t* and the stem *p* and pad *n* have not moved down so far as the long knife *b*, the pad *n* now occupies a position as shown in Figs. 2 and 4 above and clear of the tuft yarns *a*. When

the levers *k* with the long knife *b* move up again to the position shown in Figs. 1 and 3 then as the cross bar *t* and the stem *p* and pad *n* do not move up so far as the long knife *b*, the pad *n* will now work against the face of the teeth of the long knife *b* and lubricate the same as stated above. Thus it will be seen that the oiling of the front of the teeth of the long knife is effected when the knife is raised clear of the tuft yarns and the oil pad *n* automatically rises above these teeth when they are down in position between the tuft yarns, and there is thus no fear of the tuft yarns being oiled.

What I claim as my invention and desire to secure by Letters Patent is:—

In a loom of the class described, the combination with the sliding knife box of the long serrated knife blade of the tuft yarn cutting mechanism, means for moving the knife blade, an oiling pad for oiling said long knife blade carried by the knife box and means for moving said pad parallel to the movement of the long knife blade but to a less extent.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS GREENWOOD.

Witnesses:

JAMES AMPLECOTT MORTON,
ELLIS WILLIAM TALBO.