No. 872,508. PATENTED DEC. 3, 1907.

T. GREENWOOD.

LOOM FOR THE MANUFACTURE OF TUFTED OR PILE FABRICS.

APPLICATION FILED MAR. 20, 1907.

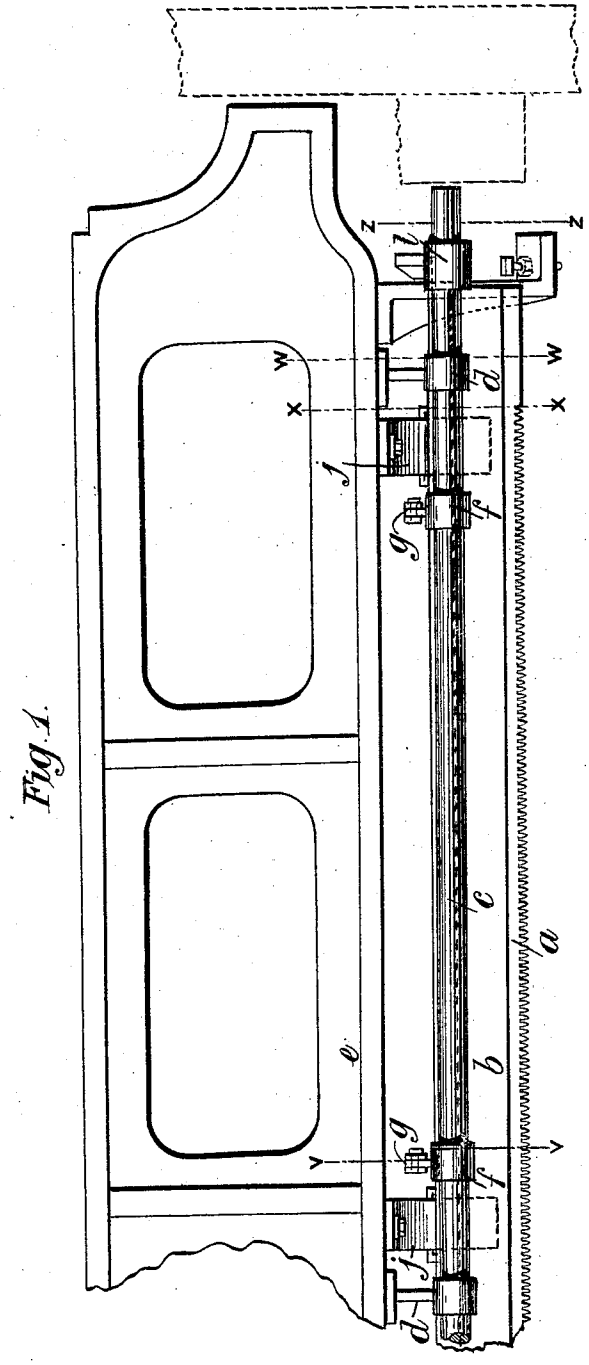

Fig. 1.

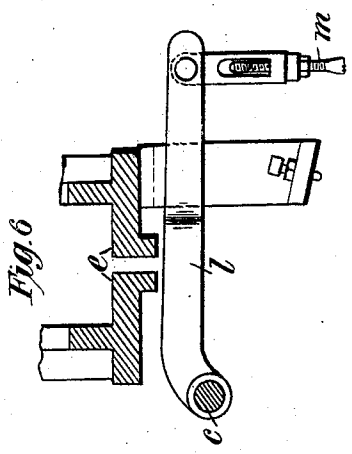

Fig. 6.

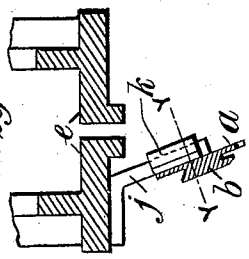

Fig. 4.

Fig. 5.

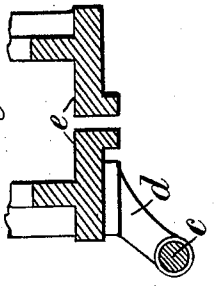

Fig. 3.

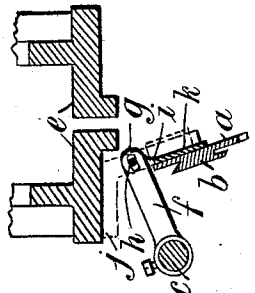

Fig. 2.

Witnesses.
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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. 872,508. Specification of Letters Patent. Patented Dec. 3, 1907.

Application filed March 20, 1907. Serial No. 363,343.

To all whom it may concern:

Be it known that I, THOMAS GREENWOOD, subject of His Majesty the King of Great Britain and Ireland, 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. 15680 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. When a loom of this kind is made extra wide so as to enable it to weave much wider carpets and fabrics than is possible with a loom constructed as described in the specifications above referred to, the combined knife blade and knife slide, which is carried by the top beam and along which the moving knife boxes and knives move to sever the ends of the yarns to form the tufts, being very long is apt to sag and spring but this sagging and springing of the combined knife blade and knife slide is prevented by my invention which is carried out as I will describe by referring to the accompanying drawing on which

Figure 1 is a front elevation of a portion of the top beam of the loom with the combined knife blade and knife slide and showing my invention applied thereto; Fig. 2 is a cross section of the same on line V V of Fig. 1; Fig. 3 is a cross section of the same on line W W of Fig. 1; Fig. 4 is a cross section of the same on line X X of Fig. 1; Fig. 5 is a cross sectional plan of part of the same on line Y Y of Fig. 4; and Fig. 6 is an end sectional elevation of the same taken on line Z Z of Fig. 1.

a is the long horizontal knife blade and *b* is the knife slide fixed to the knife blade *a* for the knife boxes with the moving knives to travel along. In order to prevent any sagging or springing of the knife blade *a* and knife guide *b*, which in the extra wide loom have to be made very long as aforesaid, I employ the following arrangement of parts. Adjacent to the knife blade *a* and at the front of the same and running along the whole length of it I provide a horizontal shaft *c* which is carried by and turns in bearings *d* bolted to the underside of the top beam or yarn carriage *e*. Connected on to this shaft *c* at convenient intervals apart are levers *f* the outer ends *g* of which are slotted and connected by pins *h* to brackets *i* fixed to the back of the knife blade *a*. The top beam or yarn carriage *e* is provided on its underside with inclined angle brackets *j* at certain intervals apart on which work slides *k* fixed to the back of the knife blade *a*.

The shaft *c* has a rocking movement imparted to it by a lever *l* fixed to one end of the shaft and operated by a lifting rod *m* at one end which is actuated by a cam so as to turn the levers *f* through the proper angle to raise and lower the knife blade *a* and knife slide *k* fixed thereto on the brackets *j*, which latter are arranged at such an angle as to give the knife the necessary downward and backward movement to bring it on to the yarns when the latter are pulled out by the grippers and so as to remove the knife *a* away from the yarns after they have been severed by the traveling knives carried by the knife boxes which run along the knife guide *b*. This arrangement while permitting free up and down movements of the knife blade *a* and knife guide *b* effectually prevent them from sagging or springing.

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

In a wide loom of the kind herein referred to for weaving tufted or pile fabrics, the combination with the knife blade and sliding knife guide which extends across the whole width of the set of yarns, of the top beam one or more downwardly projecting inclined guide brackets fixed to the top beam slides fixed to the knife blade and adapted to be engaged by said guide brackets so that said knife blade is movable up and down the same, a horizontal shaft and a series of

levers connecting the combined knife blade and sliding knife guide to the said horizontal shaft whereby the combined knife and sliding knife guide are effectually prevented from sagging and springing, substantially as set forth.

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

THOMAS GREENWOOD.

Witnesses:
JAMES AMPHERT MORTON,
ELLIS WILLIAM TALBOT.