

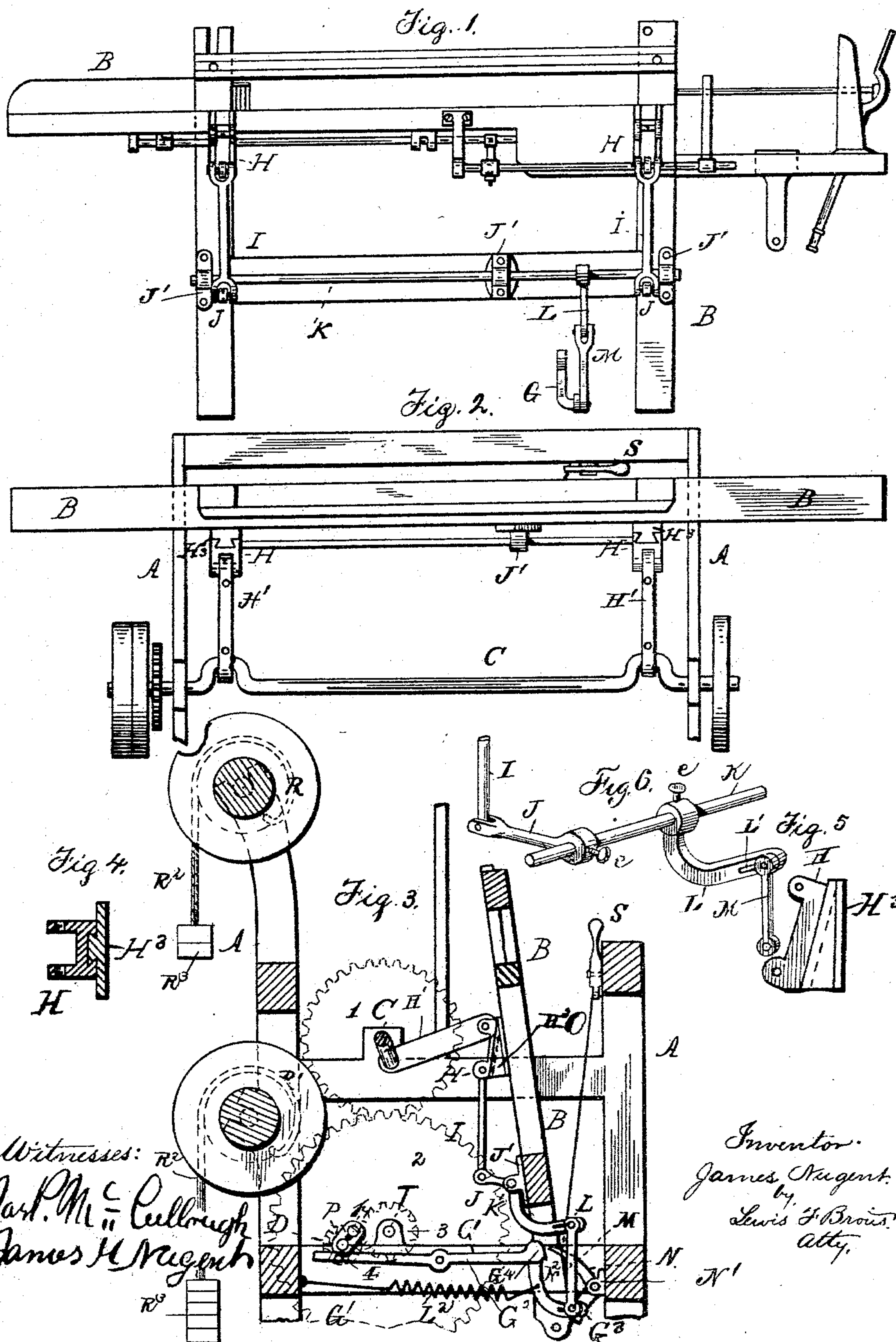
(No Model.)

J. NUGENT.

LOOM FOR WEAVING LOOPED OR TERRY FABRICS.

No. 321,631.

Patented July 7, 1885.



Witnesses: James H. Cullough
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UNITED STATES PATENT OFFICE.

JAMES NUGENT, OF PHILADELPHIA, PENNSYLVANIA.

LOOM FOR WEAVING LOOPED OR TERRY FABRICS.

SPECIFICATION forming part of Letters Patent No. 321,631, dated July 7, 1885.

Application filed December 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES NUGENT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Looms for Weaving Looped or Terry Pile Fabrics, of which the following is a specification.

The invention consists in the combination, with the lathe, of blocks secured thereto having inclined rear sides, blocks mounted and adapted to slide upon the inclined rear sides of the blocks first mentioned, and having the lathe-actuating crank-arms connected therewith, and means whereby the sliding blocks are automatically drawn down or raised, so as to vary the point of connection between the lathe and crank-arms, and increase and decrease the extent of the vibratory movement of the lathe at desired intervals.

In the accompanying drawings, Figure 1 represents a rear view of the lathe-frame and parts connected therewith. Fig. 2 is a top or plan view showing the lathe, the crank-shaft, the crank-arms, a portion of the loom-frame, the sliding blocks to which the crank-arms are attached, and the fixed blocks on the back of the lathe, the parts for operating such sliding blocks being mainly omitted. Fig. 3 is a vertical section through the main portions of a loom having my improvements applied thereto. Fig. 4 is a cross-section of a fixed block and the sliding block mounted thereon, and Fig. 5 is a side view of such parts. Fig. 6 is a detail perspective of a portion of the mechanism for operating the sliding blocks.

Like letters indicate like parts throughout the several views.

A represents the frame of a loom; B, the lathe; C, the crank-shaft, which communicates motion to the shaft T by means of the usual intermediate gear-wheels, 1 and 2.

D is a cam-shaft driven by gears 3 and 4 from the shaft T, and upon which are fixed the cams (not shown) for working the heddles, and also a slotted arm, P, carrying a roller, *p*, which strikes upon the rear end of the horizontal lever G at each revolution of the shaft D, except when such end is held depressed, as hereinafter described, thereby forcing down

the rear end of said lever and raising its forward end, said lever being pivoted to the cross-girth G' of the loom-frame.

Secured to the lathe B, preferably by bolts, are two blocks, H³, formed with inclined rear sides, having thereon dovetailed projections, as shown, upon each of which projections slides a block, H, formed with a corresponding dovetailed groove, the said block having one of the crank-arms H' pivoted to its upper end. The sliding blocks are connected with mechanism, hereinafter described, whereby they are drawn down at each third pick to shift the point of connection between the crank-arms and lathe nearer the fulcrum of the latter, and thus increase the extent of the forward movement of the lathe, except when it is desired to weave plain cloth, when the sliding movement may be interrupted, as hereinafter described.

To the bottom of each of the sliding blocks H is pivoted a vertical connecting-rod, I, which rod is in turn pivoted to one of two arms, J, secured to the shaft K, mounted in bearings J' upon the lathe-frame B.

Secured to the shaft K is the slotted curved arm L, which is connected by the connecting-rod M to the slotted bent extension G³ of the front end, G², of the horizontal lever G. The arms J and L are adjustably secured to the rod K by means of set-screws *e e*. By means of these set-screws I am enabled to change the relative positions of said arms on the shaft.

L' is the slot in the end of the lever L, such slot being provided to permit of changing the point at which the depending rod M is attached to said lever. The slot in the curved extension G³ of the lever G is provided for adjusting the point at which the rod M is connected with the said extension. By means of these slots and the set-screws a nice adjustment of the parts may be effected to vary the extent of movement of the sliding blocks H.

N represents what is termed the "terry-pawl," the said pawl being pivoted in a bracket, N', fixed to the loom-frame A. This pawl is connected to a rod or wire, O, which at its upper end is connected to the terry-lever S. The arm P on shaft D is slotted to admit of adjustment of the roller *p* thereon, so

as to vary the extent of the vibratory movement imparted to the lever G. R represents the yarn-beam for the terry-warp, and R' the yarn-beam for carrying the body-warp.

5 These yarn-beams are constructed and operated in the usual manner, and I make no claim thereto, and therefore do not deem it expedient to illustrate and specify them more fully.

The operation of the devices is as follows:

10 The rear end of the lever G is depressed at each revolution of the shaft D by means of the roller *p* on the arm P. This depression of the rear end and consequent elevation of the forward end acts through the medium of the rod
15 M arms L and J, shaft K, and rods I to force down the blocks H on the inclined rear sides of the blocks H³, and thus lowers the point at which the crank-arms H' are connected to the lathe, whereby the extent of the succeeding
20 forward stroke of the lathe is increased. When the roller *p*, on the arm P is raised from the lever G, said lever is operated in the reverse direction by means of the spring L², and the sliding blocks are forced back to the normal
25 position shown in Fig. 3. The depression of the sliding blocks is repeated at each third pick of the loom.

In weaving plain cloth the end of the pawl N is dropped under the heel G⁴ of the lever
30 G, whereby the forward end of said lever is held up and the rear portion thereof held down and out of the way of the roller *p* on the arm P of the shaft D. The lever while thus locked is inoperative, but when the pawl
35 is disengaged from the heel thereof it again vibrates for the production of terry-cloth. When the lever G is in the position shown in Fig. 3, it lies immediately under and against the shaft D, and it is depressed at each rota-
40 tion of the shaft by the roller *p* and arm P.

By the two short beats of the lathe the weft-threads introduced among the warps are car-

ried forward not quite to the cloth-making point in the warps, leaving a short space in the warps intervening between the fully beaten-up wefts and the two wefts last introduced. 45
The third beat of the lathe, which is a full beat, not only carries forward the third weft, but moves the two partially-beaten-up wefts fully forward, sliding them along the tightly- 50
strained body-warps, and pushing the less-tightly-strained terry-warps ahead in the form of short loops, which are caused to rise from the surface of the fabric.

Having thus described my invention, I 55
claim as new and desire to secure by Letters Patent—

1. A lathe having affixed thereto a block formed with an inclined rear side, as described, a block adapted to slide on said inclined rear 60
side, a crank-shaft, a crank-arm pivoted to the sliding block, the rods I M, arms J L, shaft K, lever G, and means, substantially as described, for operating said lever, in combination with the pawl N, rod O, and lever 65
S, the several parts being connected and operated substantially in the manner shown and described.

2. A lathe having affixed thereto a block having an inclined rear side, as described, a 70
block adapted to slide upon said inclined rear side, a crank-shaft, a crank-arm pivoted to the sliding block, the rods I M, arms J L, shaft K, lever G, spring L², shaft D, and arm P, in combination with the pawl N, rod O, and 75
lever S, substantially as described, and for the purposes set forth.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of two subscribing witnesses.

JAMES NUGENT.

Witnesses:

LEWIS F. BROUS,
JAMES H. NUGENT.