(No Model.)

H. DIXON.

LOOM FOR WEAVING TUFTED FABRICS.

No. 482,446. Patented Sept. 13, 1892.

Fig. 1.

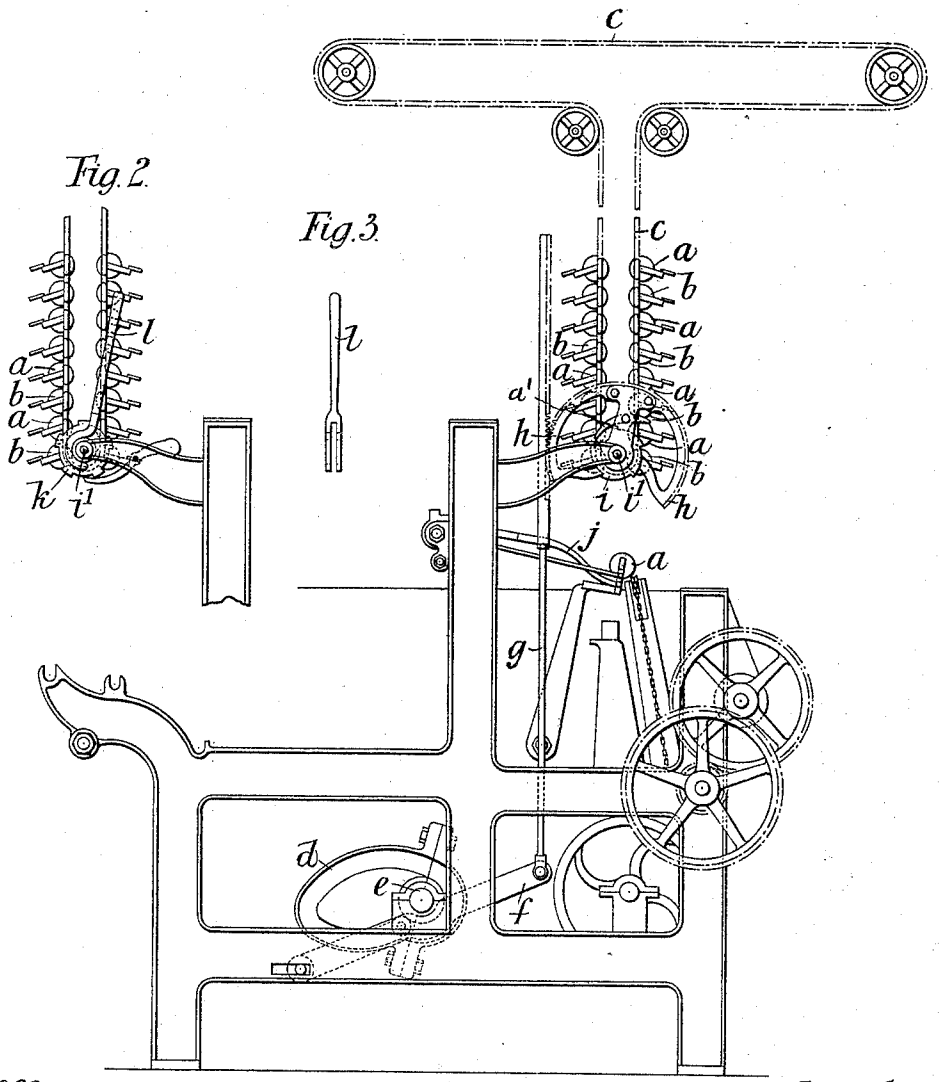

Fig. 2.

Fig. 3.

Witnesses
A. C. Rawlings
G. M. Copenhaver.

Inventor.
Henry Dixon
By John J. Halsted & Son
his attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE

HENRY DIXON, OF KIDDERMINSTER, ENGLAND.

LOOM FOR WEAVING TUFTED FABRICS.

SPECIFICATION forming part of Letters Patent No. 482,446, dated September 13, 1892.

Application filed December 30, 1891. Serial No. 416,571. (No model.)

To all whom it may concern:

Be it known that I, HENRY DIXON, a subject of the Queen of Great Britain, residing at Kidderminster, England, have invented new and useful Improvements in Looms for Weaving Tufted Fabrics, of which the following is a specification.

This invention relates to improvements in weaving that class of carpets and other fabrics of which the pattern is first set up on bobbins and the bobbins then placed into an endless chain on the loom in rotation numbers for weaving into cloth, whereby I am enabled to produce a bordered carpet without changing the set of bobbins. For this purpose I employ two sets of bobbins placed in the same chain, as hereinafter more particularly described, instead of one set, as hitherto.

In order that my improvements may be clearly understood, I will first describe the method now employed for manufacturing tufted pile fabrics. The bobbins are placed in the endless chain of the loom by rotation link by link, and each bobbin is moved forward one link after having been taken out of the chain, passed through the warp, and placed back into the chain. I retain the general arrangement above described; but according to my invention I place one set of bobbins in each alternate link by rotation and place the other set in each intervening alternate link by rotation, so that one set is in position for work and the other set is idle. I move the chain forward two links after each bobbin has been taken out of the chain, passed through the warp, and placed again into the chain, by which means I weave, as I require, from the one set of bobbins, and I then move the chain one link forward or backward and weave in like manner from the other set of bobbins. The cam on the main shaft of the loom and lever actuated thereby, the ratch-rod attached to the lever, and the toothed segment gearing with the ratch-rod are arranged to give the required movement to the chain.

To enable my invention to be fully understood, I will describe how it can be carried into practice by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a loom adapted for the manufacture of tufted pile carpets and other tufted pile fabrics according to my invention. Fig. 2 is a view of a portion of the side of the loom opposite to that shown in Fig. 1. Fig. 3 is a detached view of a handle, hereinafter described, for putting the sets of bobbins into and out of operation.

a a and *b b* are the two sets of bobbins, which are arranged in the usual chain *c*, so as to alternate with one another, as shown.

d is the cam on the main shaft *e* of the loom, and *f* is the lever actuated by the said cam.

g is the ratch-rod attached to the lever *f*, and *h* the toothed segment gearing with the ratch-rod, the said ratch-rod and toothed segment being constructed to serve, in combination with the cam *d*, to impart, through the ratchet-wheel *i*, the movement to the chain-shaft *i'* necessary to present alternate bobbins to the arms *j*, which remove them from the chain *c* and pass them through the warp. The toothed segment *h* is loose on chain-shaft *i'* and is moved from left to right when the ratch-rod is raised. When the ratch-rod is lowered, it revolves from right to left and the catch *a'* drops into the toothed wheel *i*, which is fixed on the chain-shaft *i'*. The bracket *c* is double and is on both sides of wheel *i*. The catch *a'* is held in position by a spring.

In order to move the chain *c* the distance of one link or one bobbin, so as to put the idle set of bobbins into operation, I mount a toothed disk *k* on one end of the shaft *i'*, and I provide a lever-handle *l*, Figs. 2 and 3, adapted to bear against any tooth of the disk *k*, so that the disk *k*, and consequently the shaft *i'*, can be rotated to the required extent. The lever-handle *l* is so formed at one end as to partly embrace and bear against the boss of the disk *k*, which forms a fulcrum for it. The chain *c*, having been adjusted to present the required set of bobbins—those marked *a*, for example—to the arms *j* and the loom being then set in motion after each bobbin has been removed therefrom and passed through the warp by the said arms, the chain is moved two links forward, and so on until as much as is required has been woven from the bobbins *a*. The operative then applies the lever-handle *l* to the toothed disk *k*, and by means thereof moves the chain *c* forward or backward to the extent of one link, so as to bring the other set of bobbins *b* into action, and the

weaving is continued from this set. By this arrangement I can weave a border to a carpet without a seam and without taking out one set of bobbins and putting in a fresh set of bobbins, as has hitherto been necessary.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

In a loom for weaving tufted pile fabrics, the combination of a drum or cylinder, an endless chain carried thereby, two sets of bobbins, each set constituting a pattern, one set being carried by the alternate links of the chain and the other set by intermediate links, arms, substantially as described, adapted to take each bobbin, as required, from the chain to pass it through the warp and return it to the chain, means for moving the chain forward two links step by step, and a lever to turn said drum or cylinder to thereby move the chain backward or forward one link to weave from the alternate set of bobbins.

HENRY DIXON.

Witnesses:
JAMES MORTON,
ALBERT E. HORTON,
His clerk.