(No Model.) 2 Sheets—Sheet 1.

W. ADAM.

LOOM FOR WEAVING TUFTED FABRICS, &c.

No. 409,550. Patented Aug. 20, 1889.

FIG. 2

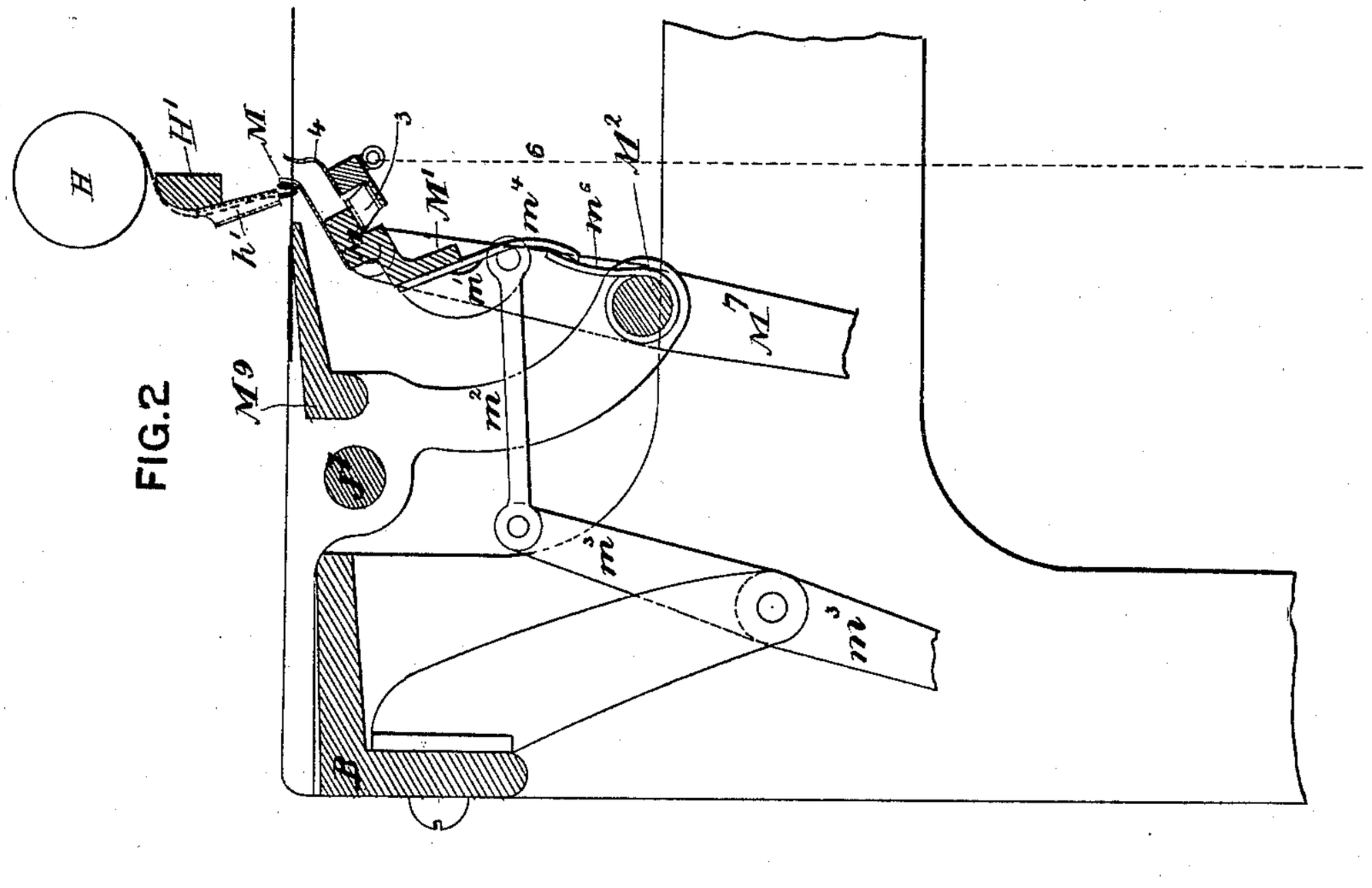
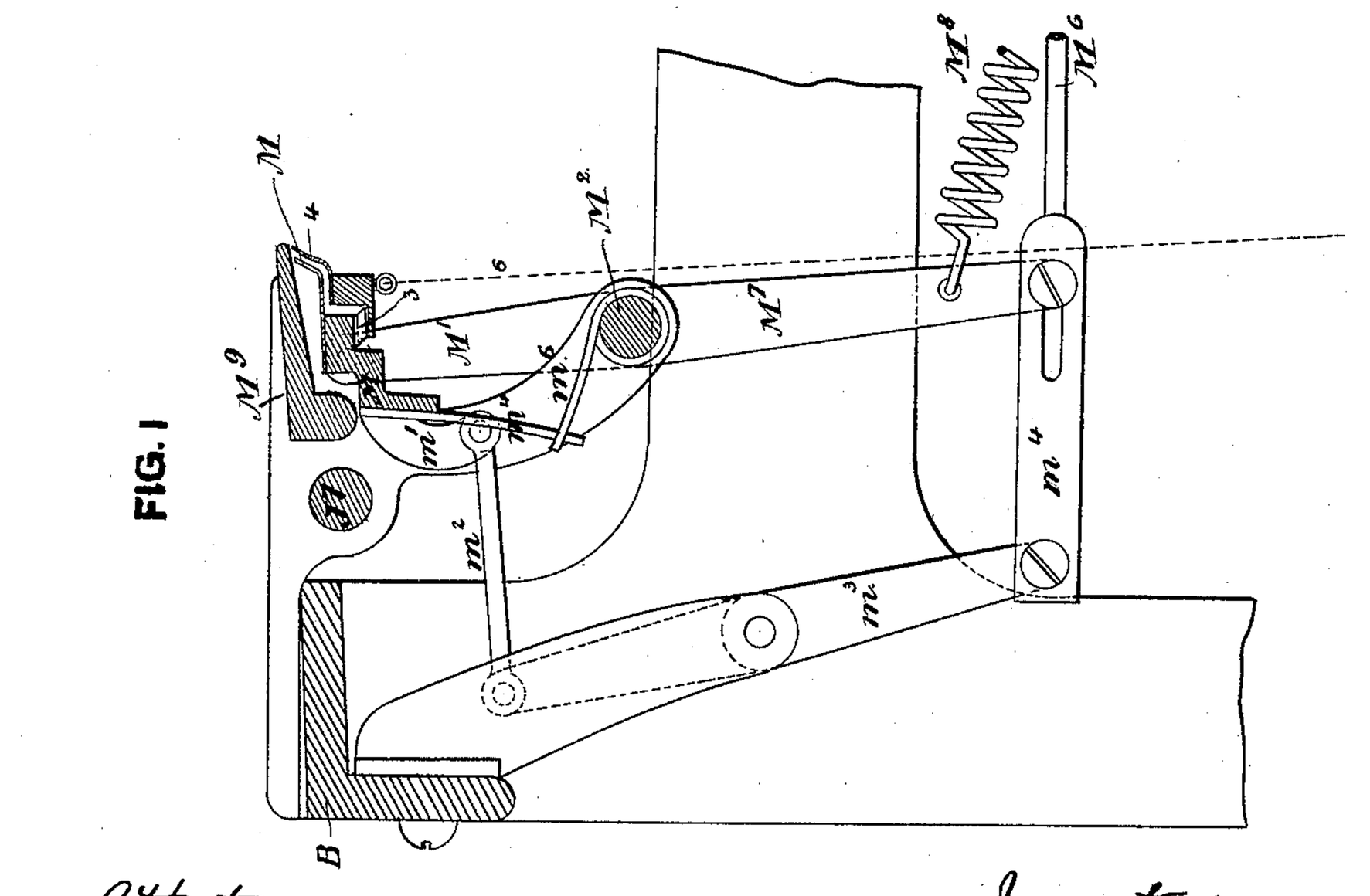


FIG. 1



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(No Model.) 2 Sheets—Sheet 2.

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FIG. 4

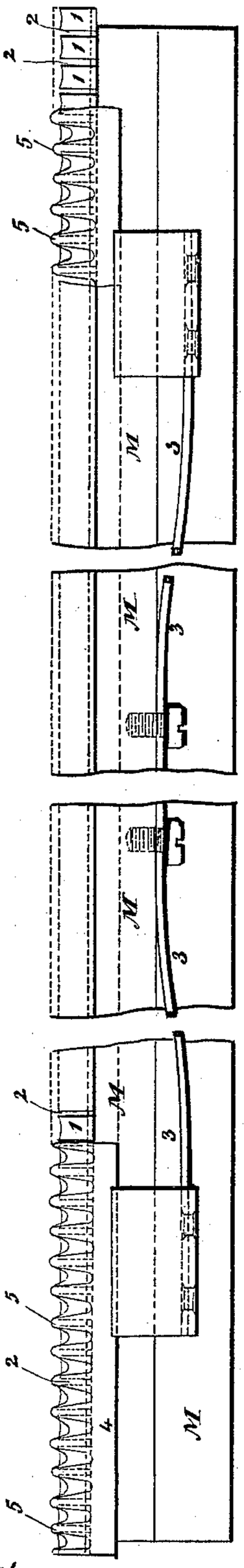

FIG. 5

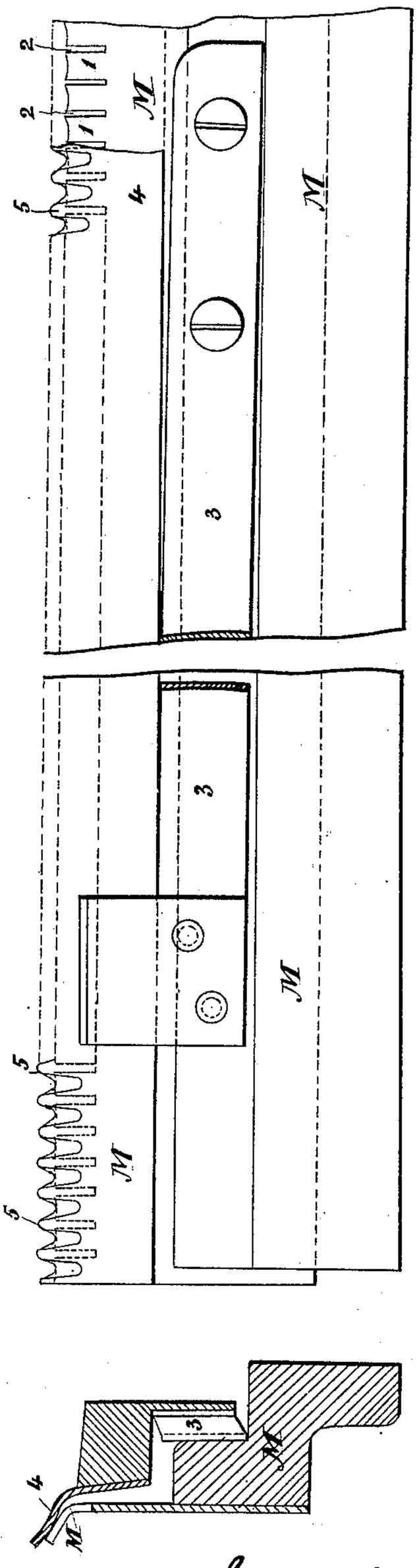

FIG 3

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UNITED STATES PATENT OFFICE.

WILLIAM ADAM, OF KIDDERMINSTER, COUNTY OF WORCESTER, ENGLAND.

LOOM FOR WEAVING TUFTED FABRICS, &c.

SPECIFICATION forming part of Letters Patent No. 409,550, dated August 20, 1889.

Application filed May 31, 1889. Serial No. 312,699. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ADAM, carpet-manufacturer, a subject of the Queen of Great Britain, of the firm of Tomkinson & Adam, of Kidderminster, in the county of Worcester, England, have invented certain new and useful Improvements in Looms for Weaving Tufted Fabrics, such as Royal Axminster or Moquette Tufted Fabrics; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to looms for weaving royal axminster or moquette tufted fabrics of the character shown and described in the specification of Letters Patent granted to Alexander Smith and Halcyon Skinner, dated January 16, 1877, No. 186,374; and it consists in the employment of additional means for the purpose of more securely raising the tufts to the surface of the fabric and preventing their falling to the back thereof.

Heretofore a single comb has been employed to raise the ends or tufts of yarn through the spaces in the warp, and such comb is made to work so as to push the tufts through the spaces between the warp; but it is found that if the tufts of yarn do not hang or lie straight from the tubes through which the tufting-yarns pass the comb will miss the tufts, and consequently they fall to the back of the carpet, and thereby produce imperfect work. The object of my invention is to remedy this defect and cause the comb to raise all the tufts of yarn to the surface of the fabric. For this purpose I propose to employ a second comb or thin strip of steel or iron blade to work close to the front of the present comb, to push forward and straighten the tufts of yarn projecting from the tubes, prevent their falling through the spaces in the old comb, and place them in position opposite the spaces in the warp ready for the present comb to push them through to the surface. When my additional comb, bar, or blade has done this work, it is held down by the warp, and, if desired, by a fixed wire or chain, which prevents the additional comb from rising beyond its proper height, and leaves the present comb to do its work.

And in order that my said invention may be more clearly understood and readily carried into effect, I will proceed, aided by the accompanying drawings, more fully to describe the same.

In the drawings, Figures 1 and 2 are sectional views representing my invention applied to a loom such as that described in the before-mentioned Letters Patent, the old parts of which are marked with the same letters of reference as those employed therein. In Fig. 1 the comb and supplemental bar, plate, or comb are shown in their most forward position, and in Fig. 2 they are represented as in their most backward position. Fig. 3 is a cross-section, Fig. 4 is an elevation, and Fig. 5 is an under side view, of the old comb and of the supplemental bar, plate, or comb.

M is the reciprocating comb shown and described in the aforesaid Letters Patent, and which receives similar motions to that therein described. The comb M is formed, as heretofore, with teeth 1, between which are spaces 2, to allow the teeth 1 to rise between the warp-threads, which latter at such times pass into the spaces 2.

To the comb M is connected by the springs 3 3 a supplemental bar, plate, or comb 4, the teeth 5 of which stand a little in advance of the teeth 1 of the comb M, and in the rearward motion of such parts the supplemental bar, plate, or comb will act to push forward and straighten the tufts of yarn projecting from the tubes *h'*, prevent their falling through the spaces 2 in the comb M, and place them in position opposite the spaces between the warp-threads, ready for the comb M to push them through to the surface. This is effectually secured in the following manner: It will be noticed that the teeth 5 of the supplemental comb 4 are opposite the spaces 2 of the comb M. They will therefore act to space the tufts and arrange them in line with the hollows between the teeth 5 of said comb 4, and as the said supplemental comb 4 precedes the comb M, the said supplemental comb will straighten the tufts and lay them in line to be pushed up through the spaces between the warp-threads by the teeth of the comb M. The supplemental comb 4, when it has done its

work, is held down by the warp-threads, or, if desired, by a fixed wire or chain, (represented by the dotted line 6,) which prevents it from rising beyond the proper height, while the comb M continues its motion and the teeth thereof rise up through the spaces in the warp and carry the tufts up with them.

It will be observed that the comb M, as also the supplemental comb 4, when in their most forward position, stand just underneath the rear end of the guard-plate M^9, instead of the comb M, as heretofore, being stopped in its forward motion by the rear edge of such guard-plate M^9.

I would here remark that a plain bar or plate might be substituted for the supplemental comb 4; but although such would to some extent assist to straighten the tufts for the subsequent action thereon of the comb M, it would not be so efficient as the toothed edge bar, plate, or supplemental comb 4, herein shown and described.

Having fully described my invention, what I desire to claim and secure by Letters Patent is—

In looms for weaving tufted fabrics, the combination, with the comb for lifting or pushing the tufts through the spaces in the warp, of a bar, plate, or supplemental comb preceding the before-mentioned comb and acting to straighten the tufts to insure their being lifted or pushed through their proper spaces in the warp, substantially as herein shown and described.

WILLIAM ADAM.

Witnesses:
W. H. HARRIS,
Notary Public, Birmingham, England.
FREDERICK BAXTER,
53 New Street, Birmingham, Notary's Clerk.