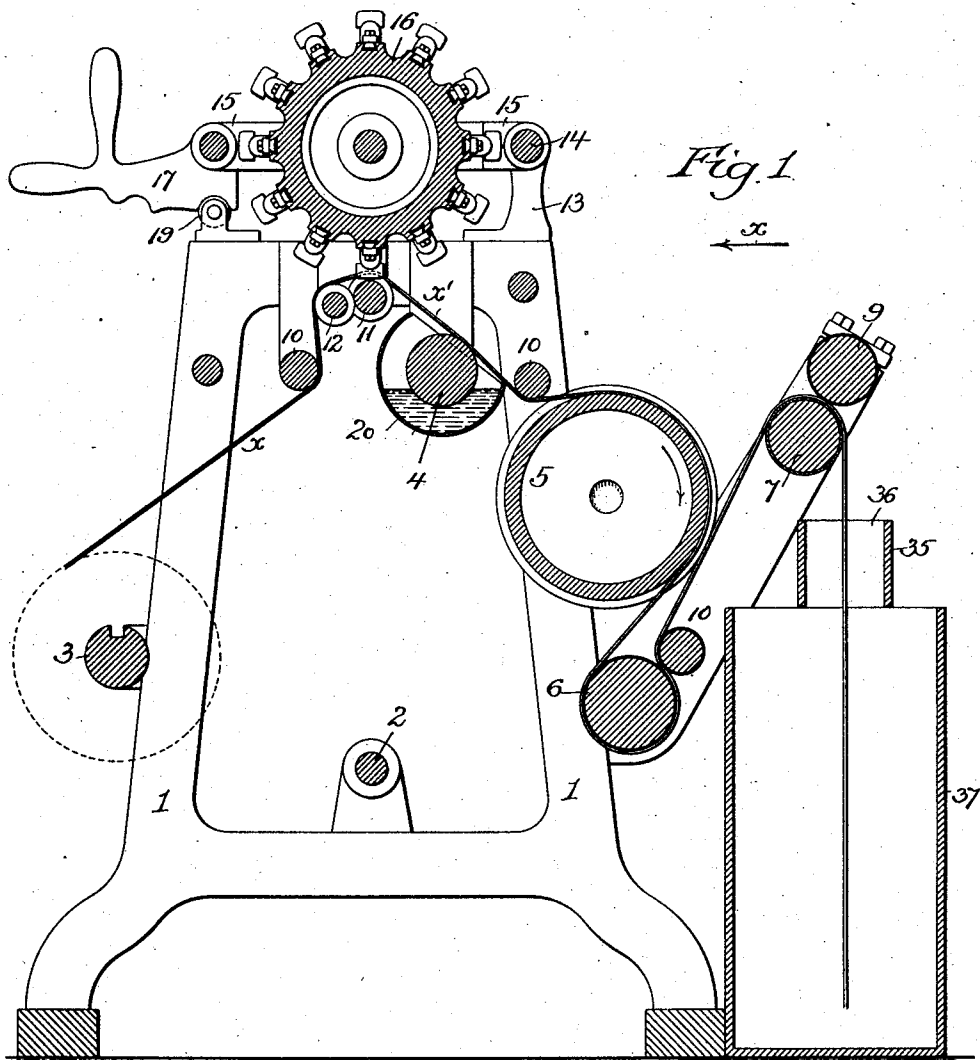
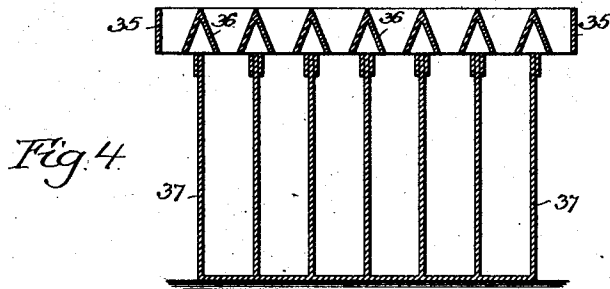


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 APPARATUS FOR PREPARING CHENILLE STRIPS FOR WEAVING.
 APPLICATION FILED JUNE 23, 1910.

1,009,594.

Patented Nov. 21, 1911.

2 SHEETS-SHEET 1.



Witnesses
 Kamilton D. Turner
 Harry L. Smith

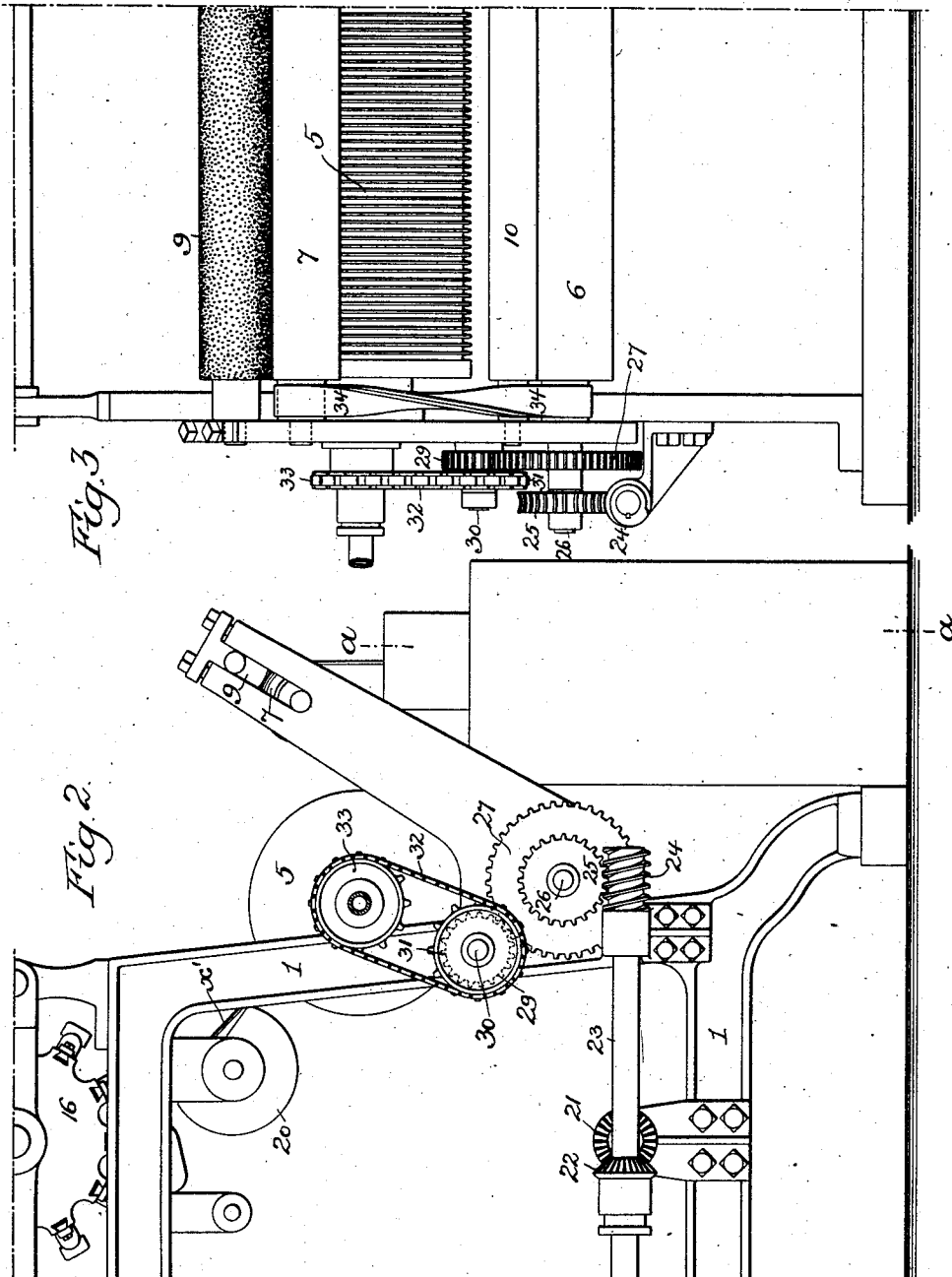
Inventor
 William T. Smith
 by his Attorneys
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UNITED STATES PATENT OFFICE.

WILLIAM T. SMITH, OF PHILADELPHIA, PENNSYLVANIA.

APPARATUS FOR PREPARING CHENILLE STRIPS FOR WEAVING.

1,009,594.

Specification of Letters Patent.

Patented Nov. 21, 1911.

Application filed June 23, 1910. Serial No. 568,564.

To all whom it may concern:

Be it known that I, WILLIAM T. SMITH, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Apparatus for Preparing Chenille Strips for Weaving, of which the following is a specification.

My invention consists of certain improvements in apparatus whereby a woven web having an upstanding pile or fur is cut into strips, each of which is afterward employed as a weft thread in the weaving of a chenille fabric, the object of my invention being to so treat the strips of chenille, after they have been cut, that the pile or fur will not be flattened or compressed but will retain, either wholly or in large measure, its original upstanding character. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of a chenille cutting machine constructed in accordance with my invention; Fig. 2 is an end view of part of the same; Fig. 3 is a view of part of the machine looking in the direction of the arrow *x*, Fig. 1; and Fig. 4 is a transverse section of part of the machine on the line *a—*a**, Fig. 2, and on a reduced scale.

The machine for cutting the web of pile fabric into chenille strips is illustrated in Figs. 1, 2 and 3, in which 1 represents a frame having bearings for a main or driving shaft 2, for a drum 3 upon which the woven web is wound, for a sizing drum 4, for a hollow, externally grooved steam-heated drying drum 5, for draft rolls 6 and 7, for a presser roll 9, for a series of guide rolls 10, and for grooved web-supporting rolls 11 and 12. The frame also supports brackets 13 which carry a rock shaft 14, and upon the latter is mounted a swinging frame 15 carrying the shaft of a cutter drum 16, to which rotative movement is intended to be imparted in the usual manner from the driving shaft 2, the swinging frame 15 having pivotally mounted at its outer end a cam lever 17, which engages a roll 19 on the frame 1 and serves to support the cutting drum 16 either in a lowered position, in which its cutting blades coact with the grooved drum 11 to sever the web *x* into strips *x'*, or in an elevated position, in which

the cutting blades are not inoperative relation with the drum 11.

The sizing drum 4 rotates in a trough 20 and dips into a supply of glue or other sizing material contained in said trough, so as to apply a layer or coating of said sizing material to the narrow woven band constituting the body or core of each of the chenille strips, as the latter pass from the cutter to the drying drum 5, each of the strips passing through one of the surface grooves of said drum so that the ribs between said grooves serve to turn up the threads constituting the fur or pile of the strip. The strips pass from the drum 5 to the draft roll 6 and thence around the guide roll 10 and between the draft roll 7 and the presser roll 9, whereby the strips are maintained in frictional contact with said draft roll 7.

The drying drum 5 is usually rotated by contact with the chenille strips and hence rotates at the same surface speed as said strips, but I find that it is advantageous to rotate the drying drum 5 so that its surface speed shall be greater or less than the speed of travel of the chenille strips over the drum, such difference in surface speed of the drum and strips causing the uniform spreading or distribution of the sizing material onto the core or body of each strip, and also causing it to penetrate said core or body so that, when the sizing is dry, it will better secure in its upstanding position the pile or fur which projects from said core.

By preference, the drying drum 5 is rotated so that its surface moves in the same direction as the forwardly traveling strips of chenille but at a higher speed, the ribs of the drum therefore rubbing up the fur or pile more effectually than if they simply traveled with the same.

Any desired combination of mechanism may be employed for thus imparting motion to the drum 5, the mechanism employed by me in the present instance for accomplishing this result being illustrated in Figs. 2 and 3, on reference to which it will be noted that the driving shaft 2 carries a bevel wheel 21 which meshes with a like bevel wheel 22 on a transverse shaft 23, the latter being provided at one end with a worm 24 which meshes with a worm wheel 25 on a longitudinal shaft 26, to which the draft roll 6 is secured. The shaft 26 also carries a spur

wheel 27, the latter meshing into a spur pinion 29, adapted to turn freely on a stud 30 projecting from one of the end frames of the machine.

5 Secured to the spur pinion 29 is a sprocket wheel 31 which is engaged by a chain belt 32, the latter also engaging a sprocket wheel 33 on the shaft of the drum 5, the members of the gearing being so proportioned that
10 said drum 5 will have a greater surface speed than the draft drum 6. The draft drum 7 is driven from the drum 6 through the medium of a crossed belt 34 which engages hubs at one or both ends of each of
15 the drums, as shown in Fig. 3.

From the draft drum 7 the strips of chenille pass downwardly through a separator frame 35 provided with wedge-shape partitions 36, as shown in Fig. 4, said separator
20 frame being mounted upon the top of a receiving box 37 and serving to separate the series of chenille strips into a number of independent groups, each of which can be directed into a separate compartment of the
25 box 37. By this means I prevent flattening

of the pile or fur which would be caused if the chenille strips were wound upon a drum or roller.

I claim:—

In apparatus for preparing chenille strips 30 for weaving, the combination of the strip cutting mechanism, the sizing device, draft mechanism for the cut strips, a drum over which the strips pass, and means for imparting to said drum a different surface
35 speed from that of the draft mechanism for the strips, said drum being grooved for the reception of each strip whereby the rubbing up of the fur or pile of the strip will be effected and all of said fur or pile will be
40 caused to project in the same direction from the core of the strip.

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

WILLIAM T. SMITH.

Witnesses:

E. E. BROWN,
R. C. STERNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."