No. 647,100. Patented Apr. 10, 1900.

S. KROSS.

FRINGING MACHINE.

(Application filed May 13, 1899.)

(No Model.)

Fig. 1.

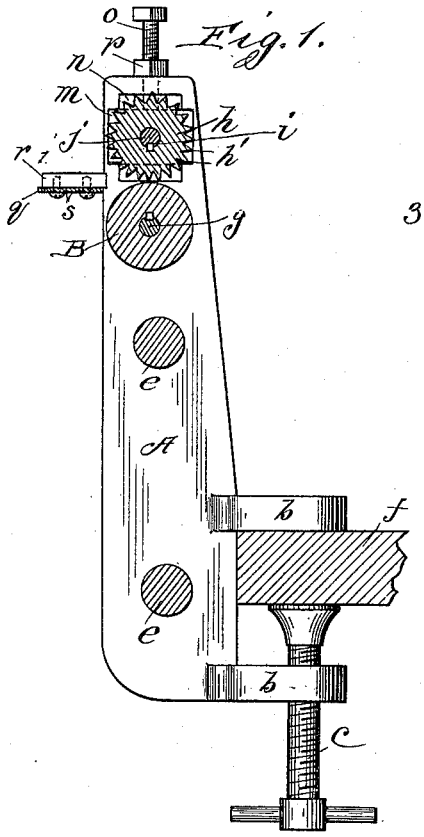


Fig. 2.

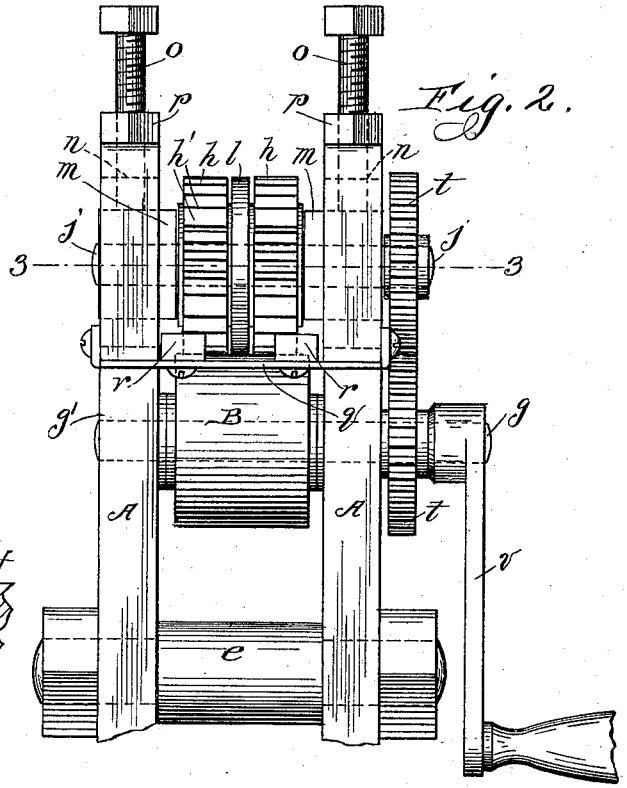
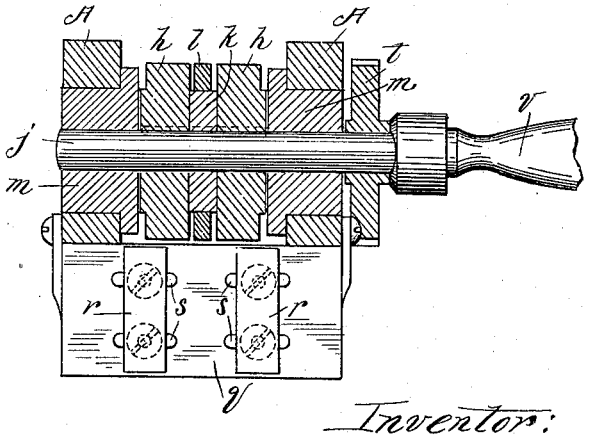


Fig. 4.

Fig. 3.



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SAMUEL KROSS, OF CHICAGO, ILLINOIS.

FRINGING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 647,100, dated April 10, 1900.

Application filed May 13, 1899. Serial No. 716,738. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL KROSS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Fringing-Machines for the Purpose of Preparing Woof for Rugs and Mats, of which the following is a specification.

My invention relates to the manufacture of rugs and carpets from old and worn carpets and other suitable fabrics. In the utilization of old stock it is necessary to cut the material into narrow strips and ravel out both edges of the strip, leaving several threads uncut in the middle of the strip to hold the fringe in place while being woven into the rug.

The object of my invention is to provide a machine that will enable the operator to pass the strips through the machine and cut the threads of warp on each edge at short intervals, thus leaving the short particles of warp to be easily shaken out in the process of weaving. The fringe is more even and less frayed than when prepared by the old method, and it is possible to manufacture a better grade of goods at a less cost than heretofore. I attain this object by a mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical view of the left-hand side piece of the frame, showing the cutter and roller in cross-section and the clamping-jaws with screw. Fig. 2 is a vertical front view of the upper part of the machine, showing all parts. Fig. 3 is a horizontal plan view in section, cut on line 3; and Fig. 4 is a view of a piece of woof after it has been through the machine.

The frame consists of two vertical side pieces A A, provided with clamping-jaws *b*, having a hand-screw *c* in the lower jaw. The side pieces are secured to each other by bolts *e* and are fixed to the bench *f*, as shown in Fig. 1. A metallic roller B is formed the required size and is keyed to a shaft *g*. Apertures *g'* are drilled in the frame, adapted to receive the journals *g* on the roller. Two similar steel rings *h h*, having a series of teeth or knives *h'* fixed transversely on the periphery at a required distance apart circumferentially and provided with apertures and keyways *i*, adapted to receive the shaft *j*, are formed. A washer *k*, Fig. 3, of any required thickness and smaller in diameter than cutters is formed, adapted to slip on the shaft *j*, and is placed between the cutters *h*. The object of the washer is to provide a space for the uncut warp in the strip, and the width may be regulated by a thinner or thicker washer. An annular ring *l* of the same outside diameter as the cutters and thinner than the washer *k* is placed loosely on the washer *k*. The object of this ring is to prevent the fibers from the strip from clogging the teeth. Two movable boxes *m*, having apertures adapted to receive the ends of the shaft *j*, are fitted in mortises *n*, Fig. 1, so that the teeth on the cutters will rest on the roller. Two set-screws *o*, having jam-nuts *p*, are placed vertically in the top of the frame-pieces A, with the lower ends resting against the boxes *m*. These screws regulate the pressure of the cutters on the roller. A table *q* is fixed to the front of frame, provided with two guides *r*, held in place by screws arranged to move in slots *s*. Gear-wheels *t t*, arranged to cause the roller and cutters to travel at a uniform speed, are fixed to the ends of the shafts, one of the shafts being longer than the other, adapted to receive a crank *v*, or a pulley if it is desired to use power.

To use this machine, clamp it to the bench or table, cut the fabric in strips the required width, set the guides *r* to fit the strip to be fringed, start an end into the machine on top of the roller and under the cutters, regulate the pressure just sufficient to cut through the fabric, and turn the crank as fast as desired. When the strip has been run through, give it a shake and the cut warp or threads will fall out. This need not be done, however, as it can be woven into the rug and beaten out afterward.

I do not wish to confine myself to cutting and fringing old carpet-stock or to preparing filling or woof for rugs, since my machine may be used to fringe new fabrics for other purposes than rugs. Neither do I claim the revolving toothed cutters broadly, since they are in use in many cutting-machines; but

What I do claim, and wish to secure by Letters Patent, is—

In a fringing-machine, the combination of the shaft *j* provided with two annular rings having a series of knives fixed radially and transversely on the periphery, the smooth

roller adapted to rotate with and engage the said knives; the shaft *g* arranged to carry said roller, one end of the shaft overhanging the frame provided with a gear-wheel and a crank, the gear-wheel fixed to the shaft *j* adapted to mesh with the gear-wheel on the shaft *g*, the washer *k* adapted to separate said rings and knives, the annular ring *l* arranged to rotate loosely on the outer surface of said washer, the gear-wheels rotating the knives and smooth roller in unison, substantially as described.

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