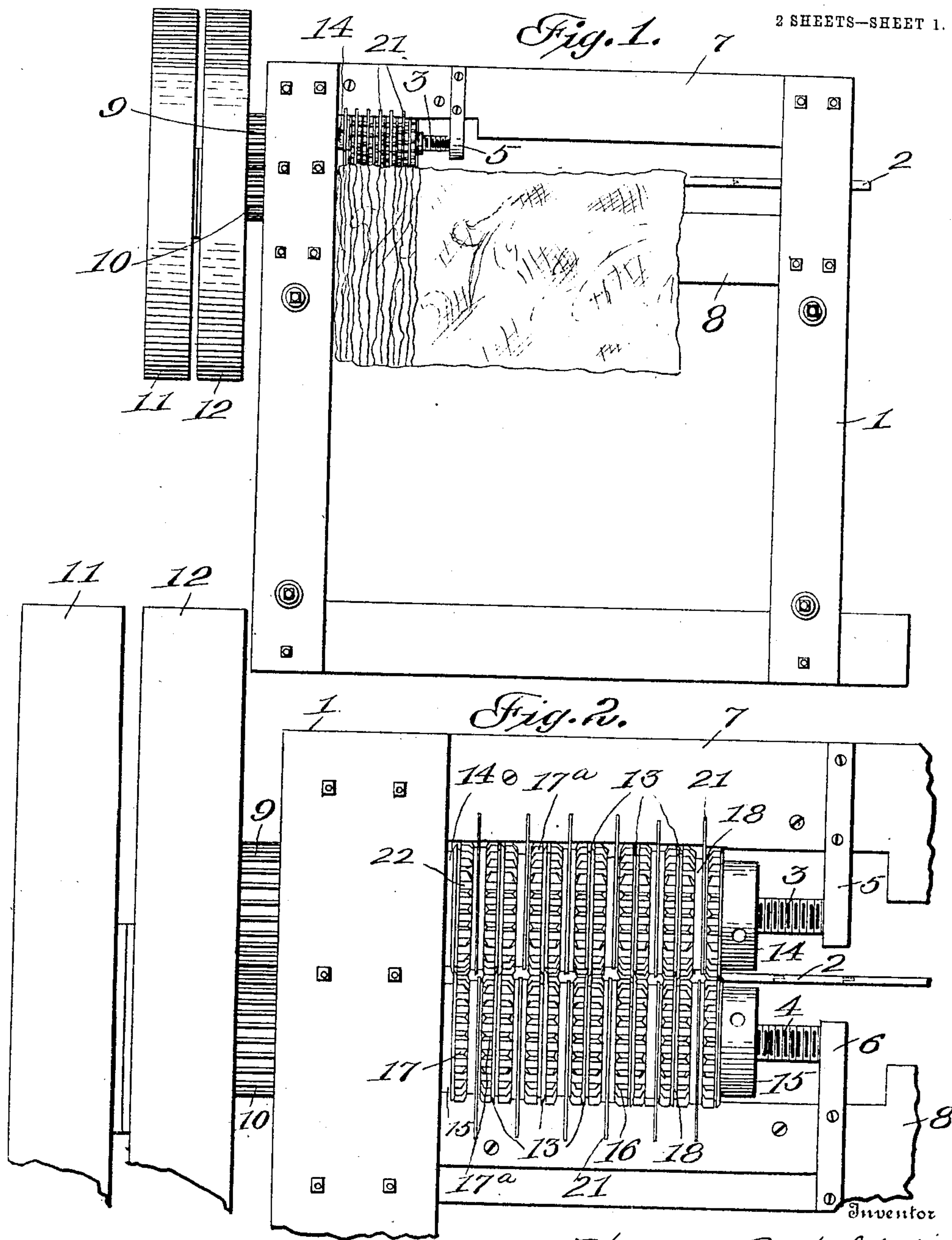


W. P. KIRKPATRICK.
CARPET CUTTING AND RAVELING MACHINE.
APPLICATION FILED OCT. 14, 1907.

904,964.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.



Witnesses
C. H. Walker.
Frank Veikmeyer.

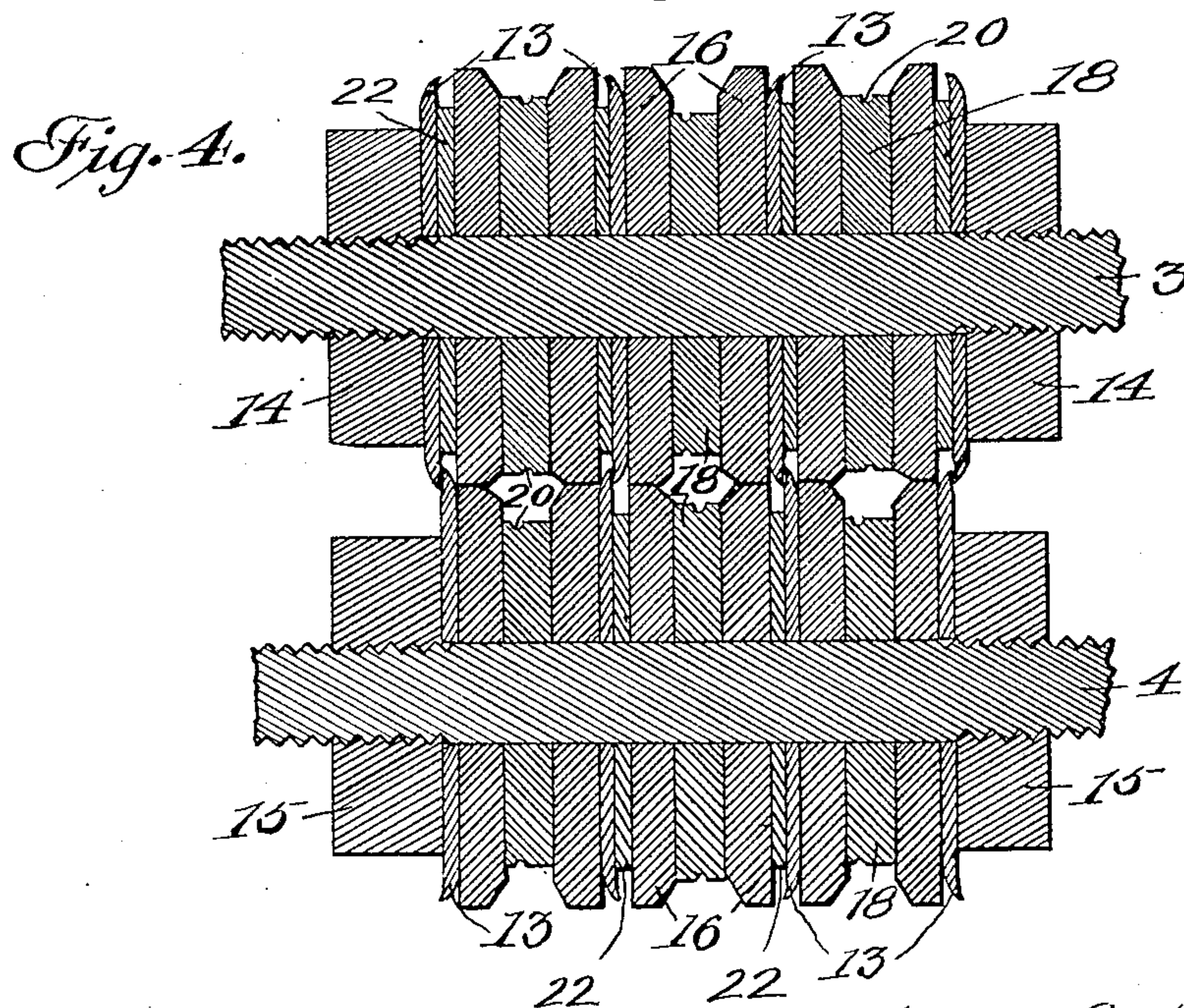
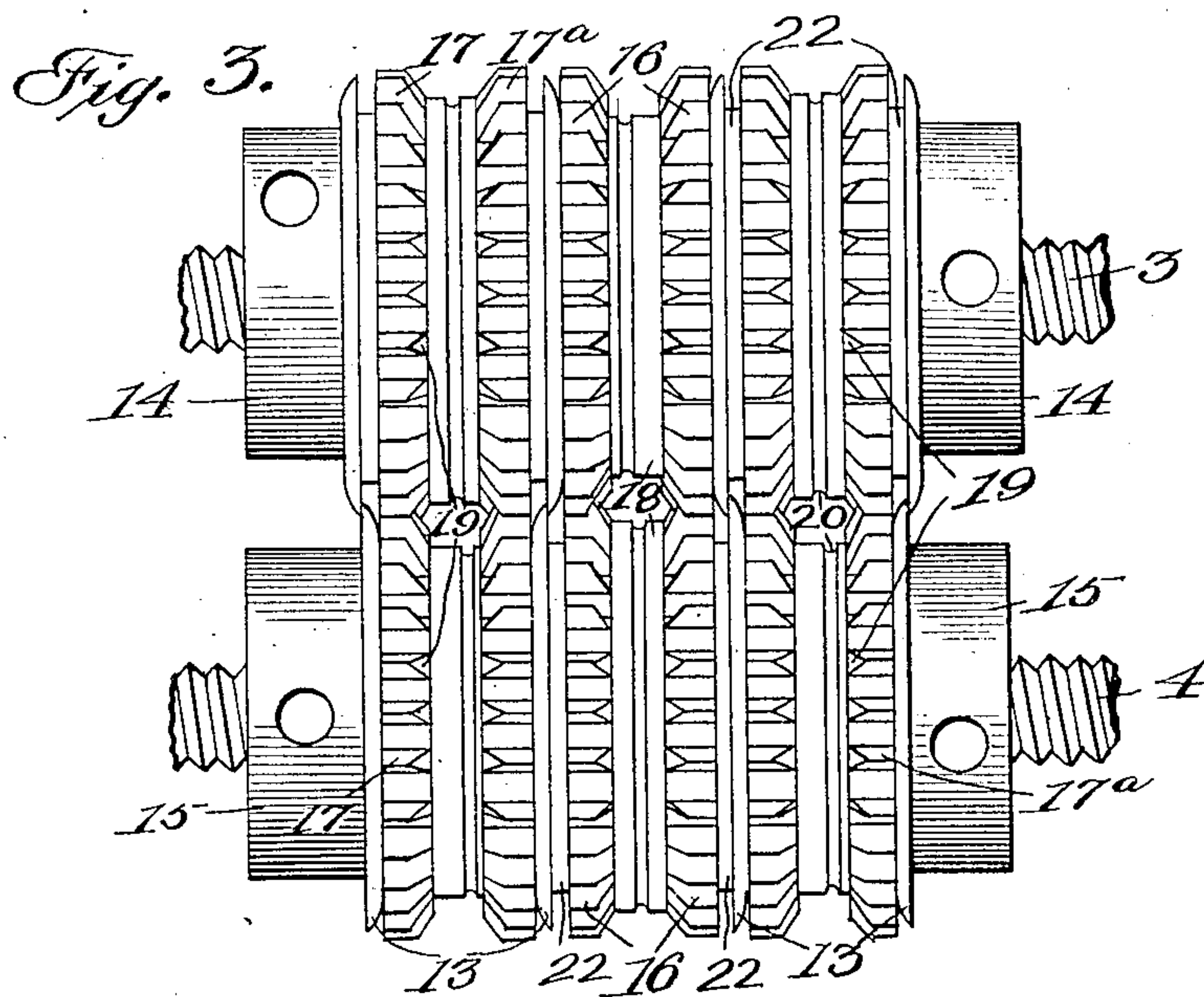
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Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM P. KIRKPATRICK, OF ARROWSMITH, ILLINOIS.

CARPET CUTTING AND RAVELING MACHINE.

No. 904,964.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed October 14, 1907. Serial No. 397,435.

To all whom it may concern:

Be it known that I, WILLIAM P. KIRKPATRICK, a citizen of the United States, residing at Arrowsmith, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Carpet Cutting and Raveling Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a combined carpet cutting and raveling machine.

It has for its object to lessen the labor and time required for reducing old carpets into strips for the purpose of weaving rag carpets and rugs.

A further object is to give the strips a crimped appearance which is very beneficial when woven because it hides the warp and makes the carpet or rug more valuable.

The invention consists in the features of construction and combinations of parts hereinafter described and specified in the claims.

In the accompanying drawings illustrating the preferred embodiment of my invention: Figure 1 is a front elevation of the machine showing a piece of carpet partly cut therein. Fig. 2 is an enlarged broken view of the operating portion of the machine. Fig. 3 is an enlarged detailed view of three sets or pairs of upper and lower knives operatively arranged with the raveling wheels and spacing disks between them, and Fig. 4 is a central vertical section thereof taken in line with the longitudinal axes of said cutters and raveling disks.

Referring more particularly to the drawings, 1 designates the framework upon which the operating parts of the machine are mounted. An inclined work table 2 is supported upon said framework and serves as a rest for the carpet as it is fed between the cutting and raveling disks which are mounted on upper and lower horizontal shafts 3 and 4 supported in suitable bearings at the lower end of said table.

While I have illustrated a machine with only a few sets of cutters so that it will only cut and ravel a few strips each time the carpet is passed through, the number of said cutters and raveling disks may be increased as may be desirable even to extending them entirely across the table. When the shafts only extend partially across said table, as

shown, their inner ends are carried by brackets 5 and 6 secured respectively to upper and lower spaced apart cross pieces 7 and 8. A space is left between the adjacent ends of said brackets to permit the uncut part of the carpet to pass between the ends of said shafts. On the outer ends of said shaft are mounted meshing cogs 9 and 10 while the extremity of the lower shaft carries fast and loose pulleys 11 and 12. The sets of upper and lower cutter disks or knives 13 which are mounted on said shafts are arranged to alternately face in opposite directions, that is to say, the first and second of the upper cutters face each other and the second and third are back to back while the first two of the lower cutters are back to back and the second and third face to face, as shown in Figs. 3 and 4. Said cutters are slightly cupped, as illustrated in Fig. 4, which causes a certain springing of the edge of one against the next and renders them self sharpening. Wear on said knives may be taken up by the nuts 14 and 15 mounted on each shaft at the ends of the series of cutters.

Between each two adjacent cutters on each shaft are arranged two raveling disks 16 provided with projecting teeth 17, 17^a, and a spacing disk 18 between said raveling disks. Said teeth are straight on their edges next to the cutters, but are beveled as at 19 on their inner facing edges. The sides of said teeth are also beveled to an edge forming sharp teeth adapted to ravel the edges of the strips as they are cut by the cutting disks. One spacing disk 18 of each pair is of greater diameter than the opposite one. The larger spacing disk of each pair is arranged alternately on one shaft in one pair and on the other shaft in the next pair. The smaller of said spacing disks is about on a level with the base of the teeth on its adjacent raveling disks while the large spacing disk projects partially out along said teeth. The result is that the strip as it comes from the cutters adheres to some extent to the larger disks and, as said disks are arranged alternately above and below, the strips are separated and are thus prevented from becoming tangled. The periphery of each spacing disk is grooved as at 20 and in said grooves rest the ends of wire guards 21 secured to the upper and lower cross pieces 7 and 8. Said guards prevent the operator's fingers from getting in be-

tween the cutting or raveling disks and also serve to remove the strips of carpet from the larger spacing disks if they should adhere too firmly thereto. Washers or filling disks 22 are placed between the raveling disks and cupped faces of the knives or cutting disks to produce spaces for the opposing knives to enter. The opposite raveling disks mesh with each other or rather their teeth alternate as they pass one another whereby the edges of the cut strips are given a crimped appearance which is very beneficial when woven into a rug or carpet because said edges hide the warp.

I claim—

1. A machine of the character described having a pair of cutting disks provided with cupped inner faces, and raveling disks arranged between said cutting disks whereby a piece of material may be cut into strips and the edges of said strips be raveled simultaneously.

2. A machine of the character described having a series of cutting disks arranged in facing pairs and raveling disks arranged between said cutting disks whereby a piece of material may be cut into strips and the edges of said strips raveled simultaneously.

3. A machine of the character described having two parallel shafts, cutting and raveling disks mounted on each of said shafts, the cutting disks on one shaft overlapping and contacting with those on the other shaft and the raveling disks on one shaft meshing with those on the other shaft.

4. A machine of the character described having a pair of cutting disks, raveling disks arranged between said cutting disks adjacent thereto, a spacing disk placed between said raveling disks and provided with a groove in its periphery, and a wire guard having its free end resting in said groove for the purpose specified.

5. A machine of the character described having two parallel shafts, cutting and raveling disks mounted on each of said shafts, the cutting disks on one shaft overlapping and contacting with those on the other shaft and the raveling disks on one shaft meshing with those on the other shaft, said cutting disks on each shaft being arranged in facing pairs and two raveling disks placed between each of said pairs of cutting disks.

6. A machine of the character described, having upper and lower pairs of rotary cutting disks overlapping and contacting in vertical pairs, the upper pair facing each other while the lower pair are arranged back to back, and meshing raveling disks arranged between said upper and lower pairs of cutting disks.

7. A machine of the character described having upper and lower pairs of rotary cutting disks overlapping and contacting in vertical pairs, said cutting disks being slightly

cupped and the upper pair facing each other while the lower pair are arranged back to back, and meshing raveling disks arranged between said upper and lower pairs of cutting disks.

8. A machine of the character described having two parallel shafts, cutting and raveling disks mounted on each of said shafts, the cutting disks on one shaft overlapping and contacting with those on the other shaft and the raveling disks on one shaft meshing with those on the other shaft, said cutting disks on each shaft being arranged in facing pairs, two raveling disks placed between each of said pairs of cutting disks, and spacing disks mounted on each shaft between each adjacent pair of raveling disks which are placed between each pair of cutting disks.

9. A machine of the character described, having upper and lower pairs of rotary cutting disks overlapping and contacting in vertical pairs, pairs of meshing raveling disks arranged between said upper and lower pairs of cutting disks, and spacing disks placed between said pairs of raveling disks, said spacing disks having grooves in their peripheries, and wire guards arranged with their free ends resting in said grooves.

10. A machine of the character described having upper and lower pairs of rotary cutting disks overlapping and contacting in vertical pairs, pairs of meshing raveling disks arranged between said upper and lower pairs of cutting disks, and spacing disks placed between said pairs of raveling disks, one of said spacing disks being larger than the other for the purpose specified.

11. A machine of the character described having upper and lower pairs of rotary cutting disks overlapping and contacting in vertical pairs, pairs of raveling disks between said cutting disks and having meshing teeth, and spacing disks placed between said pairs of raveling disks, one of said spacing disks being larger than the other and projecting part way out along said teeth for the purpose specified.

12. A machine of the character described having upper and lower parallel shafts, series of cutting disks mounted on said shafts so that those on one shaft overlap and contact with the ones on the other shaft, series of toothed raveling disks mounted on said shafts and meshing with one another, two of said raveling disks being arranged between each pair of adjacent cutting disks, and spacing disks arranged between said raveling disks, one of each vertical pair of spacing disks being larger than the other and the larger one in each of said pairs being arranged alternately on the upper and lower shafts for the purpose specified.

13. A machine of the character described having upper and lower parallel shafts, series

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of cutting disks mounted on said shafts so that those on one shaft overlap and contact with the ones on the other shaft, series of toothed raveling disks mounted on said shafts and meshing with one another, two of said raveling disks being arranged between each pair of adjacent cutting disks, and spacing disks arranged between said raveling disks, one of each vertical pair of spacing disks being larger than the other and the larger one in each of said pairs being arranged alternately on the upper and lower shafts for the purpose specified, the peripheries of said spacing disks being grooved, and wire guards having their free ends resting in said grooves.

14. A machine of the character described having means to cut material into strips, and raveling disks arranged so that a pair of

them operate on each strip cut, said raveling disks being provided with teeth having the adjacent edges in each pair beveled off on diverging lines.

15. A machine of the character described having upper and lower shafts, series of cutting disks mounted on said shafts so that those on one shaft overlap and contact with the ones on the other shaft, and raveling disks on said shafts, two between each pair of cutting disks and provided with teeth having their adjacent edges beveled off on diverging lines.

In testimony whereof, I affix my signature, in presence of two witnesses.

WILLIAM P. KIRKPATRICK.

Witnesses:

RALPH L. SOHN,
L. M. JOHNSON.