Sept. 6, 1932. J. F. DORNAN 1,875,710

HAIR SPREADING MACHINE

Filed Aug. 3, 1929 2 Sheets-Sheet 1

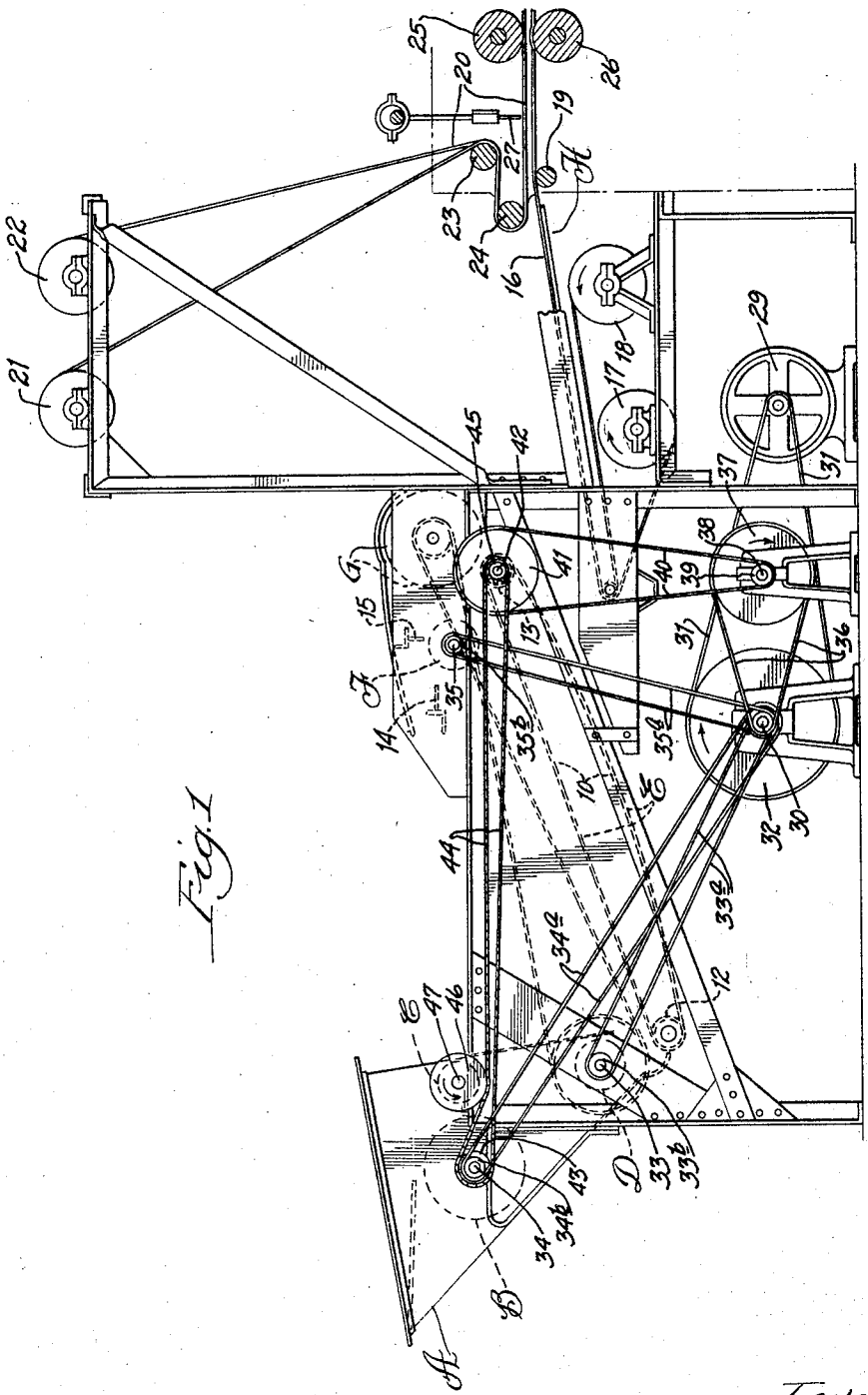



Fig. 1

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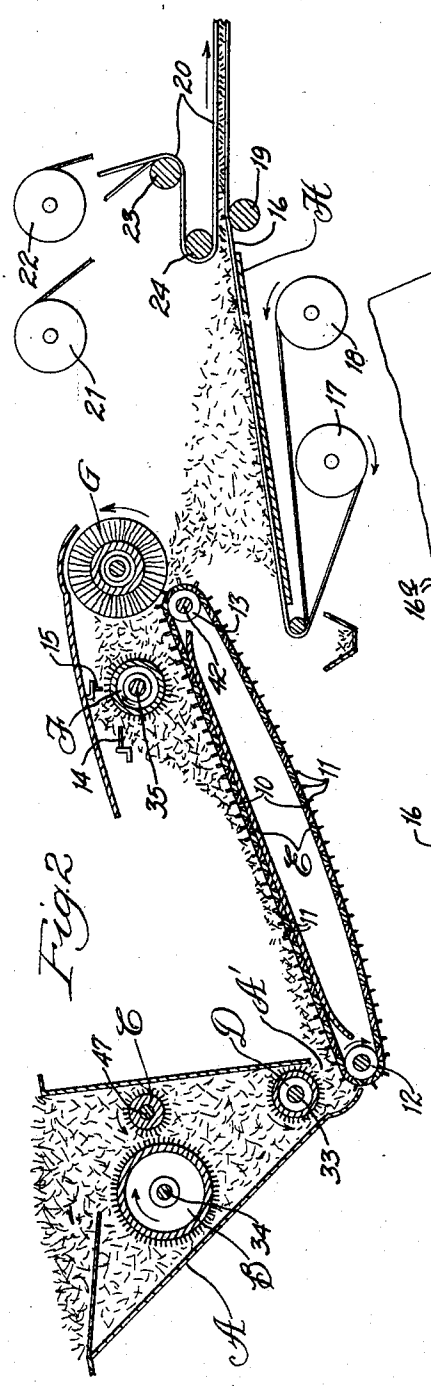



Fig. 2

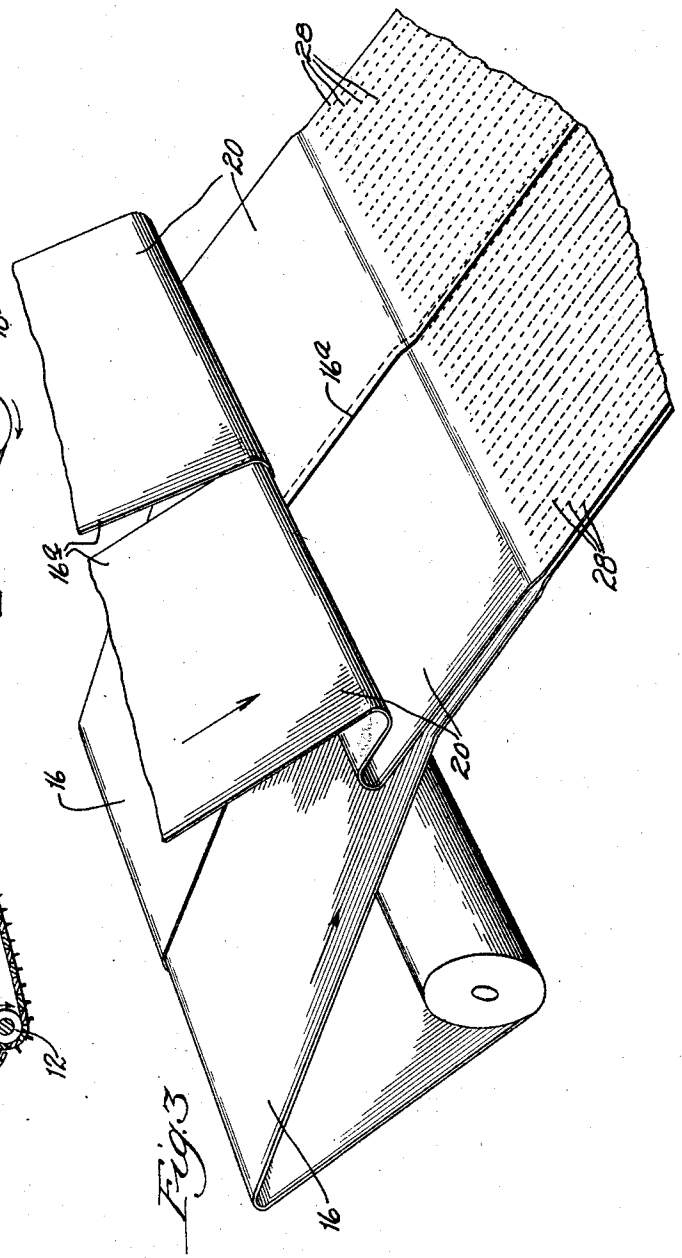



Fig. 3

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Patented Sept. 6, 1932 1,875,710

# UNITED STATES PATENT OFFICE

JOHN F. DORNAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO WILSON & COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE

## HAIR SPREADING MACHINE

Application filed August 3, 1929. Serial No. 383,400.

This invention relates to improvements in hair spreading machines, and is here shown, for example, as embodied in a machine for making carpet linings.

One of the features of my invention is the provision of improved means for evenly spreading and distributing hair over a flat under-surface or lining, and then applying an upper sheet of material. The two sheets with the hair between may be then fed to a suitable sewing or quilting machine.

Other features and advantages of my invention will appear more fully as I proceed with my specification.

In that form of device embodying the features of my invention shown in the accompanying drawings—

Figure 1 is a view in side elevation; Fig. 2 is a vertical sectional view; and Fig. 3 is a view in perspective showing the upper and lower lining sheets.

As shown in the drawings, A indicates a hopper into which the hair is deposited. The hopper A has tapered sides and is provided at the bottom with an elongated discharge mouth or slot A'. B, C and D are picking, brushing or carding rollers provided with suitable needles, points, or bristles, depending upon the length and kind of hair. The roller B is rotated at relatively high speed, the roller C at low speed, and the roller D in the mouth preferably at a speed somewhat faster than the inclined conveyor E upon which the hair is deposited after leaving the hopper.

The conveyor E is an endless belt, or linked slots, as indicated by 10, provided with cross ribs 11, and is mounted on the two rollers 12 and 13, the latter being the driving roller and rotated in the direction indicated by the arrow.

Near the end of the conveyor, the hair is operated upon by a picking or carding roller F provided with suitable needles or points. This roller lies adjacent two cleaning or stripping bars 14 and 15 which, for example, may consist of angle irons.

At the extreme end of the conveyor is a roller brush G rotated at a relatively high speed in the direction indicated by the arrow.

Below the discharge end of the conveyor is a platform H which supports the under-lining or sheet material 16 upon which the hair is deposited as it leaves the conveyor. As here shown, this sheet material is formed of two widths of relatively narrow paper or other material with their edges overlapping, as indicated by 16ª. The under-lining material 16 is here shown as supplied from two supply rollers 17 and 18.

After leaving the platform H, the sheet material 16 passes over a supporting roller 19 before passing to the sewing machine.

The upper sheet or lining material 20 is similarly supplied from two supply rollers 21 and 22 from which it passes over the two rollers 23 and 24 and then is applied to the upper surface of the hair as it leaves the support H.

The details of the sewing machine form no part of the present invention. The feed rolls of a suitable sewing machine may be used, however, for moving the sheet material through my hair spreading machine. For example, 25 and 26 may indicate such feed rolls and 27, the sewing needles of the same machine. In Fig. 3, the rows of stitching on the completed carpet lining are indicated by 28, 28.

The machine may be driven by a suitable motor 29 operating the counter-shaft 30 by means of the belt and pulley 31 and 32. The shaft 30, by suitable belts 33ª, 34ª and 35ª and pulleys 33ᵇ, 34ᵇ and 35ᵇ, drives the shafts 33, 34 and 35 carrying the members D, B and F, respectively. The shaft 30, by means of the belt 36 and pulley 37 drives the shaft 38 which, in turn, carries the pulley 39 driving the belt 40, which drives the pulley 41 on the shaft 42 carrying the conveyor driving roller 13. The shaft 34 carries another pulley 43 driving a belt 44 which also passes around a pulley 45 on the shaft 42. A pulley 46 on the shaft 47 carrying the member C is in frictional contact with this pulley and driven thereby.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made with-

out departing from the spirit and scope of the invention as disclosed in the appended claim, in which it is my intention to claim all novelty inherent in the invention as broadly as possible, in view of the prior art.

What I regard as new, and desire to secure by Letters Patent, is:

A picking machine of the character described, including; a hopper with tapered sides and elongated mouth; a pair of oppositely rotating picking rollers in the hopper; a picking roller in the hopper near the mouth thereof; a conveyor with its receiving end near the mouth of the hopper; a picking roller above the conveyor near the discharge end thereof; and a rotating brush above the conveyor and adjacent the discharge end thereof.

In witness whereof, I have hereunto set my hand this 26th day of July, 1929.

JOHN F. DORNAN.