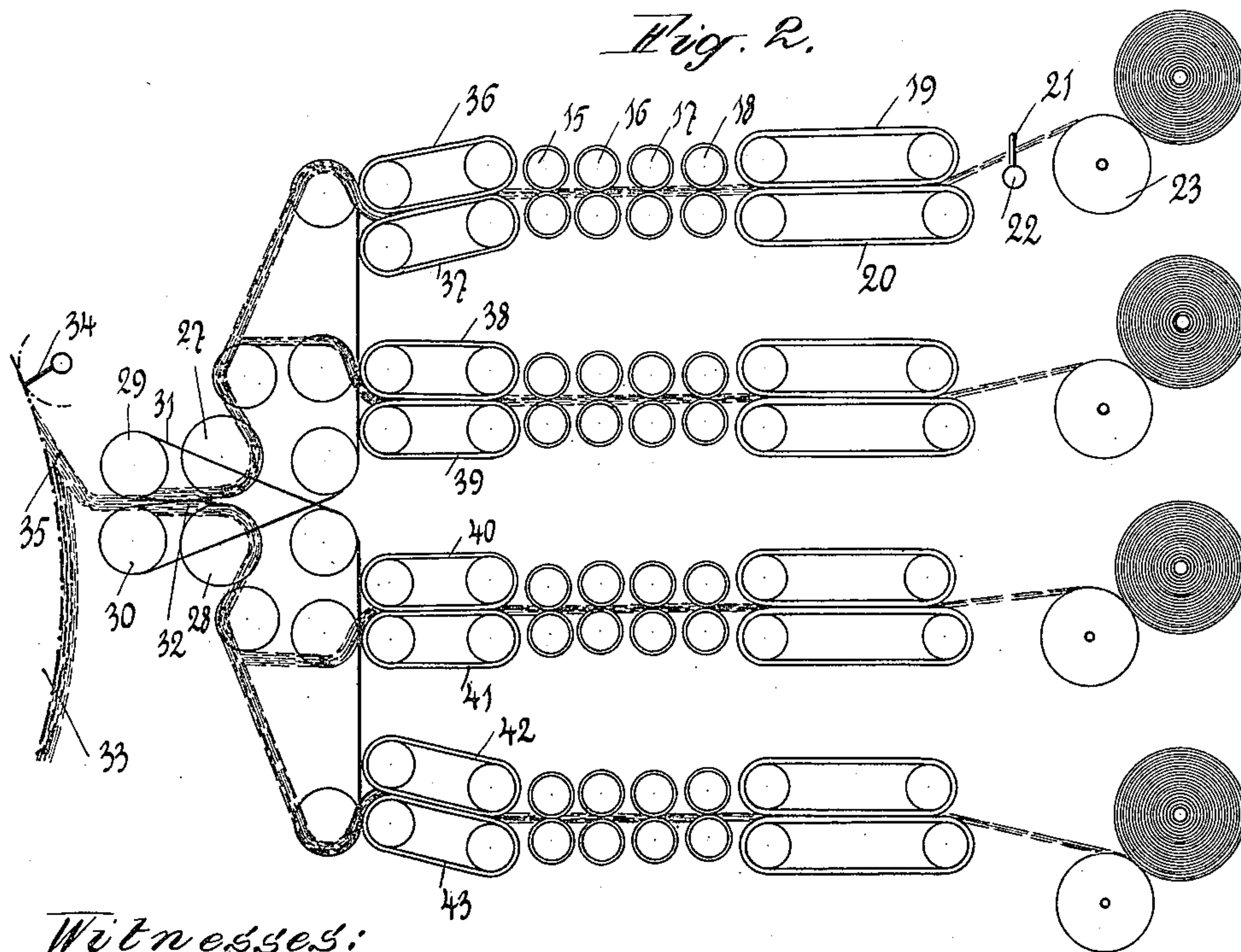
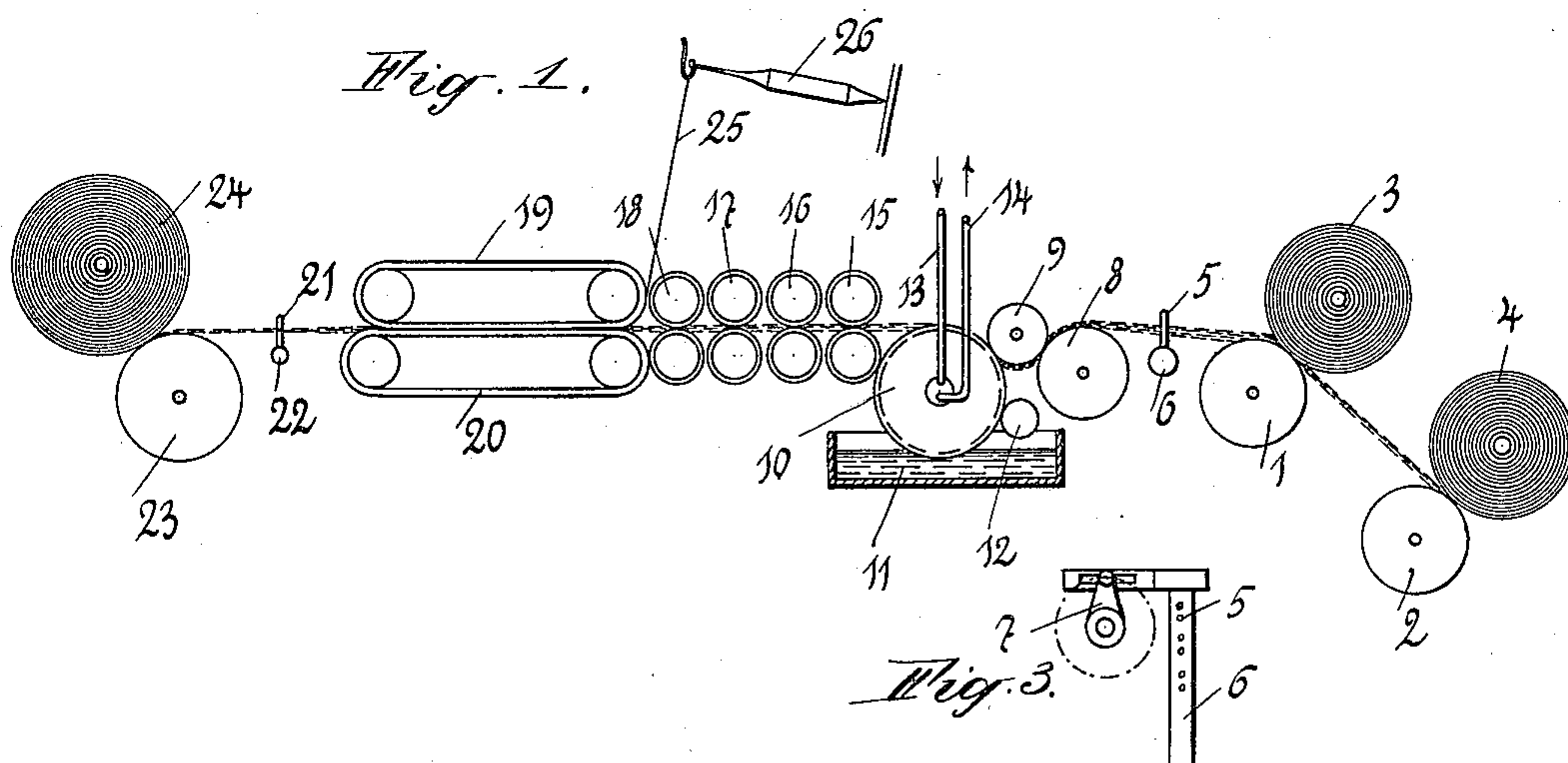


METHOD OF IMPROVING THE ROVING PRODUCED ON A CARDING ENGINE.

APPLICATION FILED JULY 3, 1913.

Patented Sept. 28, 1915.



Witnesses:

C. D. Swett.
H. G. Ruess

Inventor:

Hermann Maly
by F. Dittmar
Attorney.

UNITED STATES PATENT OFFICE.

HERMANN MÄLY, OF GUBEN, GERMANY.

METHOD OF IMPROVING THE ROVING PRODUCED ON A CARDING-ENGINE.

1,154,870.

Specification of Letters Patent.

Patented Sept. 28, 1915.

Application filed July 3, 1913. Serial No. 777,227.

To all whom it may concern:

Be it known that I, HERMANN MÄLY, a subject of the Emperor of Austria-Hungary, residing at Guben, Germany, have invented a certain Method of Improving the Roving Produced on a Carding-Engine, of which the following is a specification.

The present invention relates to a method of improving the roving produced by dividing the fleece stripped from a carding machine doffer and condensing the sliver ribbons by means of rubbing leathers.

The method consists essentially in passing the roving between pairs of rollers adapted to stretch and rub the same simultaneously so as to parallel the fibers. The roving is finally condensed and rounded by means of another set of rubbing leathers whereupon it can be spun in the usual manner on a ring spinning frame of self-acting spinning mule. By this treatment of the roving the fibers will be paralleled to a greater extent than usual and more uniformly distributed in the roving which becomes even and uniformly round throughout.

Several pairs of stretching and rubbing rollers, working at successively higher speed, may be provided so that the stretching and paralleling is brought about at a gradually increasing gradient. The roving may also, before or during the stretching process, be moistened by warm liquid so that the stretching and paralleling becomes still more uniform and less violent. Such moistening and warming of the roving can be effected by contact with a heated roller which tips into a liquid.

In order to subject the stretching rollers to a uniform wear, the roving is passed through guides which are reciprocated longitudinally of the rollers. Two or more strands of roving may be passed together between the stretching rollers and the rubbing leather so as to be condensed and rounded into one. In the latter instance an already twisted thread may be added to the joined strands so that, although perfectly round and uniform roving is obtained, the effect can be varied to an unlimited extent. It is evident that strands of different thickness, quality and color can be added in this manner.

The machine in which the roving is treated may either be connected directly to the carding machine so as to receive the roving

from the rubbing leathers of the latter, or work separately, in which case the roving is supplied from previously wound bobbins.

In the accompanying drawings the invention is illustrated, Figure 1 representing a diagrammatic view of a device adapted to work separately from the carding engine; Fig. 2, a similar view of a device connected up with the carding engine, and Fig. 3, a view of a device whereby the guides are reciprocated.

According to Fig. 1 a suitable number of positively operated rollers such as 1 and 2 are provided, which rollers are adapted to carry bobbins 3 and 4 and to unwind the roving from the latter. If, as in the present instance, two strands are to be joined, one from each bobbin is passed between each pair of guide-fingers 5 so as to be stretched and rubbed together. The guide fingers 5 are connected to a rod 6 which is reciprocated in known manner by means of a slowly moving crank 7. The joined strands are then passed over a breast-roller 8 and under a press-roller 9 to a cylinder 10 which dips in a water tank 11 so as to moisten the roving when in contact therewith. Superfluous liquid is removed from the roller 10 by a roller 12 which bears against the former. The liquid may either be heated in the tank 11 or in the cylinder 10 which in that case is made hollow and heated by means of steam pipes 13 and 14. After this warming and moistening of the roving, the latter is passed between pairs 15, 16, 17 and 18 of rubbing and stretching rollers and finally between a pair of rubbing leathers 19, 20. From the rubbing leathers the finished product is passed between the fingers 21 of a reciprocating guide 22 which distributes the roving upon a bobbin 24 supported on a winding roller 23. The roving may also be passed directly from the rubbing leather 19, 20 to a ring-spinning machine or a self-actor.

The roller pairs 15, 16, 17 and 18 are rotated at successively increasing speed so as to stretch the roving gradually into fine strands.

An already twisted thread 25 may be fed from a cop 26 to each strand as it passes in between the rubbing leathers 19, 20 as shown in Fig. 1, the thread being tensioned according to requirements.

When the roving is to be treated imme-

diately upon its delivery from the carding engine, the arrangement shown in Fig. 2 may be resorted to.

3 The fleece 35 is stripped by a cam 34 from the doffer 33 and passes between dividing rollers 27, 28, 29 and 30. Two groups of
10 endless dividing straps 31, moving over the dividing rollers, cross one another at 32 and divide the fleece into ribbons which, in following the straps, are delivered by the latter to rubbing leathers 36—37, 38—39,
15 40—41 and 42—43. Each pair of rubbing leathers communicates with a group of stretching and rubbing rollers 15, 16, 17 and 18 which operate as previously described, the roving being finally rubbed between leathers 19, 20 and led by guides 21, 22 to bobbins. Also in this case a moistening and warming of the roving may take
20 place, and already twisted thread may be added to the same.

I claim:—

1. A method of improving the roving produced on a carding machine consisting in stretching and rubbing it, then wetting 25 and warming it and removing from it the surplus moisture and then rubbing it again.

2. A method of improving the roving produced on a carding engine, consisting in stretching and rubbing it, then wetting and 30 warming it, then removing excess of moisture and dividing it into strands, adding twisted thread to each of said strands, joining said strands again and finally rubbing 35 them altogether, as set forth.

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

HERMANN MALY.

Witnesses:

GEORGE A. MAKINSON,
FRANZ HAVER HABERL.

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