

(No Model.)

J. DAVIS.

FEED ROLLER FOR WOODWORKING MACHINES.

No. 483,711.

Patented Oct. 4, 1892.

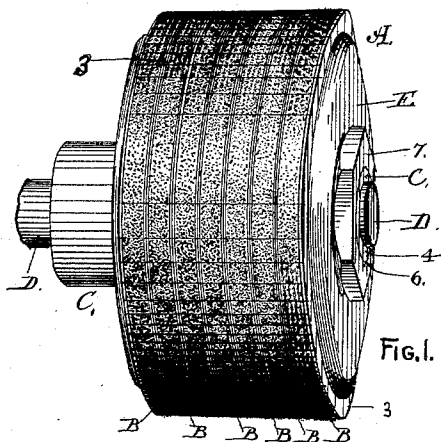


FIG. 1.

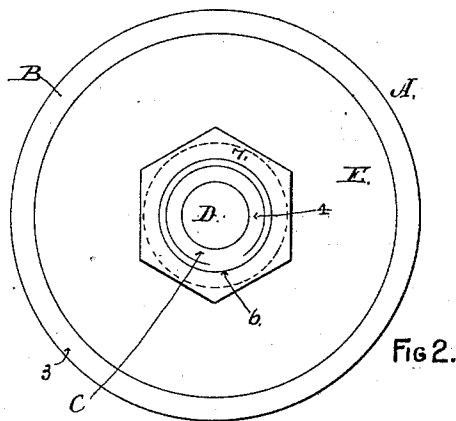


FIG. 2.

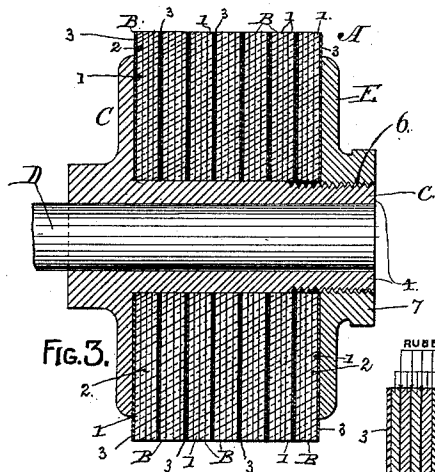


FIG. 3.

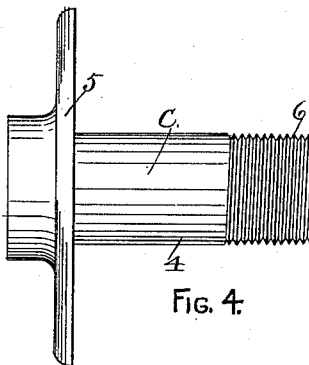


FIG. 4.

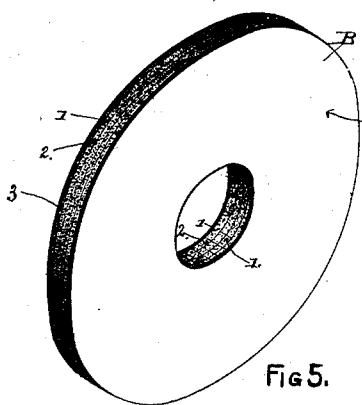


FIG. 5.

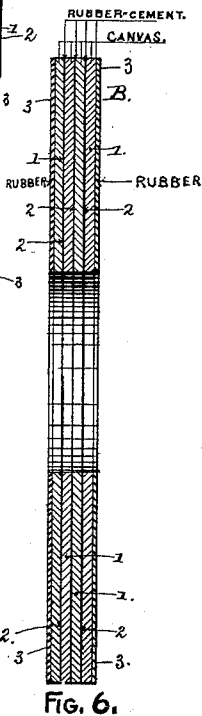


FIG. 6.

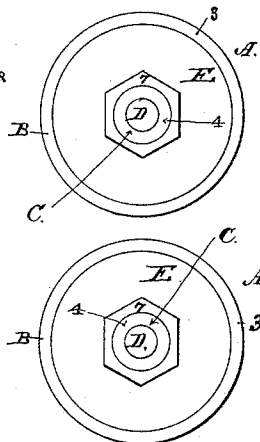


FIG. 7.

WITNESSES:

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FEED-ROLLER FOR WOODWORKING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 483,711, dated October 4, 1892.

Application filed February 16, 1892. Serial No. 421,673. (No model.)

To all whom it may concern:

Be it known that I, JOHN DAVIS, of the city and county of Albany, in the State of New York, have invented new and useful Improvements in Feed-Rollers for Woodworking-Machines, of which the following is a specification.

Heretofore considerable difficulty has been experienced in obtaining effective feed-rollers for woodworking machinery for the following reasons: By the use of smooth metallic rollers the surface of the wood will receive a polished surface in spots whenever the rollers fail to feed the wood properly, the polished spots marring the appearance of the finished work. When fluted metallic rollers are employed, the indentations left by the sharp ridges of the flutings in the surface of the wood renders the work less valuable, and when simple elastic and freely-compressible rollers are employed their action is too uncertain to produce a required uniformity in the finished work.

The object of my invention is to provide feed-rollers which will combine a limited degree of elasticity with sufficient adhesion to the material to effect the feeding of the latter without producing any injury to the surface of the wood. This object I attain by means of the composite rollers herein shown and described.

In the accompanying drawings, which are herein referred to and form part of this specification, Figure 1 is a perspective view of one of my feed-rollers detachably secured to a shaft. Fig. 2 is an end elevation of the same. Fig. 3 is a longitudinal section of said roller with a portion of the shaft shown in side elevation. Fig. 4 is a side elevation of the separated parts of the spool for my feed-roller. Fig. 5 is a perspective view of one of the composite disks of feed-roller. Fig. 6 is a transverse diametrical section, on an enlarged scale, of one of the composite disks; and Fig. 7 is an end elevation on a reduced scale, showing the usual arrangement of a pair of my feed-rollers.

As represented in the drawings, A designates my improved feed-roller composed of a series of disks B, which, as shown in Fig. 6, consist of a series of layers of canvas 1 or

other stout textile fabric, adhered together by means of an interposed layer 2 of india-rubber or other elastic cement, and on each side of said disk a facing 3, of partially-vulcanized india-rubber, is cemented to produce a proper adhesional contact between the successive disks. In practice I find that ordinary india-rubber belting forms a good material for making said disks.

C designates the body of the spool for holding the disks B. Said body consists of a sleeve 4, having at one end a circumferential flange or head 5 and at the opposite end a screw-threaded portion 6. Said sleeve is fitted to a shaft or spindle D, with which the feed-roller revolves. E designates the removable head of said spool, which is fitted to screw upon the threaded portion of the sleeve for the purpose of clamping the disks B immovably on the body C of said spool, and for the purpose of affording proper facilities for screwing said head onto the body C the head E, is provided with a nut-shaped head 7 or other suitable formation for receiving a wrench or other tool, whereby said head can be rotated to effect its screwing onto or off from the threaded portion of the sleeve 4. The disks B are securely clamped between the heads E and 5, preferably, before they are reduced to the required diameter, and then the surface of the feed-roller A is turned off truly. The layers of textile fabric, whose edges alone bear upon the wood during the operation of feeding the material in the machine, afford sufficient rigidity to form an approximately-unyielding body, while the rubber in the layers of cementation and facings afford sufficient adhesiveness to render the roller effective in its operation.

Instead of forming the head 5 on a removable spool, as herein shown and described, it is obvious that said head, when preferred, may be formed directly on the shaft D, and in such case the removable head E will be fitted to screw onto the outer part of said shaft.

My feed-rollers are usually arranged in pairs, as shown in Fig. 7, a space being left between the peripheries of the two rollers to allow the material to enter between them; but, when preferred, a single feed-roller may

be arranged to co-operate with a plane surface for feeding the material on the face of the latter.

What I claim as my invention, and desire
5 to secure by Letters Patent, is—

1. A feed-roller formed of a series of composite disks composed of canvas or other textile fabric secured together by a cement of india-rubber or other elastic material; said
10 disks being faced on their opposite flat surfaces with india-rubber, as and for the purpose herein specified.

2. In a feed-roller, the combination of a series of composite disks composed of canvas or other textile fabric, the layers of said fabric being secured face to face by means of an elastic cement, and a clamping mechanism for securing said disks in place, as and for the purpose herein specified.

JOHN DAVIS.

Witnesses:

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