H. B. MORRIS.

MATERIAL FOR MAKING ARTICLES OF FURNITURE, &c.

APPLICATION FILED APR. 24, 1908.

**926,996.** Patented July 6, 1909.

2 SHEETS—SHEET 1

Fig. 1.

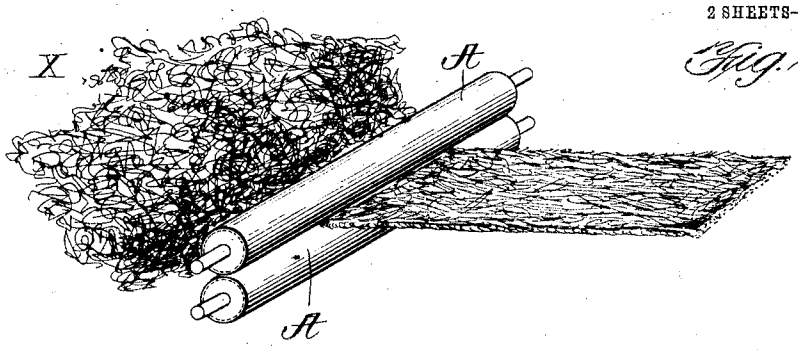



Fig. 2.

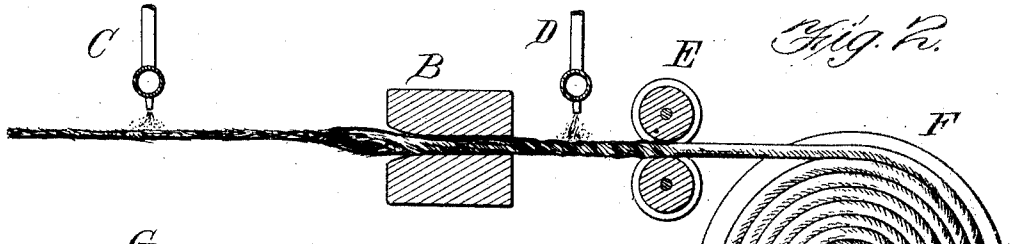



Fig. 3.

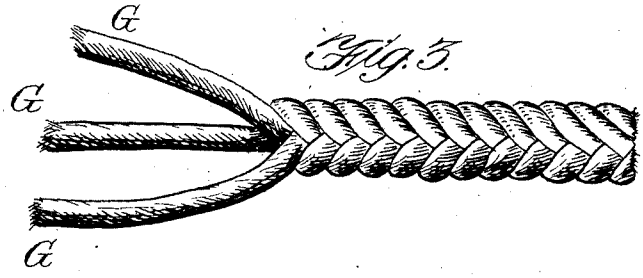
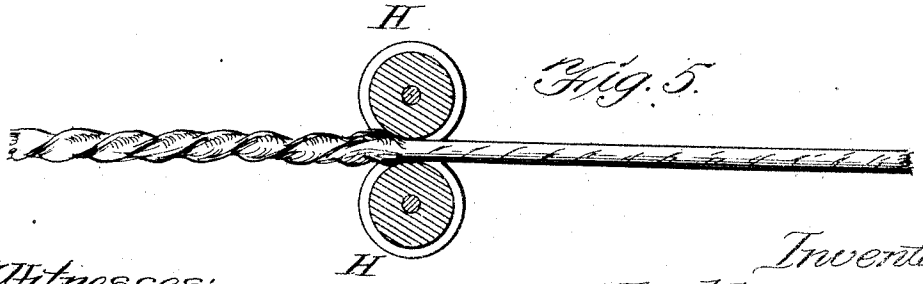



Fig. 4.



Fig. 5.




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2 SHEETS—SHEET 2.

Fig. 6.

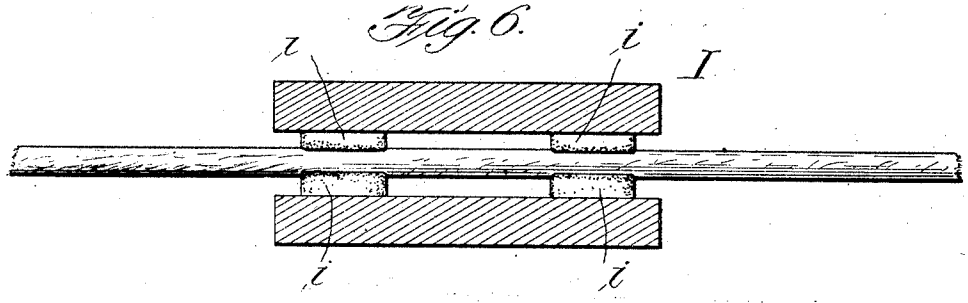
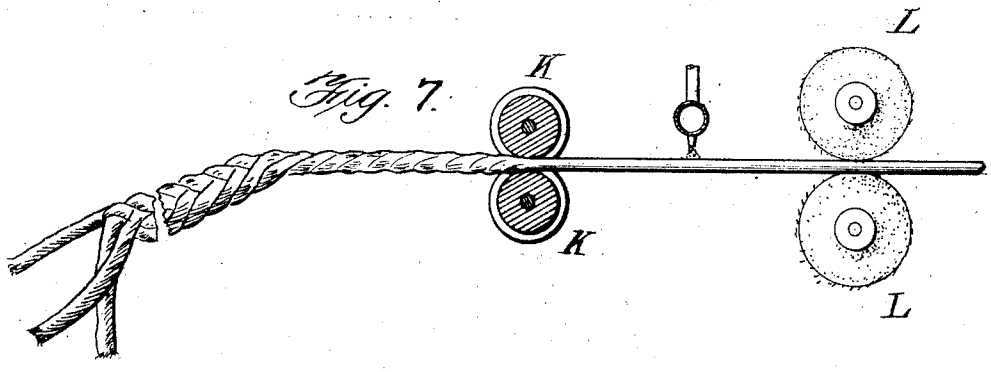



Fig. 7.




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# UNITED STATES PATENT OFFICE.

HAROLD B. MORRIS, OF MICHIGAN CITY, INDIANA.

## MATERIAL FOR MAKING ARTICLES OF FURNITURE, &c.

No. 926,996. Specification of Letters Patent. Patented July 6, 1909.

Application filed April 24, 1908. Serial No. 429,090.

*To all whom it may concern:*

Be it known that I, HAROLD B. MORRIS, a citizen of the United States, residing at Michigan City, in the county of Laporte and State of Indiana, have invented certain new and useful Improvements in Material for Making Articles of Furniture, &c., of which the following is a specification.

The principal object of this invention is to produce a new material for use in the manufacture of chairs, settees and other articles of furniture where reed, ratan or flag is now commonly employed.

According to my invention I employ as the foundation for my improved material wood fibers, as for example, "excelsior" or other vegetable fibers. I treat this material in such manner as to form it into strands or cords of any desired length and of the requisite thickness, diameter or width and render it so strong, and, where necessary, so flexible, that it may be employed with facility to produce articles of pleasing appearance and of durability.

While my improved material is especially intended for use in making articles of furniture, such as chairs, it may also be used in the construction of baskets, baby carriages, and many other articles.

In the accompanying drawings I have shown diagrammatically how strands, cords and braids may be made from wood fibers or vegetable fibers in accordance with my invention. It will be understood, however, that the apparatus and process are shown conventionally or diagrammatically and may be varied within wide limits.

Figure 1 is a perspective view showing how the loose vegetable or wood fibers may be passed between rolls to flatten not only the mass but also the individual fibers. Fig. 2 shows how the mass of fibers may be sprayed, formed into a cord, compressed and rolled. Fig. 3 illustrates how cords or strands produced in accordance with my invention may be braided. Fig. 4 shows how the braided cords may be twisted or spun. Fig. 5 shows how the cords may be compressed. Fig. 6 shows how the compressed cord may be rubbed or polished. Fig. 7 shows how a braided cord may be compressed and flattened and then polished or made smooth.

It is common to employ comparatively short lengths of reed, ratan, or flag in the manufacture of chairs, etc. and it is also common to use strands, cords or braids of indefinite length made of cords or paper. I prefer to make my cords, strands or braids of indefinite length as they can be more advantageously manufactured in this way and can be more conveniently used. The material which I employ as a foundation or body for the strands or cords of my improved material is wood fiber or other vegetable fiber. Preferably I employ "excelsior", which is wood fiber, in a shredded condition.

If it is desirable that the material when finished shall be colored, as the first step in the process I stain or dye the loose fibers. If desired different masses of loose fibers may be separately dyed with fast colors, that will not be affected by the subsequent treatment, and then mixed together and when this is thoroughly dry I impregnate the mass of fibers with adhesive material, as, for example, a mixture of glue and glycerin which will have the effect of making the fibers flexible and the flexibility will be preserved in the finished article. When the masses of fibers are not colored the first step in the process is that of impregnating the fibers with adhesive material. The mass or masses of loose fibers thus treated may be passed through rolls A (Fig. 1) which may be heated and which compress the mass X of fibers, flatten the individual fibers, cause the adhesive material to penetrate all parts of the mass and squeeze out surplus adhesive material. The next step in the process is that of assembling the fibers permanently together into a strand or cord. For this purpose the fibrous material may be led to suitable assembling mechanism B (Fig. 2), the details of which are not shown as there are many assembling devices known in the art which may be employed. Preparatory to assembling I usually apply adhesive material to the flattened mass of fibers, as, for example, by means of a perforated pipe C (Fig. 2). After the fibrous material is assembled permanently into a cord or strand I may apply adhesive material to the strand or cord in the manner indicated at D and then pass the cord through grooved rollers E which shape it, compress it, and squeeze out the surplus adhesive material. The assembling device B may be constructed

to twist or spin the fibers as illustrated. There are many spinning or twisting devices known in the art which may be employed. After the strand or cord has passed through the rollers E it may be wound onto a reel F.

The cord or strand produced as described may be, in many cases, used in the manufacture of chairs, or other articles, but the process may be continued in the manner next to be described. Several cords or strands as, for example, those shown at G, say three, may be braided in the manner indicated, and preferably, either before or while being braided, they are treated with adhesive material. Any suitable braiding mechanism well known in the art may be employed. In this braided form the cords may be used in covering chair frames and for many other purposes. The braided cord may, if desired, next be twisted by any suitable mechanism in the manner indicated in Fig. 4. A twisted braided cord made in this way is very strong and durable and more suitable for use in some connections than the untwisted braid, or the unbraided cord. The process may be continued by forming a large braid of twisted braided cords.

Adhesive material is applied during the several processes above described wherever necessary to cause the fibrous material, the cords or the braids to firmly adhere.

The cord shown in Fig. 4 may be passed between grooved rollers H (Fig. 5), to compress it, render it smooth and squeeze out the surplus material. If desired the rolls may be milled or otherwise formed to produce an ornamental effect on the material.

A fine finish may be given to the cord or braid by applying one or more coats of size of preferably flexible adhesive material. When this is dry one or more coats of waterproof finishing material may be applied. In order to smooth, rub or polish the cord, strand or braid it may be passed through a polishing device, such as indicated at I in Fig. 6. This may be of any suitable construction, preferably pads of felt *i* are employed and any suitable polishing material, such as rotten stone, oil, etc., may be used in the process of polishing or rubbing.

After the chair or other article is covered with my improved material it may be dipped bodily into a tank of glue size and when this is dry one or more coats of varnish may be applied by dipping or by the brush. When the cords have been shellacked varnished, rubbed or polished in the manner indicated in Fig. 6, it is not usually necessary to dip the articles into glue or to varnish them.

I may, instead of making cords flexible, make them quit stiff so that they may be used in the construction of the frames of chairs and such articles where reeds are now used. No other change in the process may be made in order to form reeds except to use adhesive material which will render the product stiff rather than flexible.

It will be understood that a variety of colors may be given to the material by judicious selection of different colored masses of fibers. A perfectly plain color may be obtained by using fibers of one color. By mixing fibers of different colors before passing them through the rolls, A, a great variety of coloring in the product may be obtained.

I have already described in a general way how braid may be made from the strands or cords produced according to my invention. In making braid I may take cords, either of the kind shown in Fig. 2, or that shown in Fig. 5, and after they have been varnished and shellacked, form a braid from them, as shown in Fig. 7, and I preferably pass this braid through rollers K which serve to compress and flatten it and as this operation is apt to injure the varnished braid, I may give to the braid, after it has passed through the rolls, a coating of varnish and when this is dry, I may run the braid between buffing wheels or polishers, as indicated at L in Fig. 7. The braid may be ornamented in any suitable way by suitable ornamenting rolls.

When cords or braids of my improved material, which have not been rubbed or polished, are used in the construction of a chair or other article, I prefer to dip the entire article after completion into a bath of glue size or other similar material and then apply one or more coats of varnish.

No claim is made herein to the method of manufacture herein described as such claims are made in my application No. 450,417, filed August 27, 1908.

I claim as my invention:

1. A strand or cord for use in the manufacture of chairs or other articles, consisting of excelsior treated with adhesive material and compressed to form such a cord or strand.

2. A strand for use in the manufacture of chairs or other articles, consisting of a plurality of cords of loose fibrous material, treated with adhesive material, braided and twisted, substantially as described.

3. A strand or cord for use in the manufacture of chairs or other articles, consisting of excelsior treated with adhesive material, twisted, braided and again twisted.

4. A cord or strand for use in the manufacture of chairs or other articles, consisting of differently colored masses of loose shredded fibrous material, treated with adhesive material and compressed.

5. A cord or strand for use in the manufacture of chairs or other articles, consisting of differently colored masses of shredded fibrous material, treated with adhesive material, and assembled permanently and compactly together.

6. A cord or strand for use in the manufacture of chairs or other articles, consisting of differently colored masses of shredded fibrous material treated with adhesive material assembled permanently and compactly together, and covered with finishing material.

In testimony whereof, I have hereunto subscribed my name.

HAROLD B. MORRIS.

Witnesses:
SHEPARD J. CRUMPACKER,
J. J. WATSON.