

No. 812,463.

PATENTED FEB. 13, 1906.

F. STOFFEL.
MANUFACTURE OF VEGETABLE STRIPS.

SPEOIMENS.

APPLICATION FILED OCT. 14, 1904.

FIG. 1

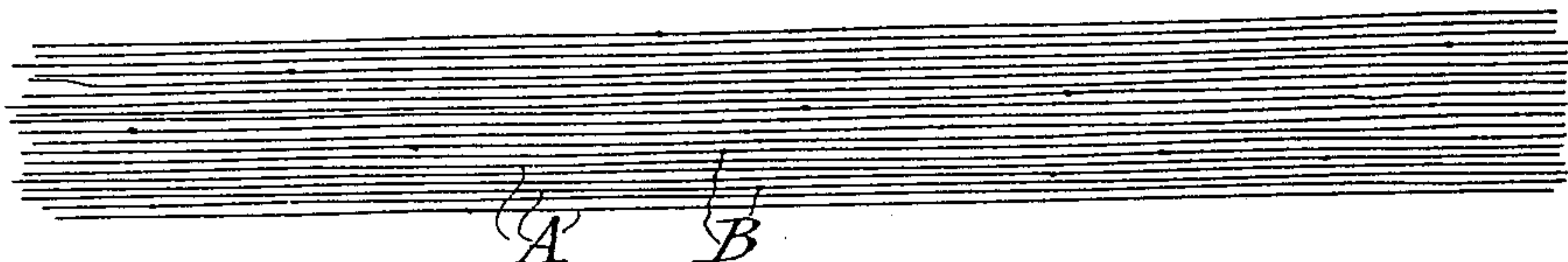


FIG. 2.

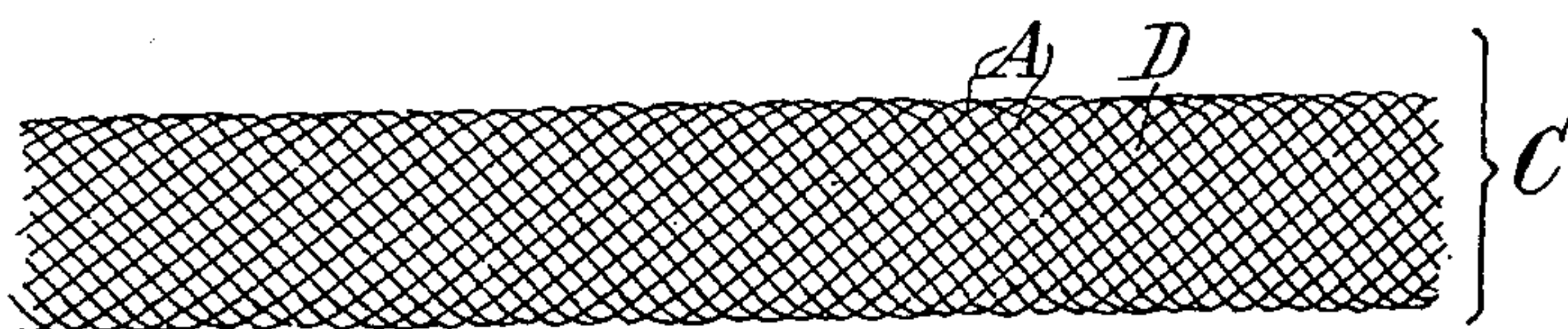


FIG. 3.

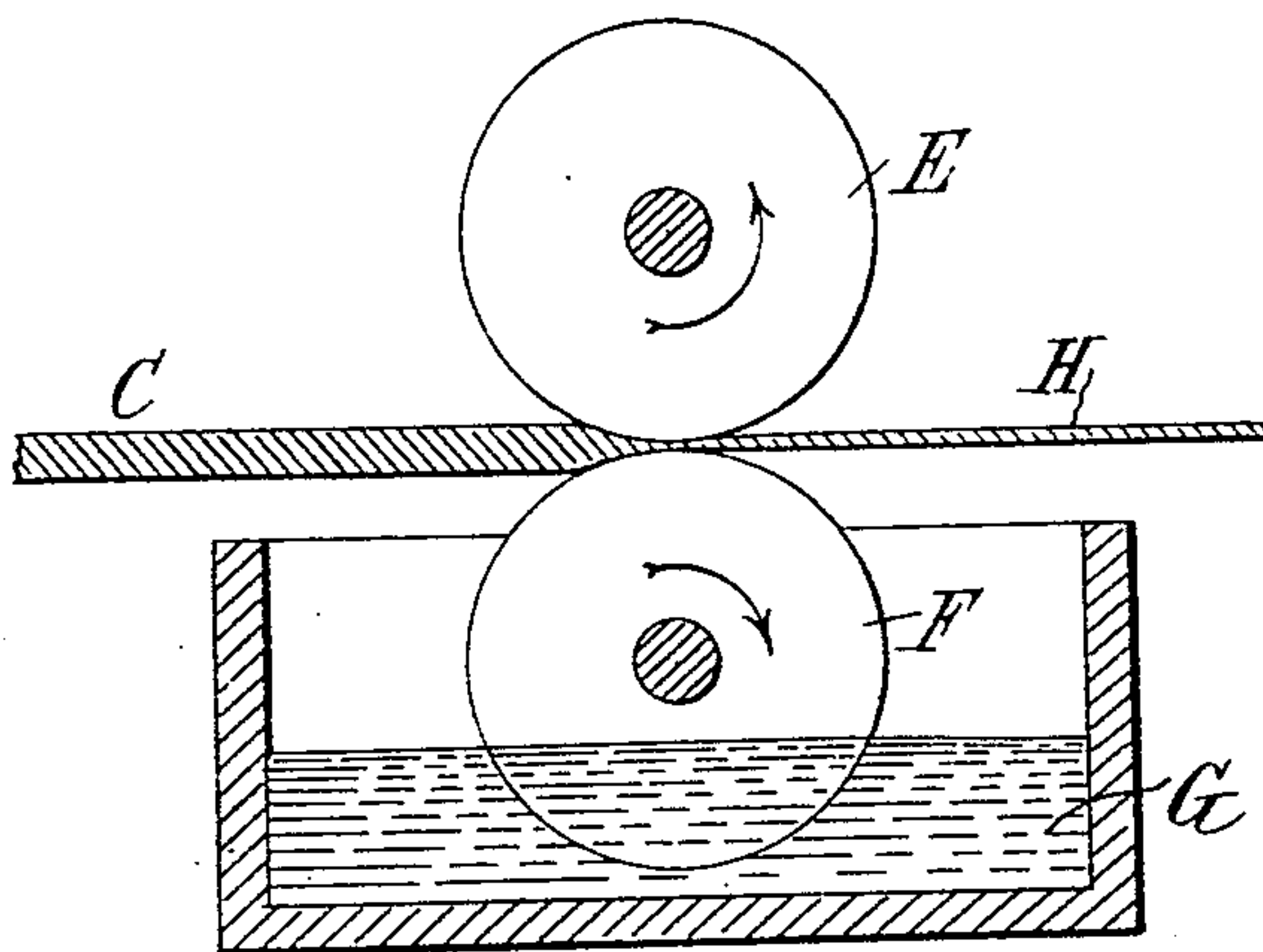
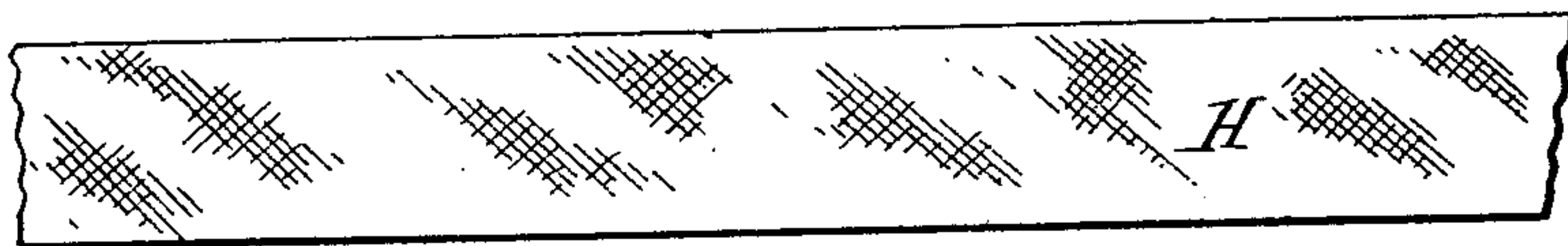


FIG. 4.



WITNESSES:

Ired White
Rene Muine

INVENTOR:

Fernand Stoffel.

By Attorneys,

Arthur C. Fraser & Co.

UNITED STATES PATENT OFFICE.

FERNAND STOFFEL, OF PARIS, FRANCE.

MANUFACTURE OF VEGETABLE STRIPS.

No. 812,463.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed October 14, 1904. Serial No. 228,297. (Specimens.)

To all whom it may concern:

Be it known that I, FERNAND STOFFEL, a citizen of the Republic of France, residing in Paris, France, have invented certain new and useful Improvements in the Manufacture of Vegetable Strips, of which the following is a specification.

Heretofore ribbons or strips of two different kinds have generally been employed for plaits for making ladies' hats—that is to say, they have consisted of a natural material called "chouchou" or "yedda," chiefly obtained from the Island of La Réunion and which was procured in the form of short strips which could only be plaited by hand, or of threads of silk, hemp, or cotton, united by placing the lengths side by side and cementing them together with gelatin; but these artificial strips, which are thick, are of much less value than the thin and supple ribbons which yedda naturally furnishes. Chiefly for the production of substitutes for these natural strips I have devised the method of manufacture forming the subject of my invention. In order to enable the peculiarities and advantages of my novel product to be fully understood, I will now describe its preparation.

I first take the fiber derived from the decoration of hemp and knot the lengths to form a continuous thread. Taking a certain number of these threads—thirteen, for example—I plait them together in a plaiting or braiding machine into a loose plait. Afterward I subject this loose plait or bundle of threads to a flattening process after boiling in water or other liquid to soften the material. For this flattening purpose I make use of a rolling apparatus consisting of two cylinders, one of which is partially immersed in a bath containing the cement or the dressing, which is gelatin by preference.

The accompanying drawings illustrate an embodiment of the invention.

Figure 1 shows the threads knotted together in continuous lengths and laid side by side. Fig. 2 shows the same threads interlaced or plaited together. Fig. 3 illustrates the mashing and spreading of the threads, the thickness of the latter being exaggerated for the sake of clearness. Fig. 4 illustrates the finished product.

Referring to the drawings, A represents continuous threads formed by knotting together successive fibers of hemp, the knots being indicated at B, the original fibers being

generally about two yards or less in length. These threads are interlaced with each other, preferably by plaiting them loosely, to form a braid C. This braid is then mashed and the individual threads spread, so as to fill the voids D between successive threads. To accomplish this mashing and spreading, they may be run between rolls E and F, the latter of which dips into a bath G, of cement or dressing or agglutinant of any kind. The braid is preferably softened, as previously explained, before being run through the mashing-rolls. It may be passed any desired number of times through the rolls and emerges finally in the form of a thin flat strip or ribbon H without voids across its entire width, as indicated in Fig. 4, and showing only on close inspection the lines of direction of the interlaced threads. In the ordinary process the threads are simply laid side by side, as shown in Fig. 1, before being mashed. By this process each time that the knots pass between the laminating or mashing cylinders they produce an irregular spreading and often a rupture of a thread, which when it is broken adheres to one of the cylinders and destroys the homogeneity of the ribbon. By interlacing the threads they are tied to each other in such a way that if any of the threads break at the knots they are carried along with the others instead of adhering to the cylinders. In effect, any thread which is broken is always sustained above and below by other threads. The voids between the threads, which are of elongated-lozenge shape, are filled little by little by the spreading of the threads and uniformly, because the voids are always of the same size—a feature impossible to obtain in merely placing the threads side by side. For the same reason the resistance of the several threads is uniform in the plaited braid, while in straight threads laid side by side the resistance of the interior threads to the spreading pressure is greater than that of the threads at the edge. As a consequence of the several points mentioned the present process produces a superior ribbon in appearance and in uniformity and strength. This flattening or rolling, which may be effected by repeated passages through the rollers, has for effect to crush the hemp and at the same time thin and widen it, thereby filling up the spaces produced by the looseness of the plaiting and finally forming a homogeneous strip. This strip will be found to exactly resemble a chouchou or yedda strip, which it is the ob-

ject of the invention to replace in the manufacture of plaits for hats.

If it is desired to dye the strips instead of having them plain or bleached, it is only necessary to employ the desired color.

Among the advantages connected with the employment of these strips may be mentioned that their manufacture requires less material than the strips formed by the juxtaposition of silk, hemp, or cotton threads, and there is also the advantage over the said yedda strips that there is continuity, which allows of forming plaits by machinery.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The process of making a ribbon or thin flat strip from threads, which consists in interlacing a number of such threads loosely together to form a braid, mashing and spreading said threads to flatten the braid and fill

the voids between the threads and cementing the whole together.

2. The process of making a ribbon or thin flat strip from threads, which consists in interlacing a number of such threads loosely together to form a braid, softening the threads, mashing and spreading the threads to flatten the braid and fill the voids between the threads and cementing the whole together.

3. A ribbon or thin flat strip formed of threads interlaced and cemented together, and spread out within the spaces between the adjacent threads, so as to fill said spaces and to make the ribbon substantially without voids in its width.

In witness whereof I have hereunto signed my name, this 4th day of October, 1904, in the presence of two subscribing witnesses.

FERNAND STOFFEL.

Witnesses:

GABRIEL BELLARE,
JOHN BAKER.