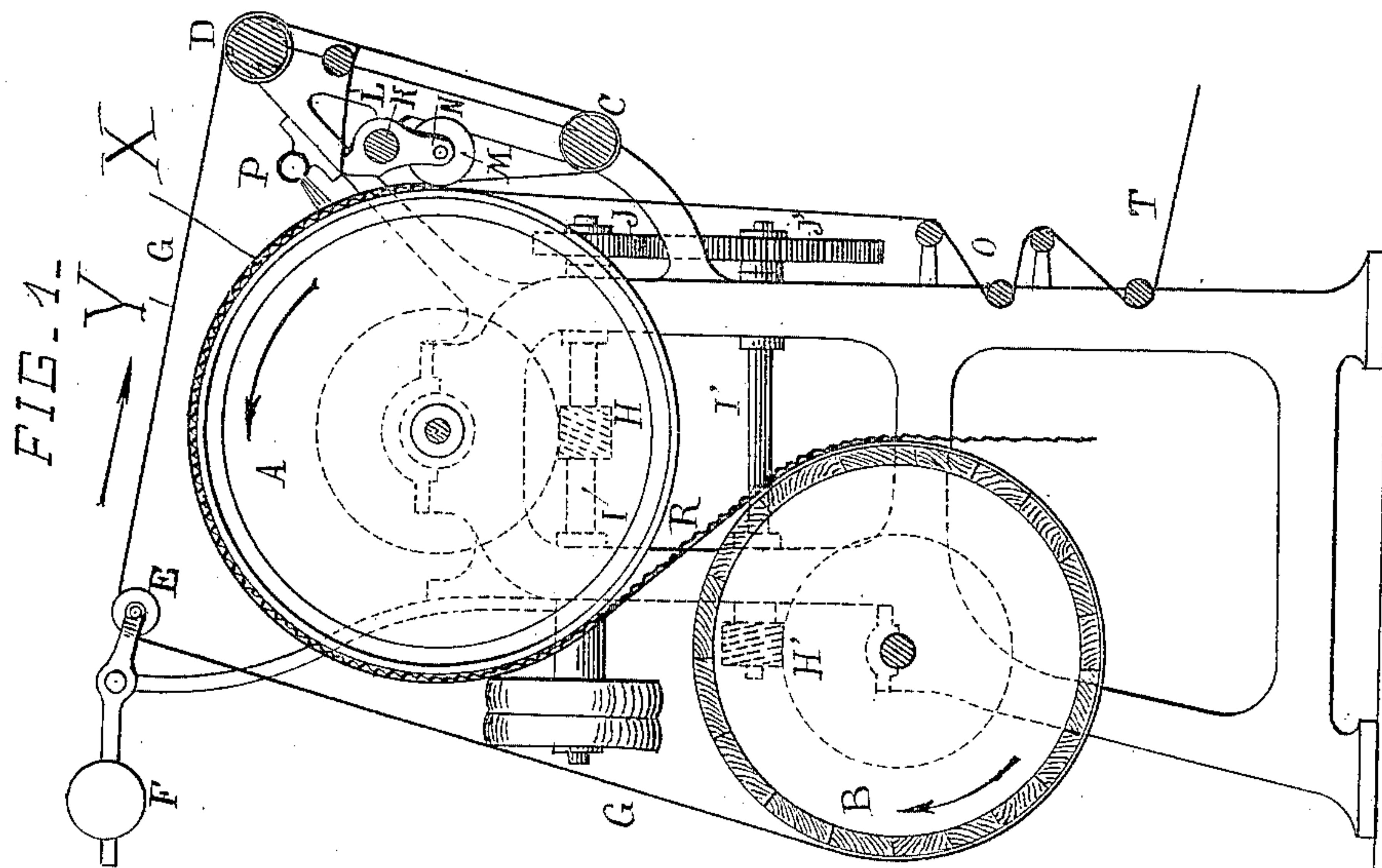
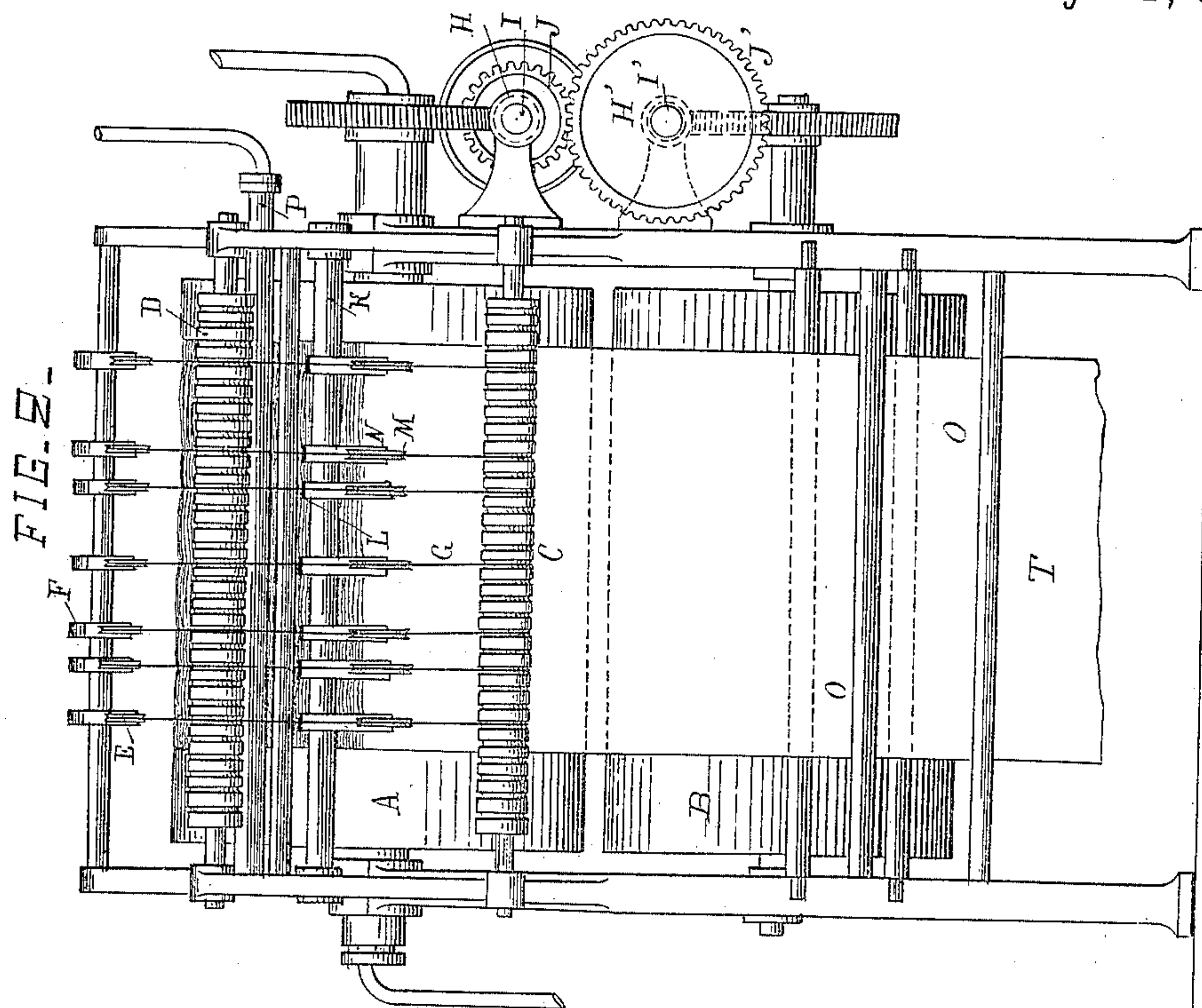


(No Model.)

H. PERVILHAC.  
PLAITING MACHINE.

No. 604,839.

Patented May 31, 1898.



Witnesses:

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# UNITED STATES PATENT OFFICE.

HENRY PERVILHAC, OF LYONS, FRANCE.

## PLAITING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 604,839, dated May 31, 1898.

Application filed October 23, 1897. Serial No. 656,166. (No model.) Patented in France May 21, 1897, No. 267,110; in Austria September 21, 1897, No. 47/5,232; in Switzerland October 14, 1897, No. 15,214, and in England November 18, 1897, No. 27,006.

*To all whom it may concern:*

Be it known that I, HENRY PERVILHAC, a citizen of the Republic of France, residing at Lyons, France, have invented certain new and useful Improvements in Apparatus for Plaiting, Crimping, or Goffering Fabrics, of which the following is a full, clear, and exact description.

The invention has been patented in France May 21, 1897, No. 267,110; in Austria September 21, 1897, No. 47/5,232; in Switzerland October 14, 1897, No. 15,214, and in Great Britain November 18, 1897, No. 27,006.

My invention has for its object to obtain in a continuous manner fabrics plaited, crimped, or goffered and fixed in their form without the aid of auxiliary threads. The apparatus which I employ for this purpose is represented in the accompanying drawings, in which—

Figure 1 is a transverse section, and Fig. 2 a front view, thereof.

It consists, first, of a metal drum A, heated interiorly; second, of a drum B, of wood or other adherent or frictional material; third, of two guide-rollers C D, formed with a number of small equidistant circumferential grooves; fourth, of a series of tension-pulleys E, carried by counterbalanced levers F of number equal to that of the grooves of the rollers C and D.

The endless cords G, surrounding a large part of the circumference of the two drums A B, pass into the grooves of the rollers C D and over the pulleys E, which give them the required tension.

The drums A B turn in the direction of motion of the cords indicated by the arrows, but with different surface speeds, the heated drum A having a greater speed than the drum B. The cords G, which receive motion from the adherent or frictional surface of the drum B, consequently slip over the polished surface of the drum A.

The differential speed of the drums may be obtained by any convenient gearing, and specially by endless screws H and H', mounted on two parallel shafts I I', connected together by interchangeable toothed gearing J J', which enables the relative speeds to be varied at will.

The roller C is placed at a short distance from the drum A, and above, at the point where the cords leaving this roller come into contact with the drum, is arranged a series of pulleys M, equal in number to that of the cords, such pulleys being carried by blocks N, oscillating separately on a fixed shaft K. Each of these pulleys is strongly pressed against the drum A by a spring L and has at its circumference a small groove which retains one of the cords G.

In working the machine some only of the cords G and pulleys M are in operation. The others are removed or put out of action. The drawings show only the parts supposed to be in operation. Fig. 1 shows the relative movements of the drums and the cords. The drums revolve in opposite directions, as shown by the arrows. The cords, being moved by the drum B, go in the same direction therewith, and the upper one, Y, of the two strands of said cords which lie over the drum A passes in a direction opposite to the movement of the drum A, while the lower strand X is directed so as to return over the drum A, and it therefore moves in the same direction with the said drum.

I will now describe the operation of the apparatus.

The fabric T, which has a convenient tension applied thereto by passing over a set of bars O, is introduced between the drum A and the roller C and passed between this drum and the pulleys M, so as to be seized between the said drum and the cords G, held in the groove of each pulley M. From this moment the fabric gripped between the pulleys M and the drum A will be drawn forward with a speed equal to that of the drum; but as it is at the same time retained by the pressure of the cords G, which have less speed, it will be gathered or puckered and will in this condition pass over all that part of the drum surrounded by the cords. In order to fix the plaiting, crimping, or goffering thus formed, I arrange above the pulleys M a perforated steam-pipe P, having very fine holes which steam the fabric at the moment when the plaitings, crimpings, or gofferings are just formed. It dries directly by its contact with



the heated drum and leaves at R completely finished and fixed. The mark of the cords continuing after the operation divides the plaited, crimped, or goffered fabric into bands, the width of which may be varied to produce different effects. With this object the grooves of the rollers C D are sufficiently near each other to enable the cords to be placed at the desired points. The effects can be further varied by replacing the endless cords by chains, belts, or other kind of bands which would leave its impression on the plaited, crimped, or goffered fabric. Some or all of these endless cords or bands might also be replaced by narrow ribbons of velvet, chenille, &c., unwinding in a continuous manner and having been previously gummed or cemented to remain fixed on the plaited, crimped, or goffered fabric, to which they serve as decoration.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination, in a plaiting-machine, a drum, means for moving the drum, a series of cords passing over the same and means for moving the cords at a less surface speed than the drum, the fabric to be plaited being fed between the drum and cord, substantially as described.

2. In combination, the heated rotary drum, the cords with means for moving them at a less surface speed than that of the drum, and

the steam-pipe arranged outside the drum for acting upon the material, substantially as described.

3. In combination, the rotary drum, the cords with means for moving the same at a less surface speed than the drum, the spring-pressed pulleys by which the cords pass and the steam-pipe acting on the goods adjacent to said pulleys, substantially as described.

4. In combination, the smooth internally-heated drum, means for moving the said heated drum, a frictional drum, means for moving the said frictional drum at a less surface speed than the heated drum, guide-rollers having equidistant grooves, the spring-pressed pulleys, tension-pulleys and the cords passing around the friction-drum to be moved thereby about the heated drum to act on the goods, the said cords being moved slower than the heated drum, substantially as described.

5. In combination, the heated drum, means for moving the same, a drum having a friction-surface adapted to grip a cord or band, and the cord or band passing around the drums with means for moving the friction-drum slower than the heated drum, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

HENRY PERVILHAC.

Witnesses:

YVIN RABILLOU,  
GASTON YEAUNIAUX.