

PAUL DE GUARDIA-CALMETES.
MACHINE FOR THE TRANSFORMATION OF REEDS INTO SLATS OR STRIPS.
APPLICATION FILED MAR. 24, 1920.

1,420,914.

Patented June 27, 1922.
2 SHEETS—SHEET 1.

Fig. 2

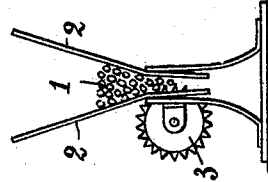


Fig. 1

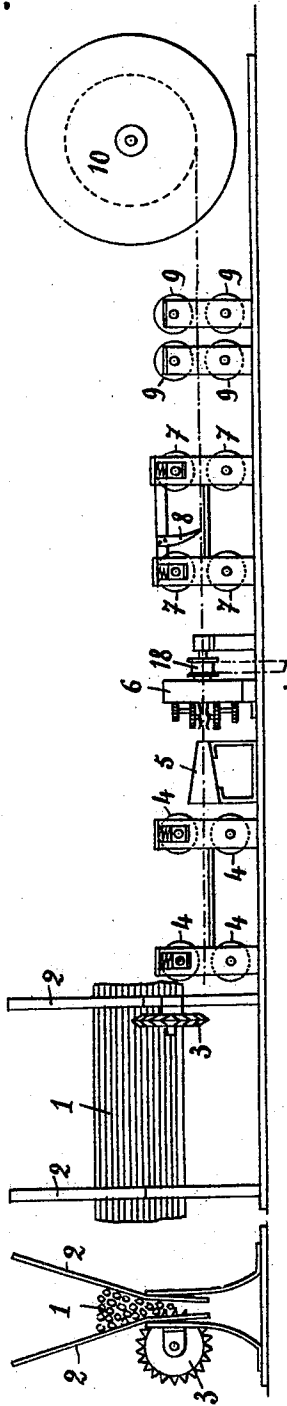


Fig. 5



Fig. 7

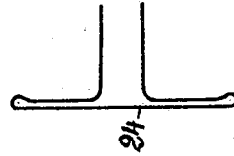


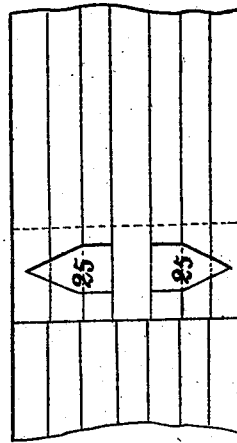
Fig. 8



Fig. 9



Fig. 6



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Fig. 4

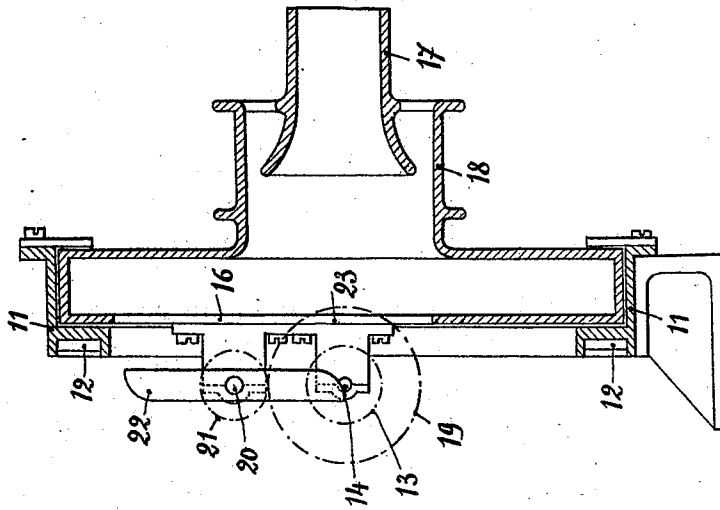
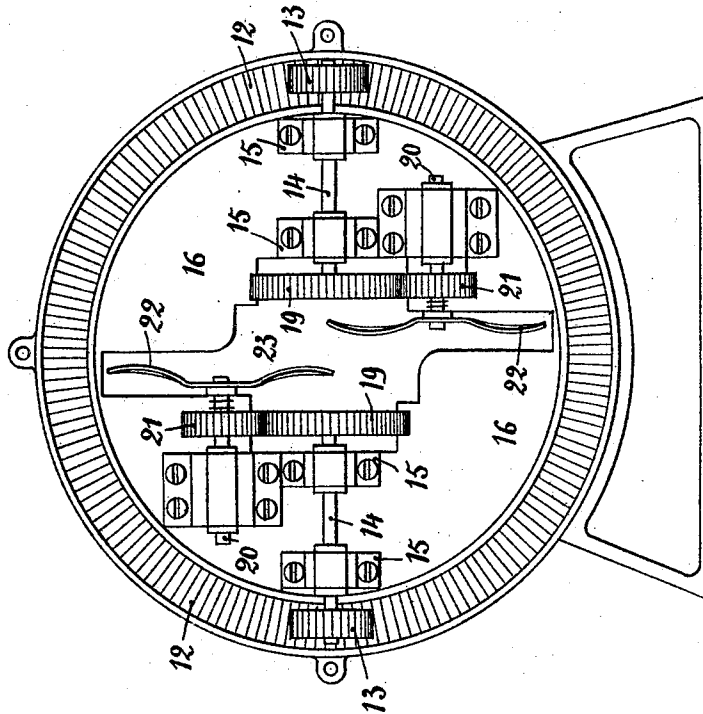


Fig. 3



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UNITED STATES PATENT OFFICE.

PAUL DE GUARDIA-CALMÈTES, OF PERPIGNAN, FRANCE.

MACHINE FOR THE TRANSFORMATION OF REEDS INTO SLATS OR STRIPS.

1,420,914.

Specification of Letters Patent. Patented June 27, 1922.

Application filed March 24, 1920. Serial No. 368,371.

To all whom it may concern:

Be it known that I, PAUL DE GUARDIA-CALMÈTES, citizen of the Republic of France, residing at Perpignan, France, Pyrenees-Orientales, 4 Rue Eglise Réal, have invented certain new and useful Improvements in Machines for the Transformation of Reeds into Slats or Strips; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to a machine for the transformation of reeds into slats or strips suitable for the manufacture of ceiling lathwork, baskets, and for other purposes.

According to the invention, the reeds are disposed horizontally between inclined bars forming a sort of hopper from whence they are picked up one by one by a distributing wheel which causes them to pass one after the other and end to end between pairs of cylinders which convey them into a centering funnel before they are made to proceed along the axis of a device provided with rotary knives for the purpose of peeling off the outer surface.

On leaving the peeling device, the reeds are conveyed into another device containing feed cylinders and provided with a knife for the purpose of slitting the reeds longitudinally.

The reeds when thus slit are subsequently opened and flattened in such a manner as to form a sort of wide strip or band composed of narrow strip portions or elements lying side by side, which however are still bound together by the fibres of the reed that have not been severed by the flattening operation. The ends of the several lengths of reed are then connected together manually by means of flexible metal fasteners (which are removed when the fabric is woven) in such a manner as to produce a band of very great length, this being wound upon reels which are subsequently employed in a special weaving loom in order to constitute the warp and the woof of the fabric.

The accompanying drawings show a diagrammatic representation of the installa-

tion of the machine which constitutes an embodiment of the present invention.

Fig. 1 shows a diagrammatic representation of apparatus designed for the preparation of reed strips and for winding the same upon reels.

Fig. 2 is a side view of the hopper and feed mechanism.

Fig. 3 is a front view of the apparatus employed for peeling off the outer surface of the reeds.

Fig. 4 is a cross section of the same.

Figs. 5 and 6 represent, in two views, the method employed for temporarily attaching two lengths of strip.

Figs. 7, 8 and 9 shows details of a fastener employed for this purpose.

The reeds 1 are disposed between the inclined bars 2 which constitute a sort of hopper at whose lower part on the side adjacent the feed rolls 4 they are picked up one by one by a distributing wheel 3. This wheel 3 rotates slowly and depresses one end of each reed as it is picked up by the teeth of each wheel, and this depressing movement together with the gravity cause the reeds also to have a slight longitudinal movement toward the feed rolls, so as to feed into the nip of the rolls. In most instances the butt ends of the reeds will contact with the upper roll, and there will be some slight friction of the reed end against the roll assisting it to move into the roll nip. Short reeds or reeds improperly placed must be fed to the roll nip by an operative. Then from this part the reed passes between the feed cylinders 4, 4, which lead it into a centering funnel 5 designed to convey the reed into the rotary peeling device 6 which is adapted to clean off the outer surface; this latter device will be subsequently described.

On leaving this device the reed passes between the feed cylinders 7 of the splitting device which contains for this purpose a knife 8 for cutting a longitudinal slit in the reed. The reed when thus slit is drawn between the cylinders 9 employed to open and flatten it in such a manner as to constitute a sort of strip or band made up of several elementary strips in natural juxtaposition.

As the above described operations take place in succession, it is required to provide means whereby the end of one reed flattened throughout its entire length and

partly wound upon the receiving reel 10, shall be fastened to the end of the next reed under treatment and which is leaving the flattening machine, in such a manner as to obtain a very considerable length of strip or band rolled up on the reel 10, since the reels which are thus wound are designed to be employed upon the weaving loom.

The upper and lower feed cylinders just mentioned can be spring mounted in order to enable them to take along all kinds of reeds regardless of thickness.

The device employed for peeling the reeds as shown in Figs. 3 and 4 contains a stationary portion 11 provided with a circular toothed crown 12 upon which rotate the two toothed pinions 13 mounted upon the shafts 14, which latter are held in the bearings 15 attached to a plate 16 made in one with a shaft 17 adapted to rotate by means of the pulley 18, this latter being belt connected to any suitable transmission device. The other end of each of the shafts 14 carries a gear wheel 19 which transmits the movement to a shaft 20 through a pinion 21. The shaft 20 carries at its inner end a revolving knife 22 which is spring mounted in such manner as to operate properly upon the reed to be peeled, whatever may be the thickness of the latter.

The movable plate 16 has a central opening 23 to provide for the passage of the reed to be peeled.

From the foregoing arrangement it follows that the reed which moves forward along the axis of the apparatus is peeled upon its entire surface by the rotary action of the knife-carrying plate, combined with the rotation of the knives themselves which is effected by the rotation of the pinions 13 upon the stationary toothed crown 12.

The end of the reed strip which is partially wound upon the reel 10 and is leaving the flattening device, is connected to the flattened end of the next following reed by means of a suitable fastener 24 (Figs. 5 to 9) composed of a strip of flexible metal folded as seen in Figs. 7 to 9. To make connection between any two ends of strip, the points 25 are run through the overlapping ends of two strips whereupon the points are folded down as represented in Figs. 5 and 6. The fasteners 24 are employed to join the various lengths of strip during the weaving operation and they are only

removed (by simply pulling them out) when the fabric is entirely finished. This temporary fastening of the overlapping ends of successive flattened reeds is a manual operation.

I claim—

1. Mechanism for transforming reeds into continuous strips for weaving, which comprises a hopper device in which the reeds lie horizontally, said device having at one side a narrow portion, a separating wheel to singly depress the ends of said reeds, feeding rolls to which said reeds are fed singly by said wheel, a guide funnel for the reeds fed from said rolls, a pair of oppositely positioned peeling knives rotatable substantially parallel to the reeds, means to permit axial movement of said knives and means to revolve the knives about the reed being peeled, a slitting knife to slit the reeds partly through longitudinally as they emerge from the peeling knives, flattening means to flatten the slit reeds, and a reel onto which the reeds are wound after the flattened reeds have been manually secured end to end.

2. Mechanism for transforming reeds into continuous flat strips for weaving, comprising a hopper device in which the reeds lie horizontally, said device having at one side a narrow portion, a separating wheel at such portion to singly depress the ends of the reeds, feeding rolls to which said reeds are fed singly by said wheel, a guide cone to centrally guide the reeds from said feed rolls, a peeling device to which said cone centrally feeds the reeds, said peeling device comprising two peeling blade devices rotatable parallel to said reeds and between which said reeds are fed, means to permit said blade devices to move axially to accommodate reeds of different thicknesses, mechanism to simultaneously rotate and revolve said devices, a stationary knife, rolls to feed the peeled reeds to and from said knife to longitudinally slit the reeds partly through, flattening rolls to flatten the split reeds and a reel onto which said flattened reeds are wound as they emerge from the flattening rolls, and manually applied temporary fastening means to secure the reeds end to end.

In testimony that I claim the foregoing as my invention, I have signed my name.

PAUL DE GUARDIA-CALMÈTES.