

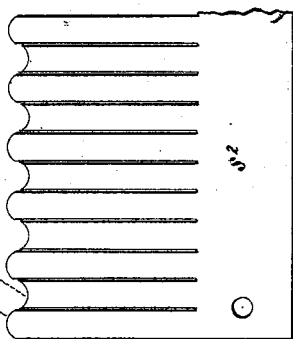
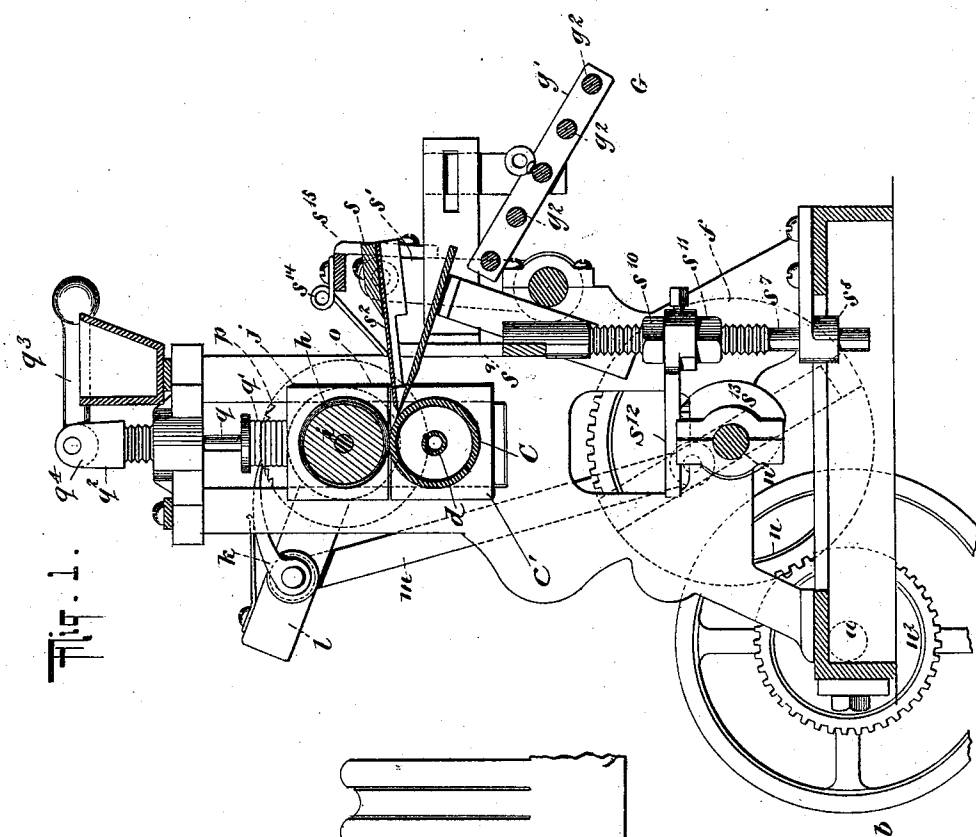
(No Model.)

3 Sheets—Sheet 1.

F. W. PANSE.
PLAITING MACHINE.

No. 595,728.

Patented Dec. 21, 1897.



WITNESSES

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(No Model.)

3 Sheets—Sheet 2.

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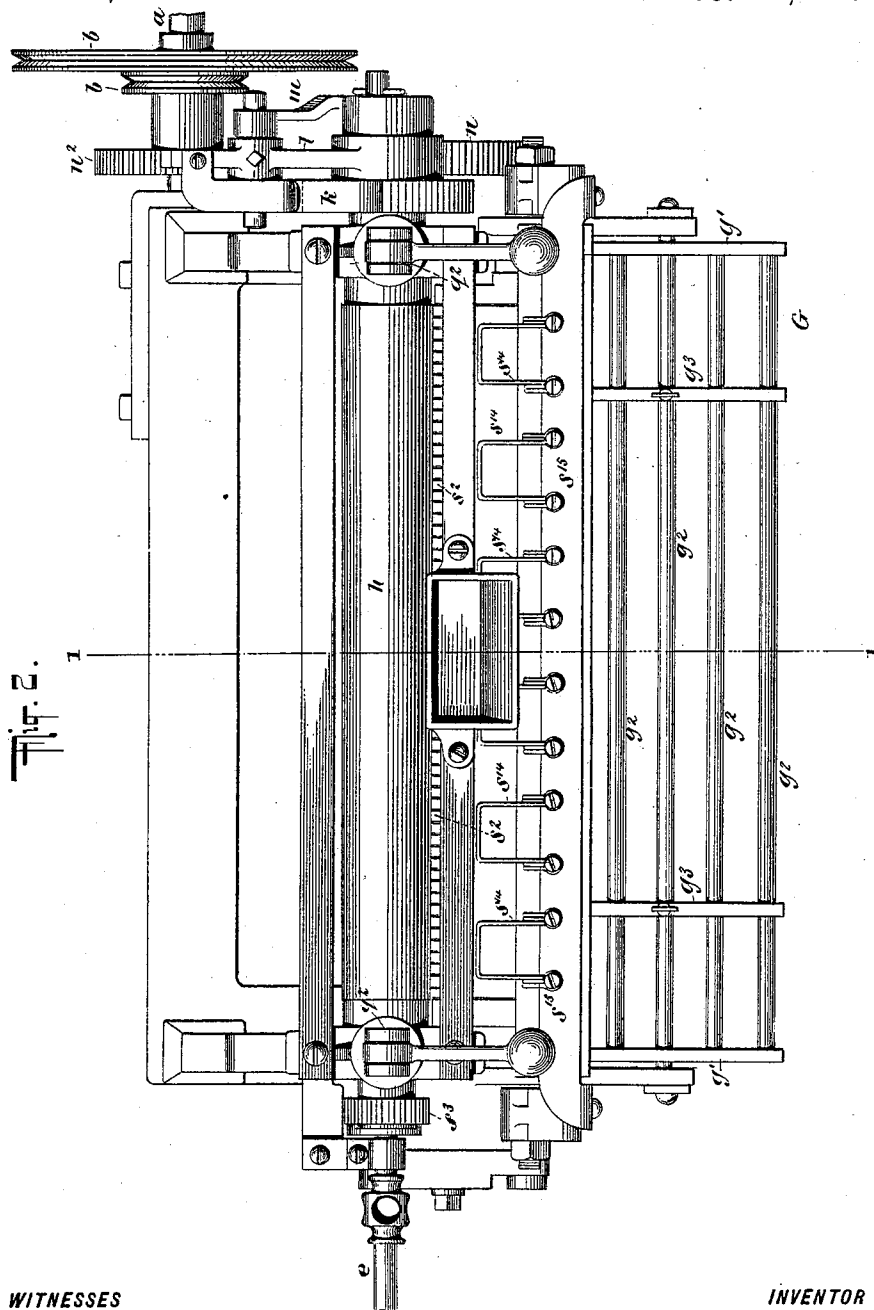


Fig. 2.

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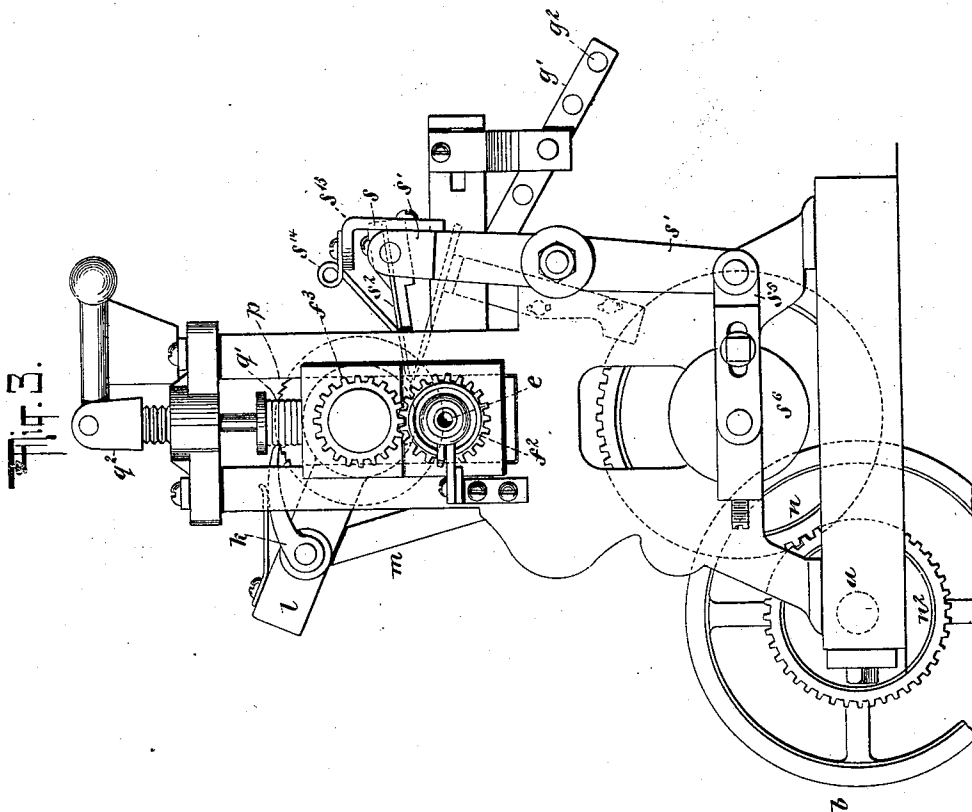
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PLAITING MACHINE.

No. 595,728.

Patented Dec. 21, 1897.



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UNITED STATES PATENT OFFICE.

FRIEDRICH W. PANSE, OF NEW YORK, N. Y., ASSIGNOR TO THE KURSHEEDT MANUFACTURING COMPANY, OF SAME PLACE.

PLAITING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 595,728, dated December 21, 1897.

Application filed January 22, 1897. Serial No. 620,221. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH W. PANSE, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Plaiting-Machines, of which the following is a specification.

My invention relates to plaiting-machines, and has for its object to produce a plaiting-machine which will impart to fabrics plaits having wavy edges. This result I accomplish by employing a wavy plaiting edge in combination with plait-permanentizing devices.

My invention will be understood by referring to the accompanying drawings, in which a form of machine embodying my invention is illustrated.

In the drawings, Figure 1 is a vertical transverse section through the machine, the section being taken on line 1 1 of Fig. 2. Fig. 2 is a plan view of the machine shown in Fig. 1. Fig. 3 is a side view of the machine. Fig. 4 is a detail plan view of a wavy-edge knife employed in this machine.

This machine, as shown, comprises the following elements, to wit:

a is the main driving-shaft, which may be provided with driving-pulleys *b b*.

C is a pressing-roll, which is shown as hollow and provided internally with a burner *d*, which receives gas through a pipe *e*. This hot pressing-roll is shown as journaled in blocks *c'* and provided with a gear *f*², which meshes with a gear *f*³, carried upon the shaft *i* of another pressing-roll *h*, so as to be driven thereby. The roll *h* is driven by a ratchet-wheel *j*, mounted upon the shaft *i* of the said roll. The ratchet-wheel *j* receives motion from a pawl *k*, which is carried upon an arm *l*, pivoted on the shaft *i* and swung by means of a link *m*, connected to a wheel *n* on the shaft *n'*, which wheel *n* is provided with teeth on its periphery gearing with a gear *n*² on the main driving-shaft *a*, so that when the main driving-shaft turns a step-by-step rotary motion will be imparted to the ratchet-wheel *j* and the rolls *h* and *C*. The shaft *i* is carried in bearings *o*, which slide in vertical ways *p*, which are provided with caps *o'*, which surround standards *q*, extending upward from the bearings and working loosely therein, having springs *q'* surround-

ing them, which caps terminate in stirrups *q*², upon which cam-levers *q*³ are hung, which cam-levers carry cams *q*⁴, which bear upon the standards *q*. The springs *q'* bear on the bearings *o* and hold them down. By raising the cam-levers *q*³ to a vertical position the springs *q'* will be allowed to raise the standards and relieve the blocks *o* of the downward pressure of the springs.

In front of the rolls a fabric-guide *G* is provided, consisting of side bars *g'* and grids or bars *g*², extending from side bar to side bar and carrying bars *g*³, which are adjustable longitudinally along the grids. In front of the meeting-line of the rolls a carrier-bar *s* is located, which bar is connected at each end to swinging levers *s'* on each side of the machine. This carrier-bar *s* carries a wavy-edge plaiting-blade *s*², shown in the present instance as a flat blade kerfed and provided with teeth *s*³ *s*⁴, the teeth *s*³ having convex outer edges and the adjacent teeth *s*⁴ having concave outer edges, the said teeth *s*³ and *s*⁴ being placed alternately in order to produce a wavy-edge blade. The undulations or waves in the edge of said blade are of such a depth as to enable the said blade to impart to the plaits which it makes in the fabric wavy edges corresponding in size and shape to the waves or undulations of the blade.

I am aware that heretofore it has been proposed to serrate the edge of a plaiting-blade in order that it might more readily seize the fabric to be plaited and force it between the rolls, but my plaiting-blade, having deep waves or undulations, performs a function which is not performed by these saw-toothed plaiting-blades—namely, the function of undulating or waving the plaits. The plaits produced by the said saw-tooth-edged blades are not undulated, but are the ordinary straight plaits.

Connected to one of the levers *s'* is a link *s*⁵, which is connected to a wheel *s*⁶ on the shaft *n'*, so that rotation of the main shaft *a* will produce a vibratory motion of the carrier-bar *s* and blade *s*², so that the blade *s*² will be entered between the rolls and withdrawn from such position alternately. At about the middle of the machine a slide *s*⁷ is provided, which slide works in a bearing *s*⁸

and terminates at its upper end in a prong or prongs s^9 , which come beneath the blade s^2 and cooperate therewith. The slide s^7 is screw-threaded for part of its length and is provided with nuts s^{10} s^{11} , which have an arm s^{12} between them. This arm s^{12} extends into contact with a cam s^{13} on the cam-shaft n' . This cam is so proportioned and located as to move the slide s^7 at the proper time to properly raise the blade s^2 to clear the said blade from the material as the blade makes its backward stroke. Springs s^{14} are shown as mounted on a support s^{15} and bearing at their free ends on the blade s^2 .

It will be obvious that this waved edge or blade may be of any desired construction and undulated or serrated in any manner to produce a wavy edge and may cooperate with the devices other than the rolls here shown to effect the plaiting.

The product of this machine is known in the trade as "frizzine," and may be distinguished from other characters of plaiting by the fact that the plaits are waved along their length.

The operation of the machine shown is as follows: When the shaft a is rotated, the rollers receive a step-by-step motion through the medium of the lever m and its connected parts and the blade s^2 is given a vibrating movement by the vibrating link s^5 and its connected

mechanism, the spring s^{14} serving to impart to the working edge of the blade a downward tendency and the slide s^7 raising the blade at predetermined times to give the same the movement which is customary in plaiting-machines.

Having described my invention and the particular construction of one mode of applying the same and the operation thereof, what I claim, and desire to secure by Letters Patent, is—

1. In a machine for forming wavy-edged plaiting, the combination of a blade for forming the plaits, the plait-forming edge thereof being of a continuously-undulating outline and the waves in the edge being of such depth as to impart a wavy edge to the plaits and means for permanentizing the plaits imparted to the fabric by the said edge.

2. In a machine for forming wavy-edged plaiting, the combination of a blade for forming the plaits, the plait-forming edge thereof being of a continuously-undulating outline and the waves in the edge being of such depth as to impart a wavy edge to the plaits, and pressing-rolls for permanentizing the plaits imparted to the fabric by the said edge.

FRIEDRICH W. PANSE.

Witnesses:

R. S. KURSHEEDT,
ANDREW COMSTOCK.