No. 788,081. PATENTED APR. 25, 1905.

W. WOLKAU.

PLAITING MACHINE.

APPLICATION FILED OCT. 28, 1903.

3 SHEETS—SHEET 1.

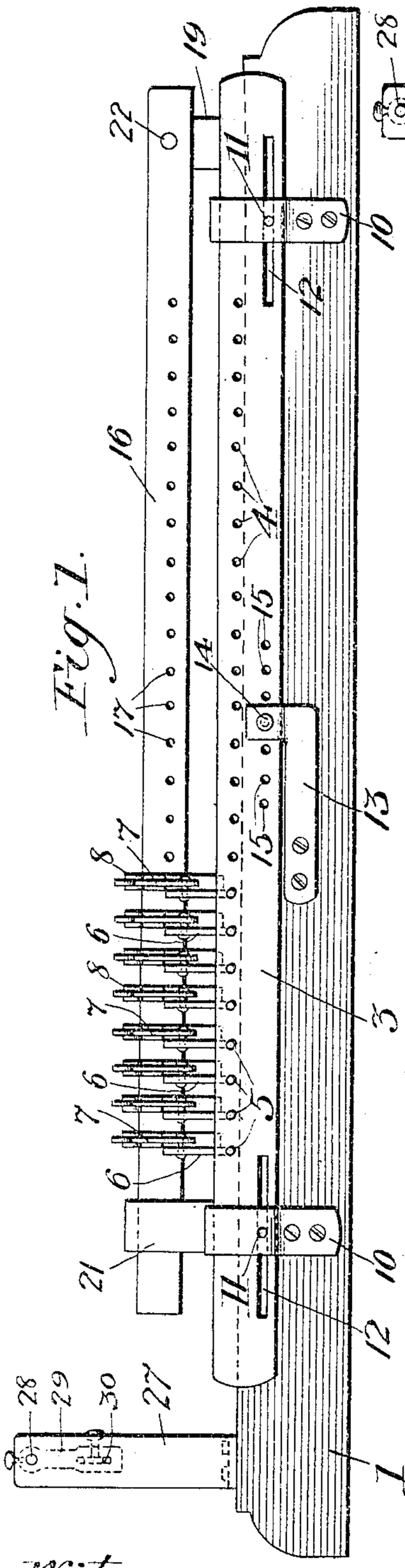

Fig. 1.

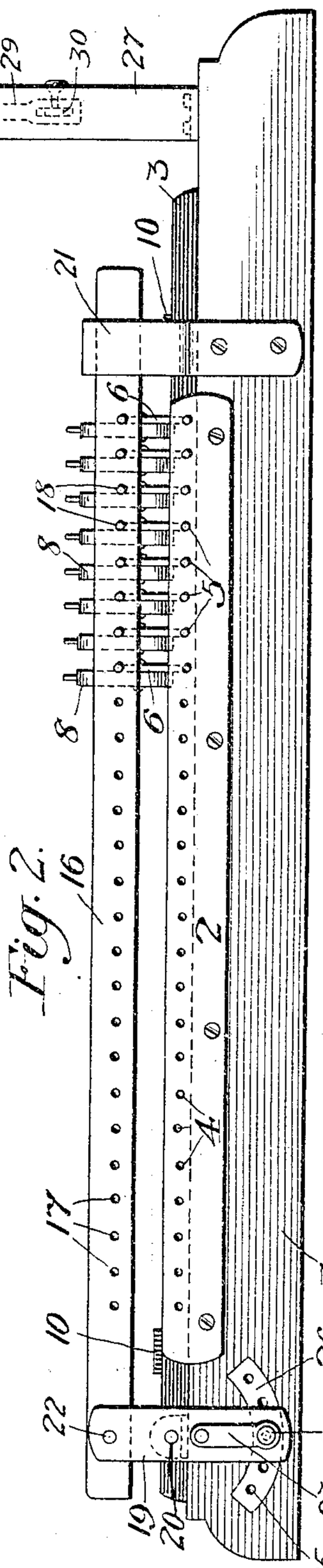

Fig. 2.

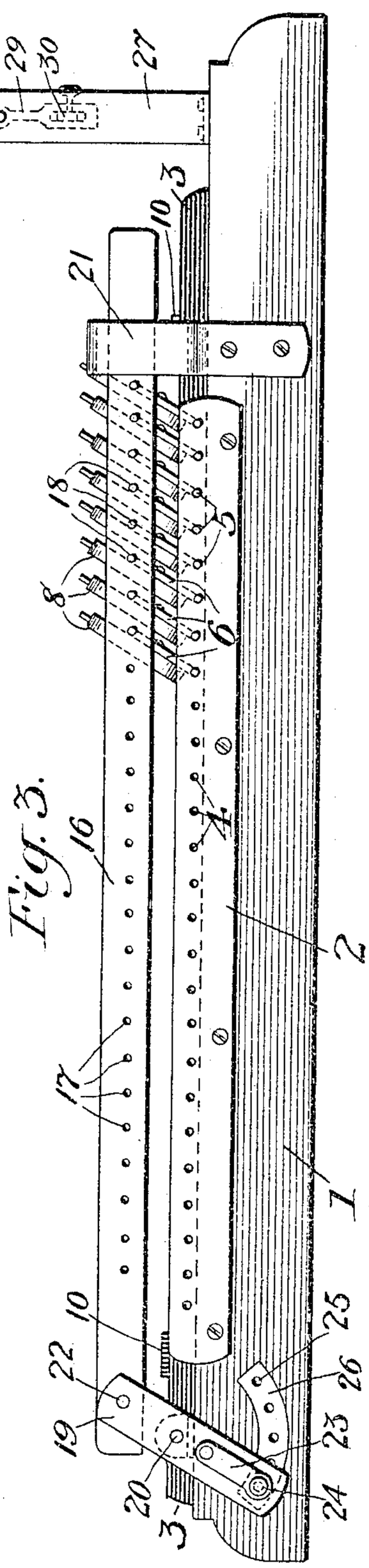

Fig. 3.

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3 SHEETS—SHEET 2.

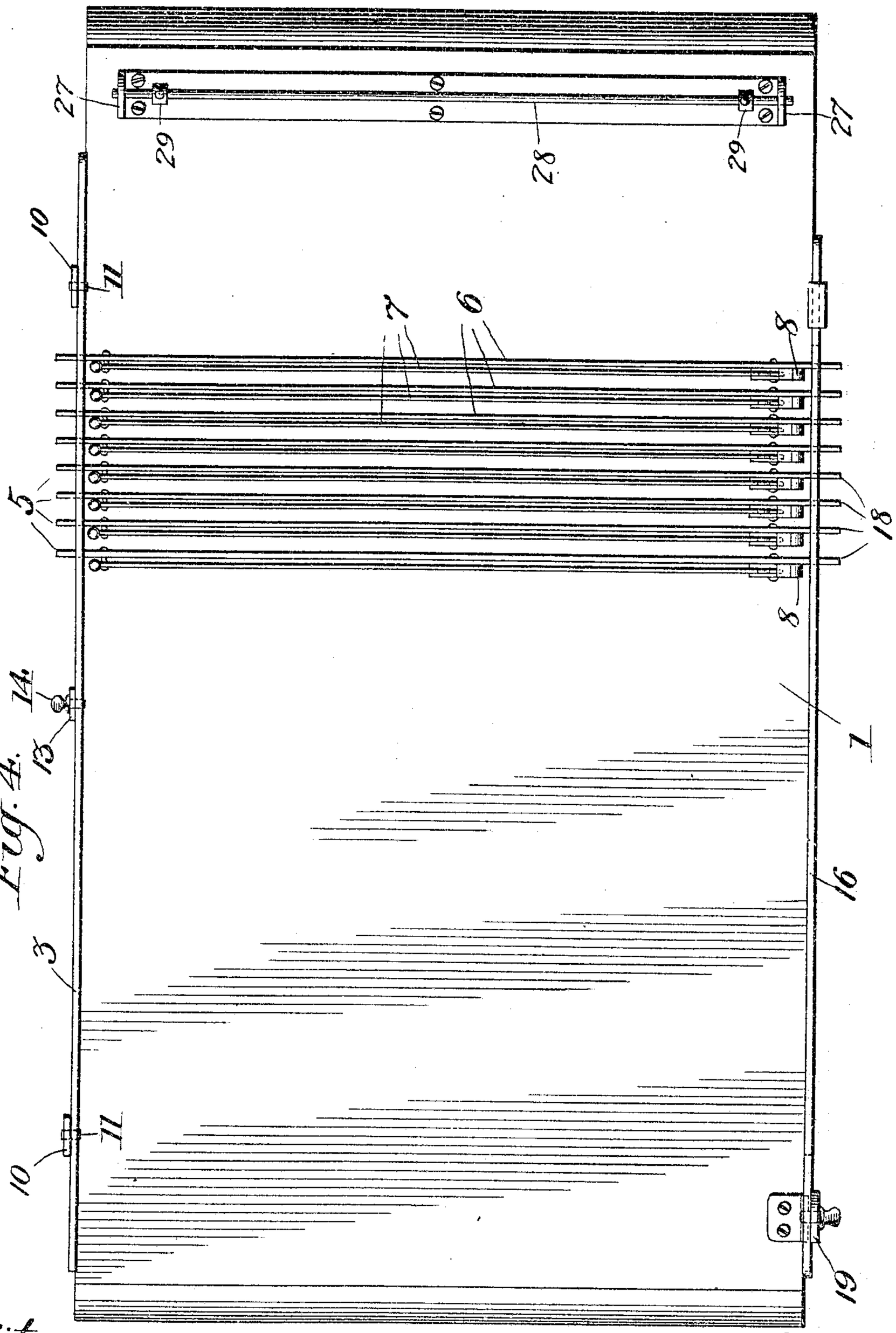

Fig. 4.

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3 SHEETS—SHEET 3.

Fig. 5.

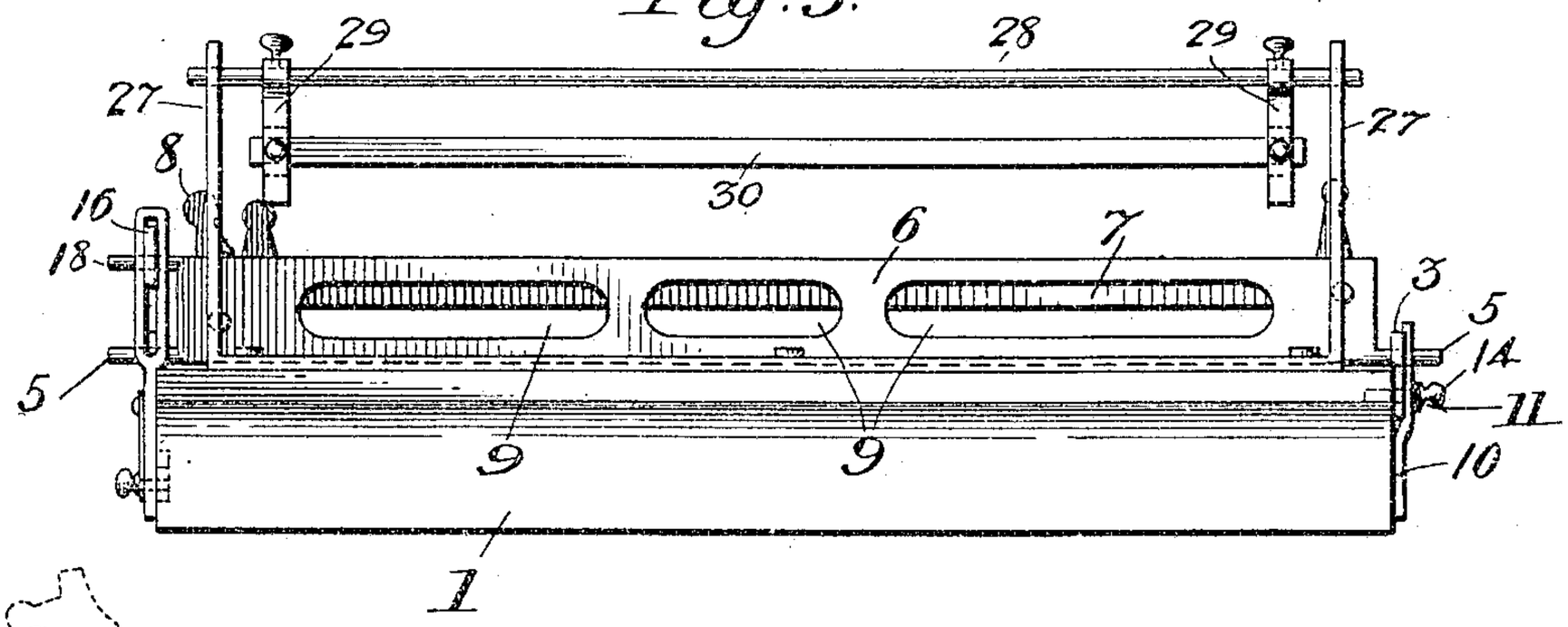
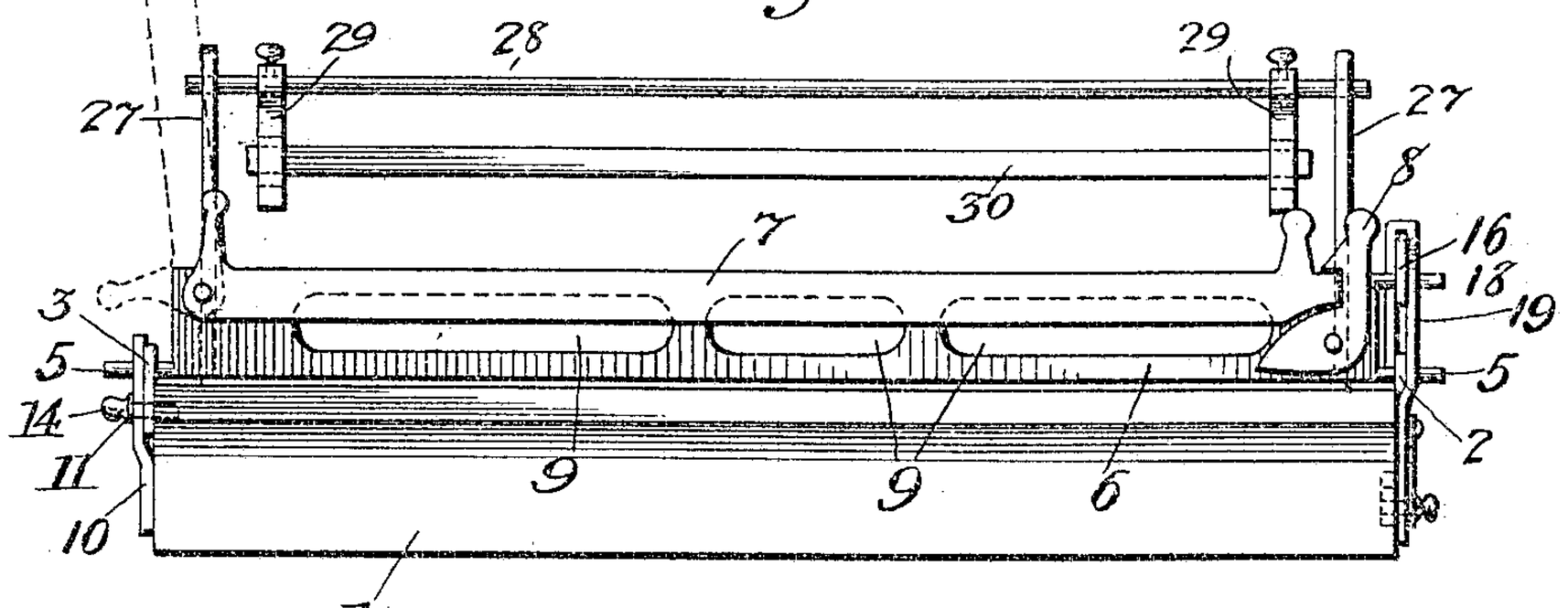


Fig. 6.



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No. 788,081. Patented April 25, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM WOLKAU, OF PORTLAND, OREGON.

PLAITING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 788,081, dated April 25, 1905.

Application filed October 28, 1903. Serial No. 178,815.

To all whom it may concern:

Be it known that I, WILLIAM WOLKAU, a citizen of the United States, residing at Portland, county of Multnomah, State of Oregon, have invented certain new and useful Improvements in Plaiting-Machines; 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.

My present invention relates to fabric-plaiting machines, and has for its primary object to provide a simple structure in which the parts are constructed for operation in a manner which facilitates the plaiting or creasing of the fabric.

A further object is to enable the machine to be adjusted and manipulated to produce plaits of various styles and sizes as desired.

To the accomplishment of the general objects stated and others, which will more fully appear, the preferred embodiment of the invention consists in the construction and arrangement of parts to be described, illustrated in the drawings, and defined in the appended claims.

In said drawings, Figure 1 represents a side elevation of a plaiting-machine constructed in accordance with my invention and showing the means for adjusting the plaiting-blades for producing plaits diagonally across the fabric. Fig. 2 is an elevation of the opposite side from that shown in Fig. 1, the same illustrating the means for rocking the plaiting-blades upon their pivots and holding the same in their desired positions for producing various styles of plaits. Fig. 3 is a similar view to that shown in Fig. 2, showing the plaiting-blades in one of their tilted positions. Fig. 4 is a plan view of the plaiting-machine. Fig. 5 is an end elevation of the same; and Fig. 6 is a like view of the opposite end, showing in dotted lines one of the pivoted bars in its raised position.

Referring to the numerals of reference employed to designate corresponding parts in the several views, 1 denotes a base or bed of any suitable construction and size and at its sides is equipped with parallel plates 2 and 3, the plate 2 being rigidly secured to one side of said base by means of screws or other like fastening means, while the plate 3 is slidably fastened to the opposite side and may be moved longitudinally for a purpose which will more fully appear hereinafter.

Each of the plates is provided with a series of perforations 4, which receive the pintles 5 of each plaiting-blade, and thus pivotally support the said blades securely in place upon the base of the machine. It is to be noted that the plaiting-blades are loosely mounted in the plates 2 and 3, and if at any time it is desired to rearrange the said blades therein—say, for instance, in every other perforation 4 for producing a larger-size plait—the blades may be easily removed by first detaching one of the side plates.

The blades are arranged transversely across the base of the machine and approximately parallel one to the other, and each of said blades preferably comprises a bar 6 (provided at opposite ends thereof with the pintles 5, already referred to) and a bar 7, pivoted at one end of the bar 6 and adapted when in its folded position to lie substantially flush with the top edge of the said bar 6. A pivoted latch 8 is provided near the other end of the bar 6 and locks the bar 7 in its closed position and prevents the same from being lifted during the plaiting of the fabric. Each bar 6 is also preferably provided with suitable openings throughout its length, as indicated at 9, for the purpose of allowing the steam to escape or circulate more freely.

As hereinbefore mentioned, the plate 3 is adapted for longitudinal adjustment relative to the base or bed of the machine, and in order to provide for such adjustment and for the purpose of supporting and holding the said plate in place upon the machine-bed two metal supports 10 10 are provided, which are suitably fastened to one side of the machine-base by means of screws or other like devices. These supports have inwardly-projecting pins 11, which are adapted to enter

slots 12, formed in the plate 3, thus allowing for a limited longitudinal movement of the said plate with respect to the machine-bed.

For holding or locking the longitudinally-movable plate in its different positions of adjustment I employ a suitable spring-catch 13, the same securely fastened at one end to the bed of the machine and at its other end provided with a thumb-screw 14, which is adapted to engage any one of a series of threaded apertures 15, located at suitable intervals in the said movable plate. Thus it will be seen that any longitudinal movement of the plate 3 will simultaneously change the position of all of the plaiting-blades without altering their parallelism. The proper adjustment having been obtained for producing the desired diagonal plait, the plate 3 may now be locked against further movement by means of the thumb-screw 14, which will hold the plaiting-blades firm and rigid during the ironing of the fabric.

I will now proceed to describe the means by which the plaiting-blades may be further adjusted for producing other styles of plaits. At one side of the machine-bed is mounted a longitudinally-movable bar 16, the same being pivotally connected to each one of the plaiting-blades and adapted during its longitudinal movement to simultaneously rock or change the position or inclination of the several plaiting-blades relative to the base of the machine. The bar 16 is provided with a series of perforations 17, which are adapted to receive the pintles 18 of each of the plaiting-blades, and thus provide for the pivotal connection between the said bar and the plaiting-blades hereinbefore mentioned. Fixed to the machine bed or base in any suitable manner and near one end thereof is a support 21, within which one end of the bar 16 is loosely mounted, and at the other end of the base is suitably pivoted a lever 19, which is adapted to carry the opposite end of said bar, the said arm being pivotally connected thereto, as at 22. The lever 19 is suitably fulcrumed, as at 20, upon the machine-bed, and owing to its pivotal connection with the longitudinally-movable bar the said bar will be moved to simultaneously change the angle or inclination of all the plaiting-blades as the said lever is operated in either direction. By this arrangement it will be readily understood that the plaiting-blades may be tilted to any desired angle relative to the base, according to the style of plait desired, and for the purpose of retaining the plaiting-blades in their different positions of adjustment I employ a suitable means for locking the lever 19 against movement, said locking means consisting of a spring-catch 23, fastened at one end to the said lever and provided at its other end with a thumb-screw 24, which after the plaiting-blades have been adjusted to their proper positions is adapted to be screwed into one of a series of threaded apertures 25 in the sector-plate 26, suitably fastened to the side of the machine-base adjacent to the said lever 19.

The material to be plaited is first passed through a tension device which is mounted upon the machine-base at one end thereof and then folded by the consecutive action of the several plaiting-blades. All of the pivoted bars 7 being first raised to a position substantially as shown in dotted lines in Fig. 6, the fabric may then be placed over the bars 6 and each bar 7 in turn brought down over the fabric and locked in position by the pivoted latch 8, thus producing, in connection with the tension device, the stretching and tight folding of the material to be plaited.

The tension device referred to preferably comprises two standards 27 27, suitably fastened to the base of the machine and connected at their upper ends by a cross-rod 28, over which the fabric is drawn for the purpose of guiding the same into the machine and for the further purpose of producing the desired tension thereupon so that the plaits may be made perfectly smooth. It is to be noted that I have also provided for varying the tension upon the fabric as desired, for which purpose an adjustable bar 30 is preferably hung from the cross-rod by means of two depending brackets 29 29, said bar capable of adjustment within said brackets and further adapted to be swung either backward or forward, as desired, by adjusting the position of said brackets relative to the cross-rod, thumb-screws being provided for holding them in their several positions of adjustment. The brackets may also be adjusted toward or from each other, according to the width of the material, the fabric passing between them and guided thereby to the plaiting-blades. In placing the fabric through the tension device it is first drawn over the cross-rod 28, then passed between the cross-rod and the adjustable bar 30, and finally under the said adjustable bar to the machine, where it is folded and creased by the plaiting-blades, as hereinbefore mentioned.

It is apparent that in carrying out my invention some changes from the combinations herein shown and described may be made, and I would therefore have it understood that I do not limit myself to the precise details herein shown, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

Having thus described my invention, what I claim, and desire to secure, is—

1. In a plaiting-machine, the combination of a base, a series of plaiting-blades mounted thereon, and means for simultaneously changing the direction of the plaiting-blades across the base.

2. In a plaiting-machine, the combination of a base, a series of plaiting-blades mounted thereon, and a longitudinally-movable plate for simultaneously changing the direction of the plaiting-blades across the base.

3. In a plaiting-machine, the combination of a base, a plate fixed to one side thereof, a longitudinally-movable plate mounted on the opposite side of said base, means for locking said movable plate in its several adjustments, and a series of plaiting-blades loosely mounted in said plates.

4. In a plaiting-machine, the combination of a base, a series of parallel plaiting-blades carried edgewise by said base, and means for simultaneously tilting the blades.

5. In a plaiting-machine, the combination of a base, a series of plaiting-blades mounted thereon, and means for simultaneously tilting the blades.

6. In a plaiting-machine, the combination of a base, a series of plaiting-blades pivotally mounted thereon, and a longitudinally-movable bar engaging the several blades for simultaneously tilting them.

7. In a plaiting-machine, the combination of a base, a series of plaiting-blades pivotally mounted at their opposite ends on the base, a longitudinally-movable bar engaging the several blades for simultaneously tilting them, and means for locking the bar against movement.

8. In a plaiting-machine, the combination of a base, plates secured to said base, a series of plaiting-blades having pintles at opposite ends thereof journaled in said plates, and a longitudinally-movable bar mounted on the base and connected with the blades for simultaneously rocking them upon their pivots.

9. In a plaiting-machine, the combination of a base, a series of plaiting-blades pivotally mounted thereon, a bar engaging the several plaiting-blades for simultaneously tilting them, a fixed support within which one end of the bar is loosely mounted, a lever carrying the opposite end of said bar, and means for locking the lever against movement.

10. In a plaiting-machine, the combination of a base, a series of parallel plaiting-blades mounted thereon, a longitudinally-movable bar connected to each of the blades, and a lever pivotally connected to the movable bar, whereby the position of the plaiting-blades may be simultaneously changed without altering their parallelism.

11. In a plaiting-machine, the combination of a base, plates secured to the sides thereof, a series of plaiting-blades pivotally mounted in said plates, and a longitudinally-movable bar for simultaneously tilting the blades.

12. In a plaiting-machine, the combination of a base, plates secured to the sides thereof, one of said plates being movable longitudinally, and a longitudinally-movable bar connected to the several plaiting-blades for tilting them.

13. In a plaiting-machine, the combination of a base, plates on opposite sides thereof, one of said plates being movable longitudinally, means for locking said movable plates, plaiting-blades pivotally mounted in said plates, and a longitudinally-movable bar connected to the several plaiting-blades.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM WOLKAU.

Witnesses:
JOHN E. TRACY,
W. J. MAKELIM.