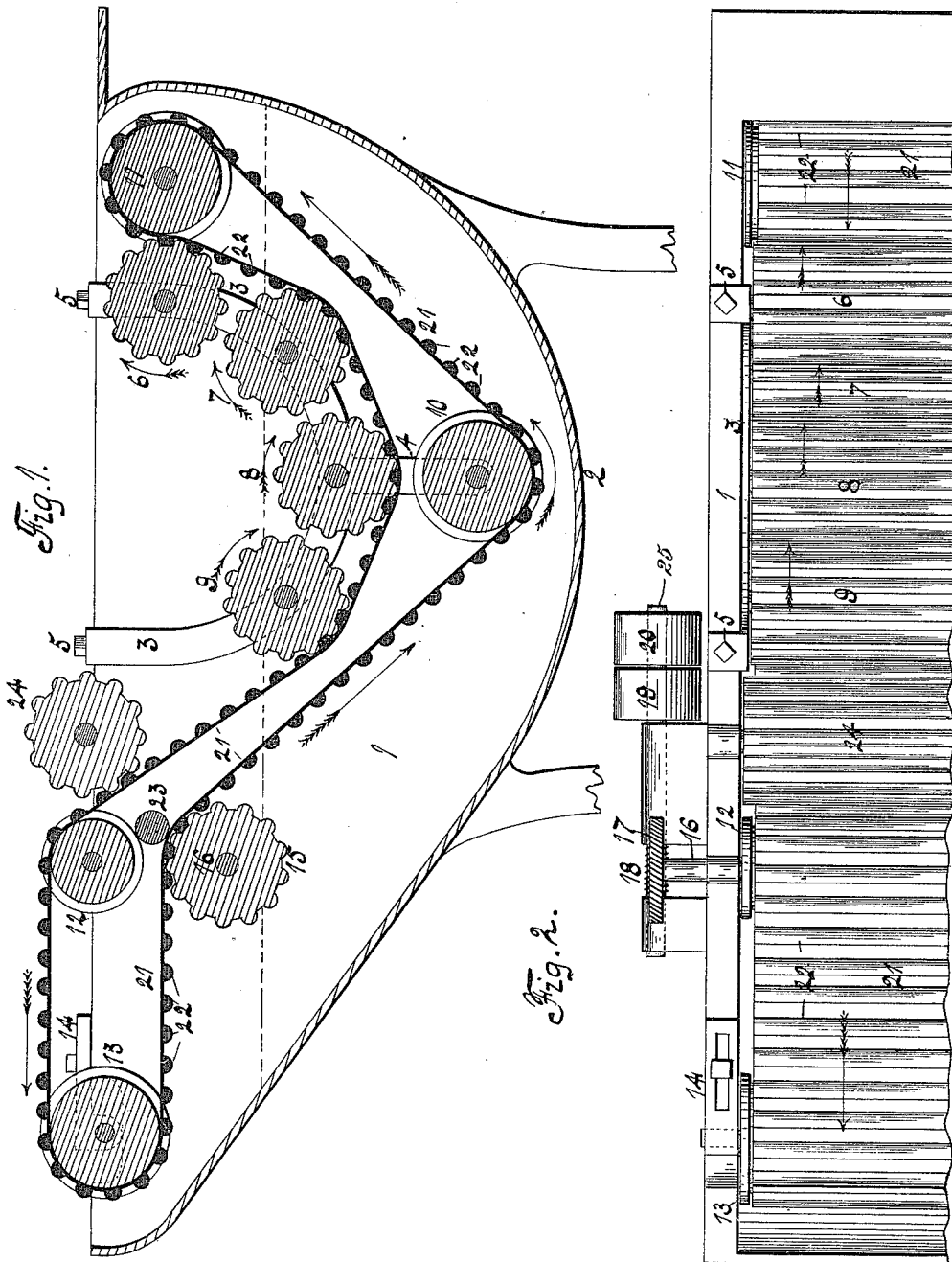


(No Model.)

S. T. STITES.
COLLAR AND CUFF STARCHING MACHINE.

No. 566,242.

Patented Aug. 18, 1896.



Witnesses:
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Att.

UNITED STATES PATENT OFFICE.

SAMUEL T. STITES, OF ROCKFORD, ILLINOIS.

COLLAR AND CUFF STARCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 566,242, dated August 18, 1896.

Application filed January 16, 1896. Serial No. 575,779. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL T. STITES, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Collar and Cuff Starching Machines, of which the following is a specification.

This invention relates to that class of collar and cuff starching machines in which the articles to be starched are carried through the starch in such a manner that they are exposed to the action of the starch and at intervals the starch is forced into the articles.

In the accompanying drawings, Figure 1 is a vertical lengthwise central section of a starching-machine embodying my invention. Fig. 2 is a plan view of one-half thereof.

In collar and cuff starching machines it has been found impossible to properly starch the articles, owing to the fact that two moving endless aprons are employed, between which the articles are carried through the starch, the apron preventing the action of the starch upon the articles, and it is to overcome this difficulty that I have constructed my improved starcher.

The starch-reservoir may be of any suitable form, in this instance made from sheet metal and composed of the sides 1, joined by a bottom 2. To each side of the starch-reservoir is secured a yoke composed of the curved portion 3, having a depending portion 4. This yoke is held in place by screw-bolts 5. A series of groove-faced rollers 6, 7, 8, and 9 are rotatably supported by the yokes and located in the arc of a circle, but do not mesh with each other. The depending portions 4 of the yokes support a smooth-faced roller 10. These rollers are supported by the yokes and are removable therewith from the starch-receptacle and detachable therefrom. A smooth-faced roller 11 is located near the upper edge of the starch-receptacle near one end and close to the groove-faced roller 6, and is held in a rotatable manner by journals in the sides of the receptacle. A smooth roller 12 is held in bearings in the sides of the receptacle and at their upper edge. A smooth-faced roller 13 is held in movable bearings 14 in a manner to be adjusted in the lengthwise direction of the starch-reservoir. A groove-

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faced roller 15 is held in suitable bearings in the sides of the reservoir, and to the shaft 16, driving this roller, is secured a worm-gear 17, which meshes with a worm-wheel 18, having a connection with a shaft 25, to which is secured a tight pulley 19, and upon which is located a loose pulley 20. An endless carrier 21 has one surface provided with projections 22, located at equal intervals. This carrier is placed under the groove-faced rollers 6, 7, 8, and 9 under the roller 10, over the rollers 12 and 16, and around the rollers 11 and 13, and is suitably stretched by a movement of the roller 13 in its connection with the starch-reservoir.

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A rotary movement imparted to the groove-faced roller 15 will impart a movement to the endless carrier in the direction indicated by the arrows, and this movement of the endless carrier will cause the groove-faced rollers 6, 7, 8, and 9 to revolve, each in the direction indicated by its arrow, and this movement is imparted by the projections 22 of the endless carrier engaging the grooves of the rollers. A smaller smooth-faced roller 23 is located close to the driving groove-faced roller 15, in order to hold the endless carrier in engagement with the groove-faced roller should it have a tendency to jump therefrom. The horizontal dotted line across the starch-reservoir represents the starch-level.

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After the endless carrier has been set in motion the collars and cuffs to be starched are fed between the groove-faced roller 6 and endless carrier, and as the carrier moves it carries the articles with it. Each of the groove-faced rollers in the yokes will roll in contact with the articles. As there is a space between the groove-faced rollers the starch will enter and come in contact with the articles, and when the article passes under the next roller the starch will be forced into the article. This is repeated as the article passes under each roller. The articles are finally delivered upon the horizontal portion of the carrier between the rollers 12 and 13, at which point they are removed.

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Under some conditions of the starch the article may contain more starch than is required. In such case a groove-faced wringer-roller 24 may be placed to revolve in contact with the carrier above the starch-line, which

will serve to squeeze out or hold back the surplus of starch.

The ends of the smooth-faced rollers, except roller 23, have enlarged ends, which prevent the carrier running off the rollers and serve to guide it during its movement under the groove-faced rollers.

I claim as my invention—

In a collar and cuff starching machine the combination of a suitable starch-reservoir, a movable endless carrier located in the reservoir having its outer face provided with trans-

verse projections and a series of groove-faced rollers located in contact with the upper face of the endless carrier, said rollers being separated a suitable distance and independently rotated by the endless carrier, and a roller for imparting movement to the carrier, said carrier adapted to carry the articles to be starched through the starch.

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