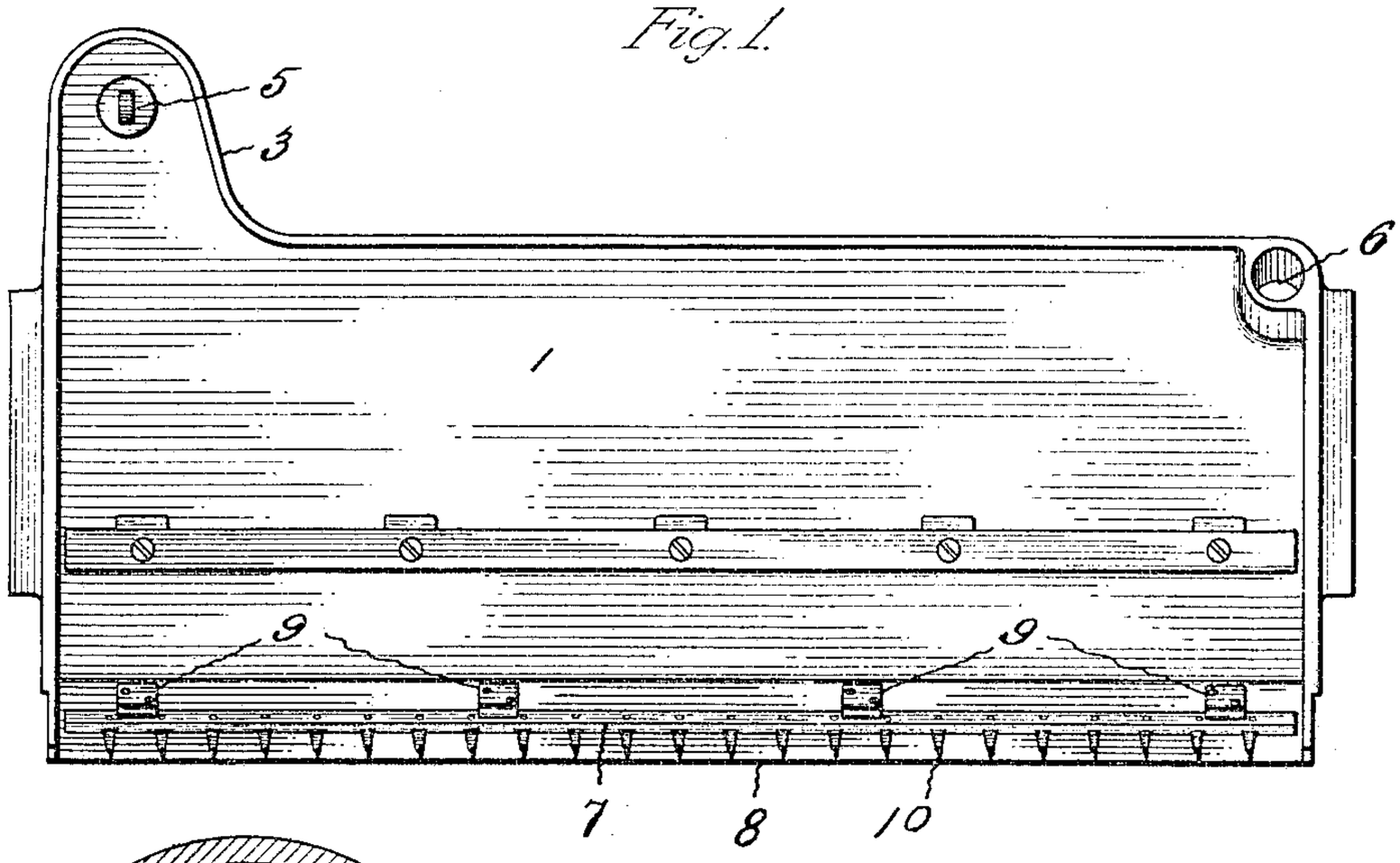
No. 793,071. PATENTED JUNE 27, 1905.

F. HARRINGTON.

GLUING DEVICE.

APPLICATION FILED NOV. 22, 1904.

Fig. 1.



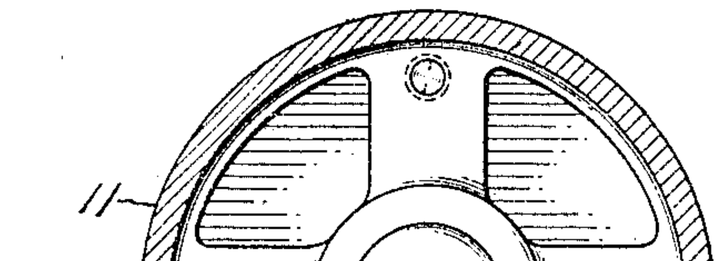


Fig. 2.

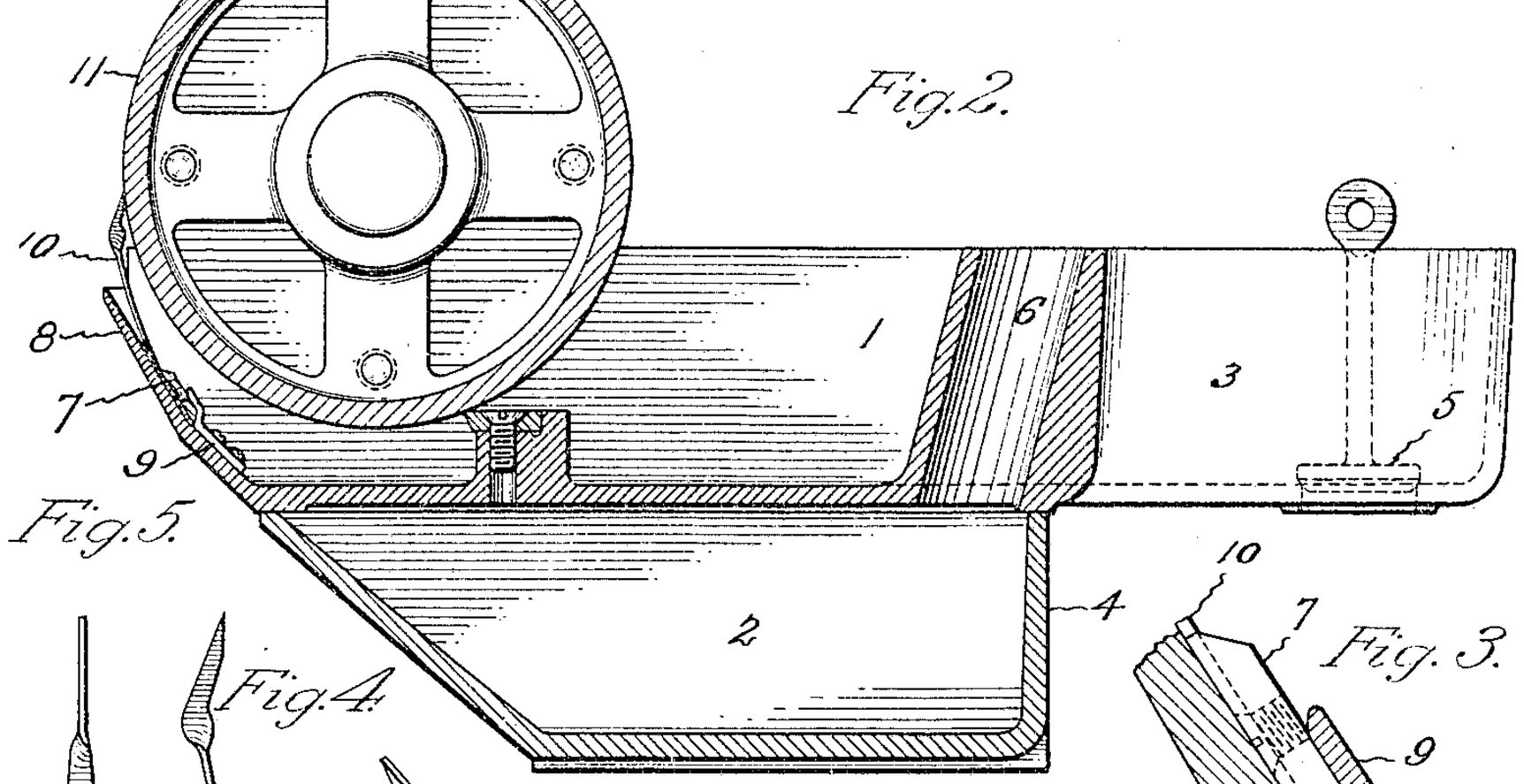


Fig. 5.

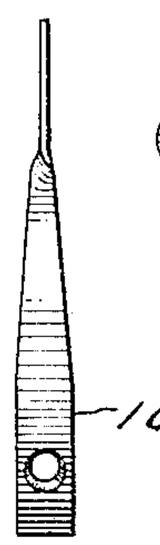


Fig. 4.

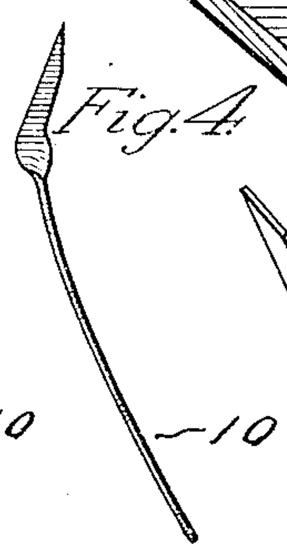


Fig. 6.

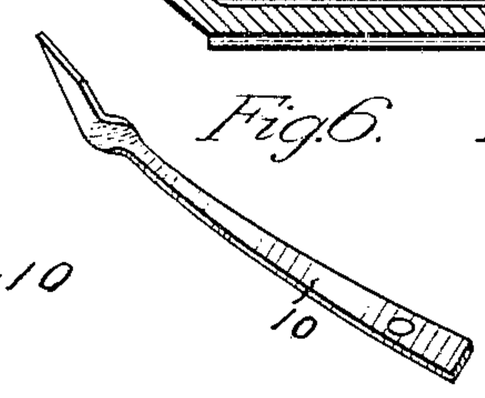


Fig. 7.

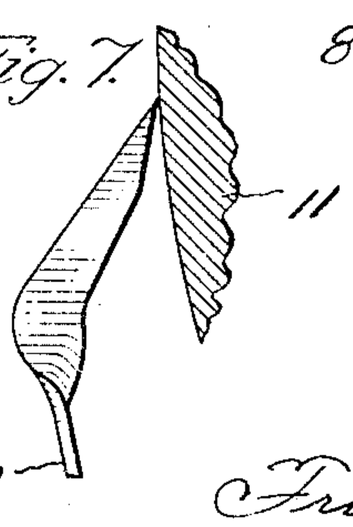
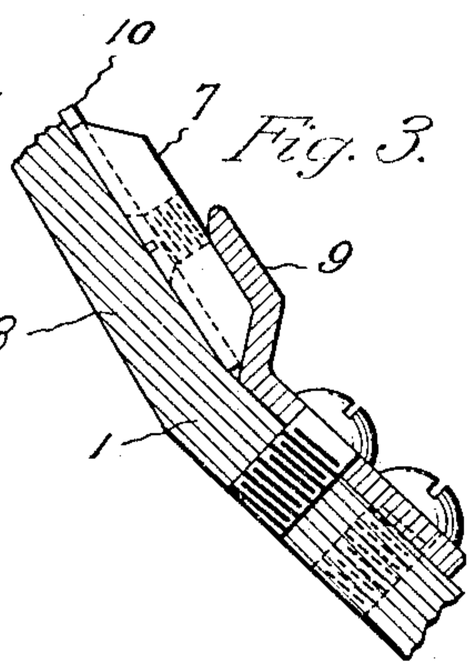


Fig. 3.



Witnesses.

C. F. L. Storry.

Ethel M. Lowe.

Inventor:

Frank Harrington

per

Harry P. Williams

Attorney.

No. 793,071. Patented June 27, 1905.

UNITED STATES PATENT OFFICE.

FRANK HARRINGTON, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE SMYTH MANUFACTURING COMPANY, OF HARTFORD, CONNECTICUT, A JOINT STOCK CORPORATION OF CONNECTICUT.

GLUING DEVICE.

SPECIFICATION forming part of Letters Patent No. 793,071, dated June 27, 1905.

Application filed November 22, 1904. Serial No. 233,921.

To all whom it may concern:

Be it known that I, FRANK HARRINGTON, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Gluing Device, of which the following is a specification.

This invention relates to the adhesive-applying and sheet-stripping devices of a machine built to apply glue, paste, mucilage, or similar adhesive compound to sheets or webs of paper, cloth or the like fabric.

The embodiment of the invention which is described herein and illustrated by the accompanying drawings is designed to be used with such a machine as is shown and described in United States Patent to F. D. Taylor, No. 741,597, October 13, 1903; but the invention is applicable to other types of gluing-machines.

In the prior machines the glue-receptacle, which is located over a water-tank that is heated by gas, steam, or electricity for the purpose of warming the water and keeping the glue liquid, is inconvenient to unload. Receptacles which are inconvenient to unload are not cleaned frequently, and consequently the glue, which is a compound that is not easy to handle, does not work smoothly and uniformly. In order that the glue work to the best advantage, the receptacle should be unloaded and cleaned every night.

The glue-receptacle of the present invention is so constructed that it can be unloaded and cleaned without removing it from position and without disturbing the water-tank.

In the prior machines, which have round-wire fingers for stripping the sheet from the glue-applying roll, the sticky glue collects on the fingers and runs down and forms in globules, which drop upon the sheet or the apron that is arranged to carry the sheet away from the roll. These prior fingers become bent out of shape as the result of the adherence and hardening of glue and the attempt to clean them of glue. The prior fingers also wear scores on the surface of the gluing-roll.

The stripping-fingers of the present invention are so shaped and arranged that they do not become bent out of shape, and they do not collect glue on the points of the fingers or cause glue to form in globules and drop on the sheet or apron which is arranged to carry away the sheet, and they are so supported that they can be quickly and conveniently removed for cleaning and can be readily moved, so that they will not wear scores on the surface of the glue-roll.

Figure 1 of the drawings shows a plan of a glue-receptacle with stripping-fingers constructed according to this invention. Fig. 2 shows, on larger scale, a vertical section through the glue-receptacle and water-tank, showing the glue-roll and fingers. Fig. 3 shows a section of a portion of the glue-receptacle, on enlarged scale, illustrating the manner of holding the bar supporting the stripping-fingers. Fig. 4 shows a side view of a finger. Fig. 5 shows a front view of a finger. Fig. 6 shows a perspective view of a finger, and Fig. 7 shows the relation of the point of a finger to the periphery of the glue-roll.

The glue-receptacle 1 is formed of any suitable metal to any desired shape and is arranged to be slid into the machine above the water-tank 2, which is formed of any suitable material to any desired shape and which fits closely beneath the glue-receptacle.

The glue-receptacle is preferably a rectangular tray having three vertical walls and one inclined wall, and the water-tank conforms substantially in shape and size to the bottom of the glue-receptacle. The upper edge of the water-tank fits close against the edge of the bottom of the glue-receptacle when the two are in place in the machine.

At one corner the rear wall 3 of the glue-receptacle is extended out beyond the water-tank, so as to overhang the rear wall 4 of the

water-tank. Through the bottom of this overhanging portion is an opening which is provided with a plug 5. When this plug is removed, the glue will flow out through this opening in the bottom of the glue-receptacle. The opening is made through the bottom of the extended portion of the glue-receptacle so far beyond the wall of the water-tank that a pail or the like may be placed beneath the opening to catch the glue without moving the glue-receptacle from its position in the machine, and yet only a small portion of the glue-receptacle extends beyond the water-tank, so that there will be but little area of the bottom that is not subjected to the action of the heat of the water-bath. A passage 6 is made through another corner of the glue-receptacle to permit the pouring of water into the water-tank without moving either the glue-receptacle or the water-tank.

A bar 7 is held against the front inclined wall 8 of the glue-receptacle by clamps 9, which are held in place by screws. This bar is slightly shorter than the length of the interior of the glue-receptacle and preferably has both edges beveled.

The fingers 10 are formed of sheet metal, and their ends are fastened by screws in mortises in one face of the bar. The fingers are twisted near the points, so that the edges of the points will bear against the surface of the glue-applying roll 11. The edges of the fingers near the points are so shaped that they bear against the glue-applying roll only a short distance at the points, there being a slight clearance between the edges of the fingers and the glue-roll which increases from the points downward, as shown in Fig. 7. Without loosening the clamping-plates the bar, with all of the fingers, can be quickly removed for cleaning, and as the bar is slightly shorter than the length of the interior of the glue-receptacle the position of the fingers can be altered from time to time longitudinally of the glue-roll, so that they will not always rub in the same place and score the roll. Fingers arranged in this way have the benefit of the elasticity of the broad flat portions which can be securely clamped to the finger-bar, so that the finger-bar will occupy but a small space. As a result of the twisting of the points but narrow surfaces are presented to the surface of the glue-roll, and as the narrow edges come in contact with the glue-roll only near the points there are no wide surfaces on the back edges of the fingers for the collection of glue, and the movement of the roll past the fingers draws whatever glue tends to gather on the sides of the fingers back onto the roll, for the coherence of the glue is greater than the adherence of the glue to the thin fingers formed in this manner. Thin round-wire fingers, which are perfectly smooth and small enough to become easily bent out of shape, cause glue to gather near the points in globules and drop off, whereas fingers twisted in the manner shown and described herein do not gather glue in sufficient quantities to form globules which will drop. Furthermore, if the glue is very liquid and tends to run down the fingers it follows the twist and returns into the receptacle.

The invention claimed is—

1. In a gluing device, the combination with a glue-roll and a water-tank for heating the glue, of a glue-receptacle substantially conforming to the water-tank but having a small portion of one side extending beyond the water-tank and having an opening through the bottom of the extended portion, substantially as specified.

2. The combination with a glue-roll and a glue-receptacle of a bar fastened to the wall of the glue-receptacle, the said bar being shorter in length than the length of the opening in the glue-receptacle whereby it can be moved endwise and the position of the fingers along the surface of the roll be changed, and fingers fastened flatwise to the bar and twisted near their points so that the edges of the fingers are in contact with the surface of the roll near the points only, substantially as specified.

3. The combination with a glue-roll and a glue-receptacle, of a bar fastened to a wall of the glue-receptacle and carrying stripping-fingers which bear against the surface of the roll, the said bar being shorter in length than the length of the opening in the glue-receptacle whereby it can be moved endwise and the position of the fingers along the surface of the roll be changed, substantially as specified.

4. The combination with a glue-roll and glue-receptacle of a bar removably clamped to the inside of the wall of the receptacle, fingers formed of thin metal and fastened flatwise to the said bar and being twisted near their points so that the fingers near the points stand edgewise with relation to the surface of the roll, the said twists in the fingers being above and inside of the plane of the wall of the receptacle to which the bar bearing the fingers is clamped whereby glue accumulated by the fingers and dropped by the twisted portions will fall into the receptacle, substantially as specified.

5. The combination with a glue-roll and a glue-receptacle of a bar removably clamped to the inside of a wall of the receptacle, fingers fastened flatwise to the bar and twisted near their points, the said fingers projecting upwardly from the bar within the plane of the walls of the receptacle and being in con-

tact with the surface of the roll near the points only, substantially as specified.

6. The combination with a glue-roll and a glue-receptacle, of a bar clamped to the inside of a wall of the glue-receptacle and adapted to have a movement endwise in the interior of the receptacle, and fingers fastened to the bar and bearing against the surface of the glue-roll, substantially as specified.

FRANK HARRINGTON.

Witnesses:
ROBERT H. SCHÜTZ,
GEO. C. KIMBALL.