(No Model.) 3 Sheets—Sheet 1.

F. D. BENEDICT.

BUTTONHOLE FINISHING MACHINE.

No. 490,062. Patented Jan. 17, 1893.

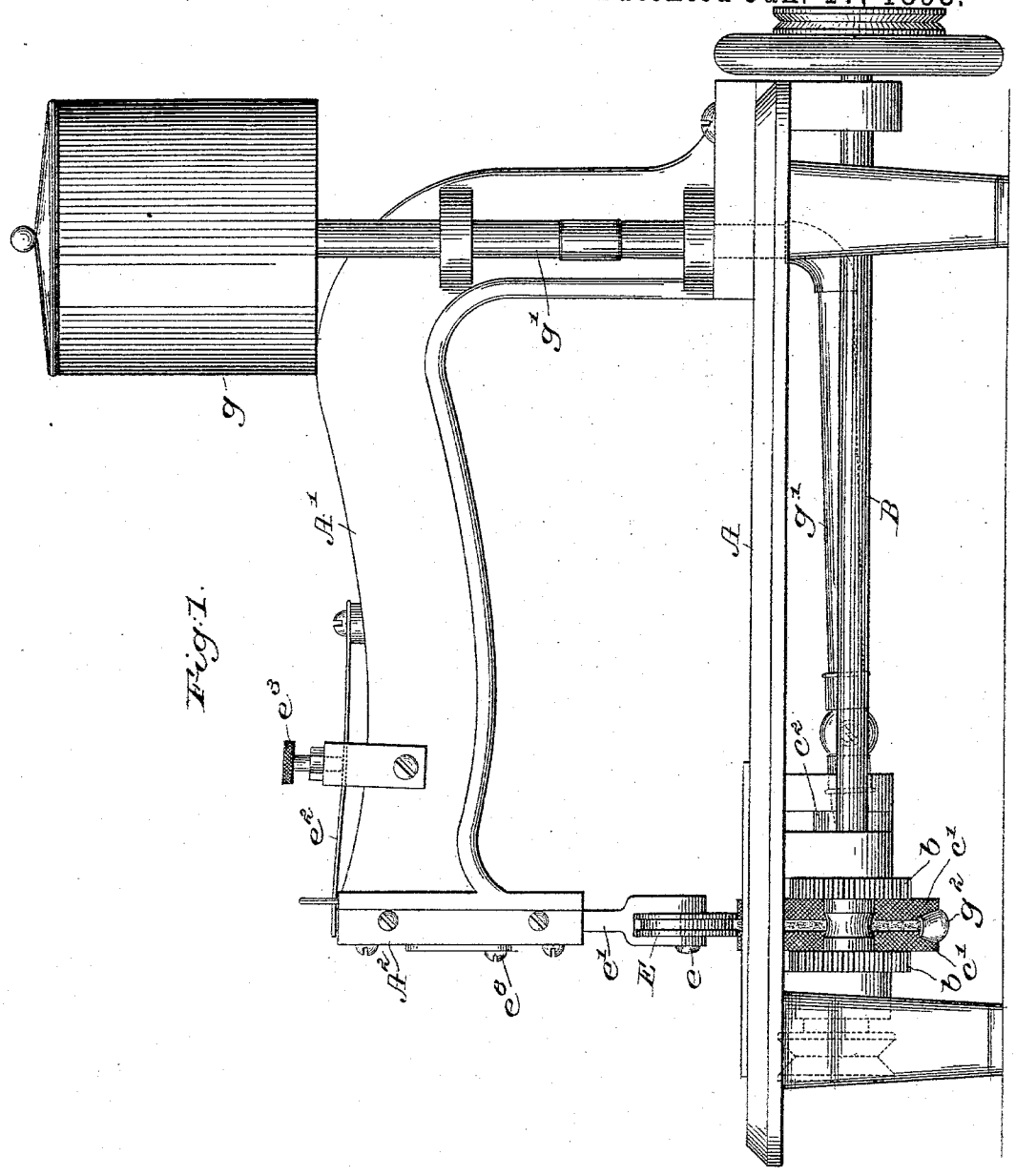

Fig. 1.

Witnesses.
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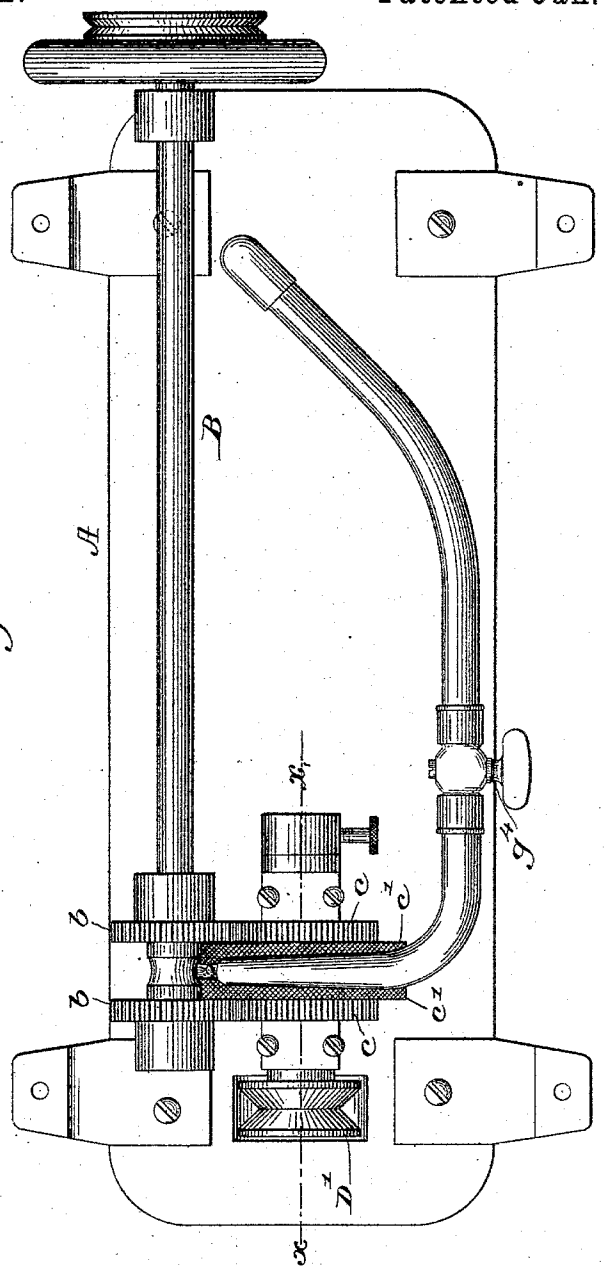
(No Model.) 3 Sheets—Sheet 2.

F. D. BENEDICT.

BUTTONHOLE FINISHING MACHINE.

No. 490,062. Patented Jan. 17, 1893.



Witnesses.
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(No Model.) F. D. BENEDICT. 3 Sheets—Sheet 3.

BUTTONHOLE FINISHING MACHINE.

No. 490,062. Patented Jan. 17, 1893.

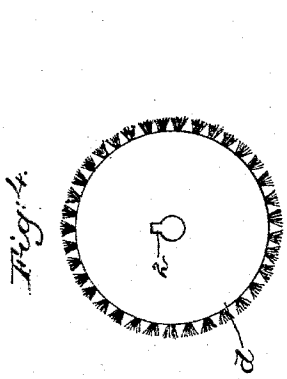

Fig. 4.

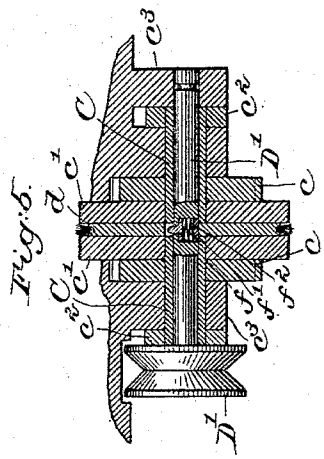

Fig. 5.

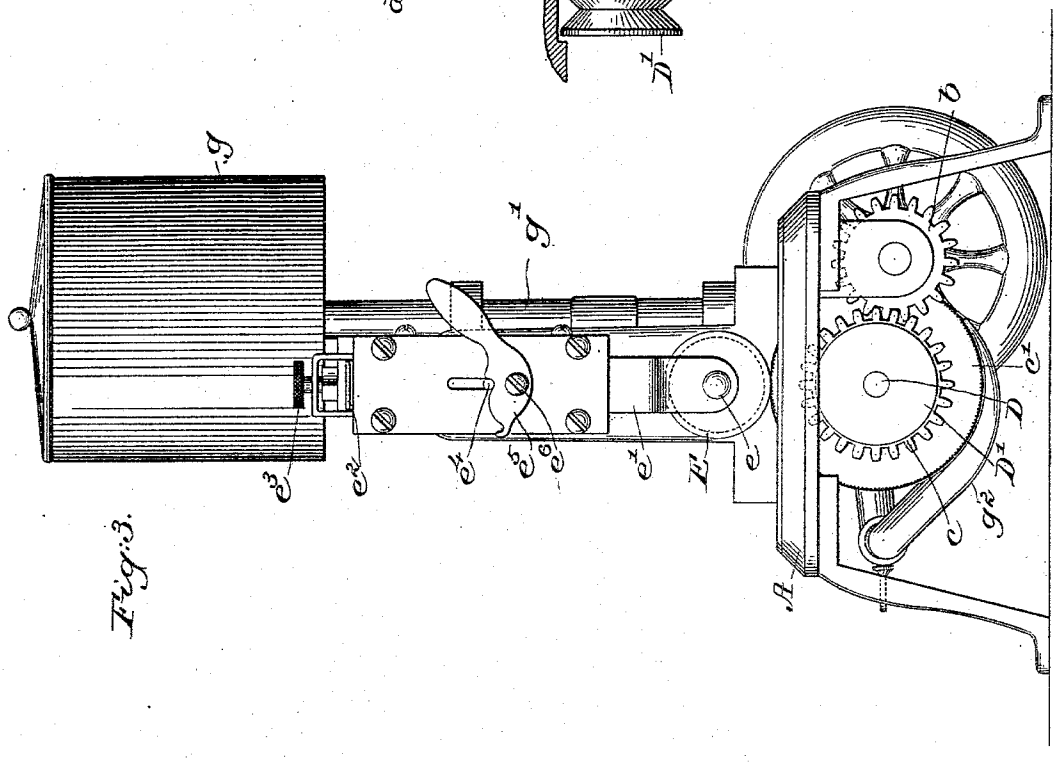

Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

FRANCIS D. BENEDICT, OF HAVERHILL, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE REECE BUTTON HOLE MACHINE COMPANY, OF PORTLAND, MAINE.

BUTTONHOLE-FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 490,062, dated January 17, 1893.

Application filed April 14, 1892. Serial No. 429,082. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS D. BENEDICT, of Haverhill, county of Essex, State of Massachusetts, have invented an Improvement in Buttonhole-Finishing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object the production of a machine by which the "thrumb-ends" or the ends of the threads and cords left at the end of each machine-stitched button hole may be quickly and economically secured. This work is now done by means of a needle and thread, but in accordance with my invention these thrumb ends are secured against unraveling or pulling out, by means of an adhesive material.

My machine for practicing my invention comprehends a work-feeding device preferably in the form of a wheel, a brush or equivalent device to gather the thrumb ends and the stay cord and continuous threads, and lay the same substantially parallel, and applying adhesive material to set them in place; and a presser to keep the work down.

Figure 1, in side elevation represents a button hole finishing machine embodying my invention. Fig. 2, an underside view thereof. Fig. 3, a left-hand end view of the machine shown in Fig. 1. Fig. 4, shows the brush detached; and Fig. 5, is a partial section in the line x, Fig. 2, the pulley and brush shaft being in elevation except near its center where it is partially broken away to show the brush-coupling device.

The frame-work consists essentially of a bed A, and an overhanging arm A', and this frame may be of any suitable shape to sustain the working parts.

The main shaft B, driven in any suitable manner is represented as provided with two gears or drivers b, b, which engage two gears c, c, on two feed shafts C, C, herein represented as hollow shafts.

The tubular feed shafts C, C each carry a feed device shown as a disk or wheel c', the said wheel c' being set at a little distance apart, as best shown in Figs. 1, 2, and 5, so as to leave between them a space sufficient for a brush or equivalent device d, to be described. These disks will have their peripheries constructed in manner common to feeding devices of sewing machines, so as to engage and feed the leather or other material in which the button hole has been stitched, the said feed wheel preferably having its periphery extended above the bed for a little distance as best shown in Figs. 1, 3 and 5, so as to keep the underside of the material from contact with the bed and enable the brush to act freely.

The feed shaft is shown as provided with collars c^2, c^2 suitably secured or pinned thereto in spaces in the bearings c^3, said collars enabling the feed shaft to be moved longitudinally to adjust the feed wheel with relation to the presser E, and also preventing any longitudinal sliding of the shaft at improper times.

The brush shaft D, in practice, will preferably be rotated in a direction opposite that of the feeding wheel, or so as to enable the brush to act against the thrumb ends and material in a direction opposite the direction of movement of the material; but the same result might be attained by driving the brush at a much faster speed than that of the feeding movement and in the same direction.

I have herein shown the brush shaft as provided with a pulley D' which may be engaged by a belt or lever of any usual kind, from any suitable source, so as to give to the shaft D any desired speed and direction of rotation.

The brush d will preferably have at its periphery bristles, but instead it might have any usual substitute therefor, as felt, &c., which would act to wipe the thrumb ends together substantially parallel to the stay cord and threads extended from one to another stitched button hole, and apply adhesive material to the said thrumb ends.

The brush shaft is represented, see Fig. 5, as provided with a cavity in which is placed a coupling pin f backed up by a spring f' and a washer f^2, the end of the pin being adapted to enter a notch 2 in the brush to thus couple the brush to the brush shaft between the two

wheels of the feeding device and the ends of the tubular shafts on which said wheels are mounted. The coupling pin may be put into the cavity in the brush shaft and the latter pushed into the hollow feed shaft, and as the coupling pin comes opposite the notch 2 in the brush the said pin will be pushed through said hole into said notch to thereby hold the brush fixedly in position on its brush shaft.

The cement, gum, paste, or other adhesive material used to confine the thrumb ends will preferably be supplied from a tank or reservoir g and conducted through pipes g' to a mouth g^2, preferably of trough shape and located under or in the range of movement of the brush, so that the latter is supplied with the adhesive material in proper quantity, the quantity being regulated preferably by a suitable valve g^4.

This invention is not limited however to supplying adhesive material or cement used from a tank g, but it may be supplied to the brush in any manner commonly practiced in supplying gum or mucilage to a brush.

The presser to keep the work down on the feed wheel or device is shown as of the roller form, the two rolls shown being free to rotate on a stud e at the lower end of a presser-bar e' guided in suitable bearings in the head A^2 at the front of the overhanging arm, a suitable spring e^3 made adjustable by an adjusting device e^3 shown as a screw serving to determine the effective pressure of the rolls on the material. The presser-bar has a stud e^4 with which co-operates a lever e^5 pivoted at e^6.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a machine for finishing button holes, a feeding device for the material, and devices to rotate the brush independently to brush the said thrumb ends out straight on the material, a brush or equivalent to apply adhesive material to the thrumb ends, substantially as described.

2. In a machine for finishing button holes, a feeding device for the material, a brush or equivalent having its periphery adjacent to the bearing surface of the feeding device, to apply adhesive material to the thrumb ends, and a presser bearing against the material opposite said brush and feeding device, substantially as described.

3. The feed wheels, shafts to which they are attached; the brush shaft, its brush located between the feed wheels; a mouth to supply adhesive material; means to rotate the brush in a manner to lay the thrumb ends substantially parallel to the stay cord and threads between adjacent button holes; and a presser, to operate, substantially as described.

4. The feed wheels, shafts to which they are attached; a driving shaft to which said shafts are geared; a brush shaft, its brush located between the feed wheels; and shafts carrying the same, and means to drive said brush shaft, substantially as described.

5. In a machine for finishing button holes, a two-part feeding device for the material; a brush device located between the parts of said feeding device to apply adhesive material to the thrumb ends, substantially as described.

6. In a machine for finishing button holes, feed wheels; a brush, and devices to rotate it at a surface speed different from that of the said feed wheels, combined with means to supply an adhesive material to the said brush, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANCIS D. BENEDICT.

Witnesses:
FREDERICK L. EMERY,
EMMA J. BENNETT.