2 Sheets—Sheet 1.

E. CARY.

MACHINE FOR PASTING THE ENDS OF COLLARS.

No. 177,206. Patented May 9, 1876.

Fig. 1.

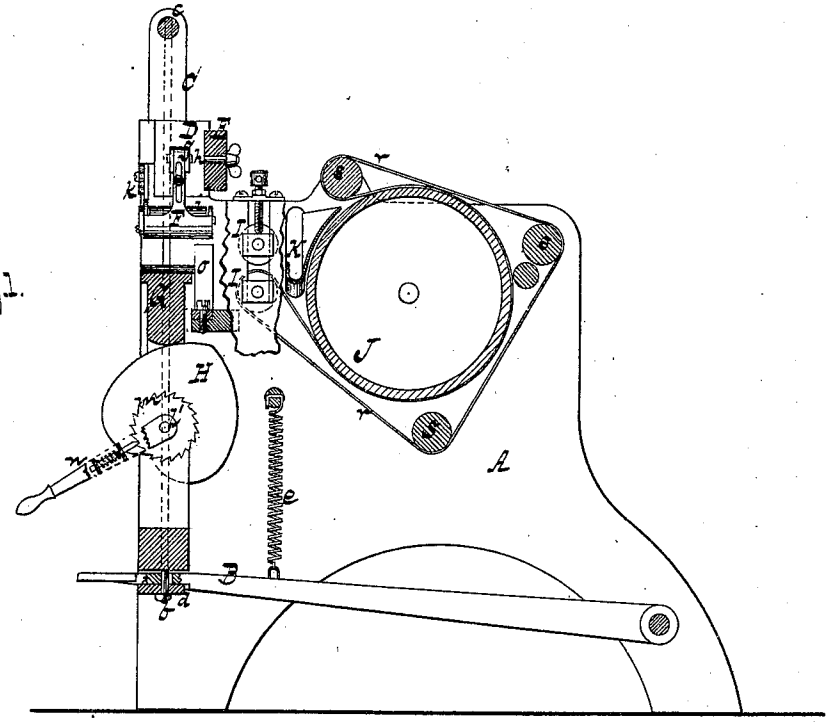
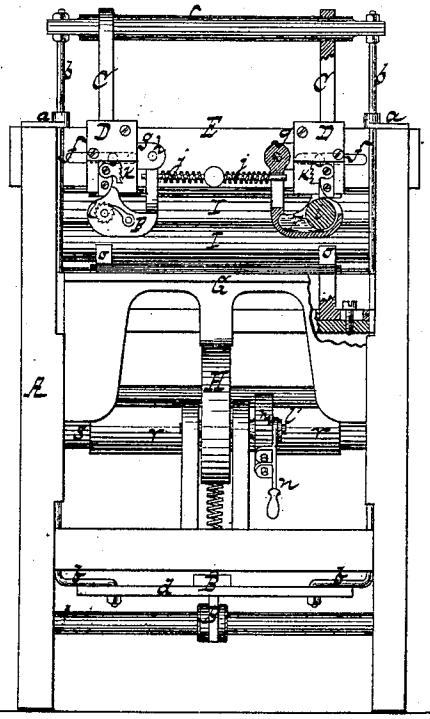


Fig. 2.



Witnesses
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Chas. Wahlers.

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2 Sheets—Sheet 2.

E. CARY.

MACHINE FOR PASTING THE ENDS OF COLLARS.

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Fig. 3.

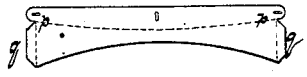
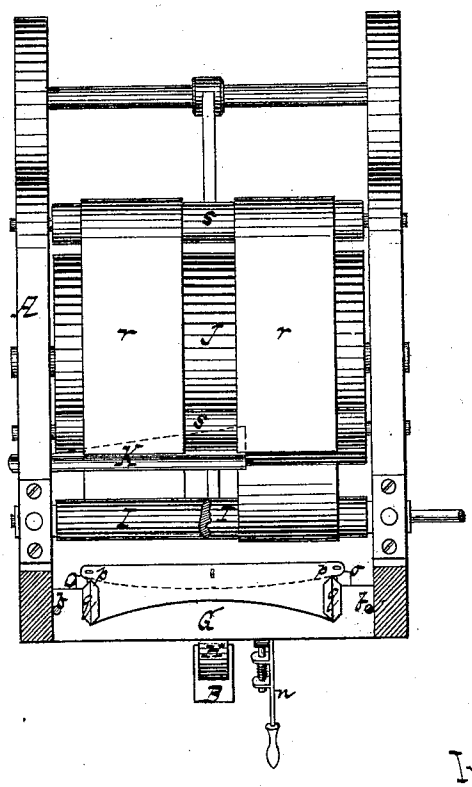


Fig. 4.



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UNITED STATES PATENT OFFICE.

EDGAR CARY, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR PASTING THE ENDS OF COLLARS.

Specification forming part of Letters Patent No. **177,206**, dated May 9, 1876; application filed January 27, 1876.

To all whom it may concern:

Be it known that I, EDGAR CARY, of the city, county, and State of New York, have invented a new and Improved Machine for Pasting the Ends of Collars, which invention is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a transverse vertical section. Fig. 2 is an end view. Fig. 3 is a plan of a collar before its ends have been pasted. Fig. 4 is a sectional plan or top view of my invention.

Similar letters indicate corresponding parts.

This invention consists in the combination of reciprocating pasters, oscillating paste-cisterns, a collar-supporting table, two collar-guides, and a treadle, so that by stepping on the treadle the pasters are brought down upon the ends of the uppermost collar laying on the collar-supporting table, and on releasing the treadle the pasters rise, and the ends of said collar can be readily turned in and made to adhere to the body of the collar. With the collar-supporting table is combined a cam or other equivalent mechanism for the purpose of bringing the pile of collars resting on said table in the proper position toward the pasters. With the collar-supporting table and its lifting mechanism and with the pasting devices are combined two pressing-rollers, a drying-drum, and a discharge-trough, so that the collar after having been pasted will pass through the pressing-rollers and round the drying-drum, whence they are finally discharged in a finished condition.

In the drawing, the letter A designates a frame, which may be made of cast-iron or any other suitable material. On this frame near its front end are secured two guides, *a a*, for rods *b b*, which support a traverse, *c*, while their lower ends are secured to a cross-bar, *d*, which is fastened to a treadle, B. A spring, *e*, which acts on this treadle, serves to raise the same upward to the position shown in the drawing. Any other equivalent device may be substituted for the treadle, and, if desired, the motion of the pasters may be produced by machinery.

On the traverse *c* are fitted two pasters, C C, which, when the treadle is depressed, move in guide-boxes D D secured to a bar, E, which forms part of the frame A. This bar is provided with slots *f*, (see Fig. 2,) in which the guide-boxes can be adjusted, the pasters being fitted loosely on the traverse *c*, so that they, together with their guide-boxes, can be set for collars of different sizes. From the inner sides of the guide-boxes D D project lugs *g*, which form the bearings for pins *h*, from which are suspended the paste-cisterns F F with their feed-rollers *i*. When the pasters C C are raised to their highest position the paste-cisterns, by the action of springs *j*, are thrown in such a position that the feed-rollers *i* bear against the bottom ends of the pasters, so as to supply the same with paste. When the pasters are depressed the paste-cisterns are forced out of the way and the paste adhering to the bottom ends of said pasters is transferred to the ends of the collars. On the edge of each of the pasters is secured a pawl, *k*, and when the pasters are depressed these pawls act on ratchet-wheels *l* mounted on the gudgeons of the feed-rollers *i* outside of the paste-cisterns. By these means the feed-rollers *i* are turned in the paste-cistern, so that they present fresh surfaces to the ends of the pasters whenever said pasters have been depressed and allowed to rise again to their normal positions.

The collars to be pasted are placed on a table, G, which is situated below the pasters, and which moves up and down in suitable guideways formed in the frame A. With said table is combined a lifting mechanism, which in the example shown in the drawing consists of a cam, H, which is firmly secured on a shaft, *l'*, on the end of which is mounted a ratchet-wheel, *m*, to which a step-by-step motion can be imparted by a lever-pawl, *n*. The table G bears upon the surface of the cam H, and by turning this cam said table is lowered or raised according to the height of the pile of collars placed on it. Any other suitable lifting mechanism may, however, be substituted for the devices just described, and by means of this lifting mechanism the table is kept in the proper relation toward the pasters.

The collars are retained in the proper position on the table G by guides *o o*, one or both

of which are adjustable, and the position of which is so regulated, that the notches *p p* of the collars (see Fig. 3) will catch over said guides. The ends *q q* of the collars are creased, so that the same, after having received the proper supply of paste, can be readily folded inward by hand.

Behind the pasters C C are situated the pressing-rollers I I and the drying-drum J. The table G is brought in such a position that the uppermost collar of the pile of collars placed on the table is on a level with the upper surface of the lower pressing-roller. One or more bands, *r*, extend round the lower pressing-roller, and round the drying-drum J, said bands being guided by rollers *s*, Fig. 1, and being made to embrace about three-fourths of the circumference of the drying-drum. A revolving motion is imparted to the lower pressing-roller by suitable power, and this motion is transmitted to the drying-drum by the band or bands *r*. The drying-drum is hollow and heated by steam or hot air.

After a pile of collars have been placed on the table G, and said table has been adjusted to the proper height, the pasters C C are depressed by the treadle B and then permitted to rise. The ends of the uppermost collar, which by the action of the pasters have been supplied with paste, are then folded in by hand, and after they have been made to adhere to the body of the collar, said collar is pushed in between the pressing-rollers I I. By the action of these rollers the ends of the collar are firmly pressed down upon the body of said collar, and the collar is then caught between the bands *r* and the drying-drum and carried round until it discharges into a trough, K, which extends out through one side of the frame A. By the contact with the heated surface of the drying-drum the paste is dried, and the collars on being discharged from the machine are in condition to be put up in boxes without further delay. The table G is then raised for the thickness of one collar, and the operation is continued as above described until the pile of collars first placed on the table has been exhausted. Then the table is lowered, a fresh pile of collars is introduced, and the pasting operation is again continued.

For different sizes of collars the pasters and the collar-guides are adjusted without changing any other portion of the machine. By these means the operation of pasting collars can be effected with great rapidity.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for pasting the ends of collars, the combination of reciprocating pasters, oscillating paste-cisterns, a collar-supporting table, two collar-guides, and a treadle or other equivalent device for imparting to the pasters the required motion, all constructed and operating substantially in the manner shown and described.

2. The combination, with the reciprocating pasters and the collar-supporting table, of a lifting mechanism for adjusting the table in the proper relation toward the pasters, substantially as set forth.

3. The combination, with the reciprocating pasters, the collar-supporting table and its lifting mechanism, of presser-rollers and a drying-drum, substantially as shown and described.

4. The combination, with the reciprocating pasters, the collar-supporting table, the lifting mechanism, the presser-rollers, and the drying-drum, of a discharge-trough extending out through the side of the frame of the machine, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 21st day of January, 1876.

EDGAR CARY. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.