2 Sheets—Sheet 1.

P. A. CHALFANT.

Newspaper Wrapping and Pasting Machine.

No. 203,888. **Patented May 21, 1878.**

Fig: 1.

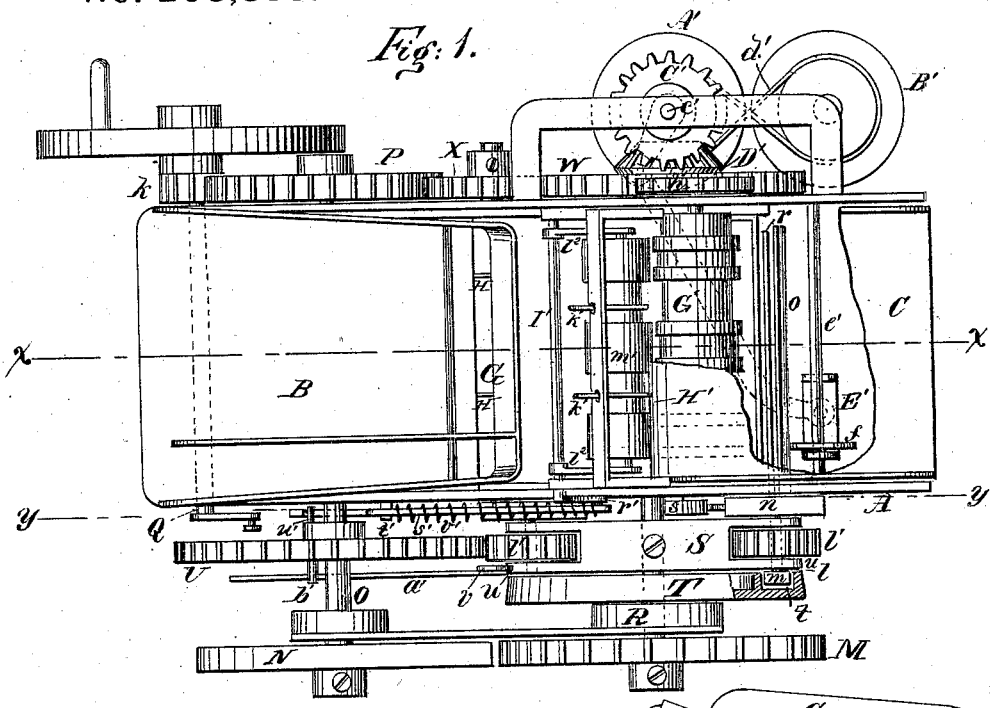
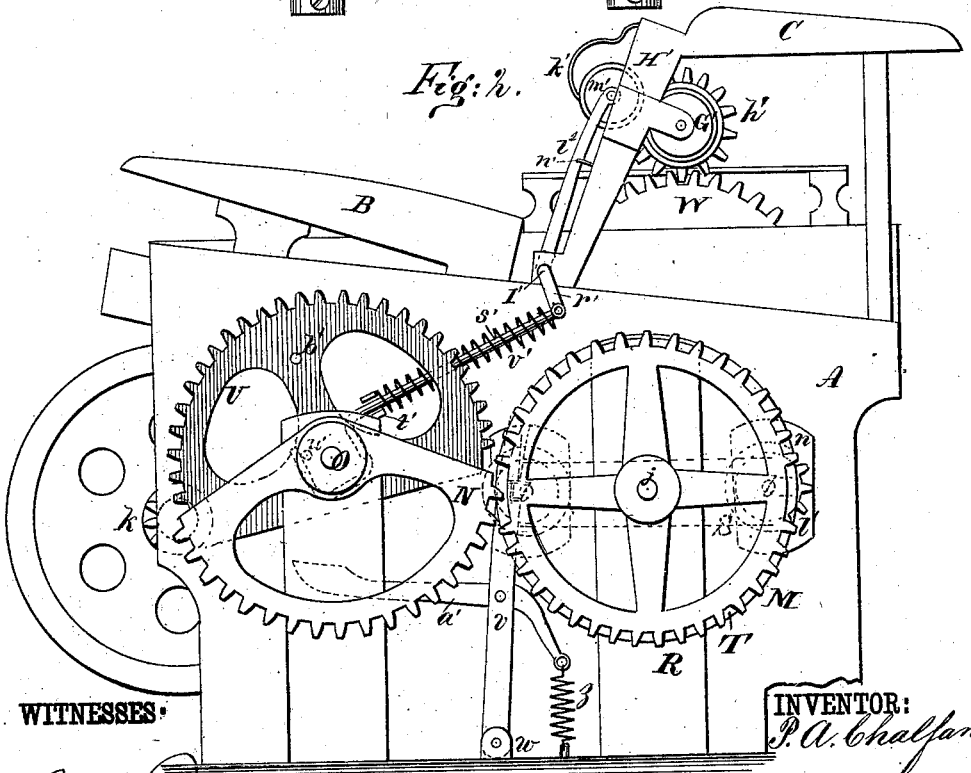


Fig: 2.



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BY Munn & Co

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2 Sheets—Sheet 2.

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Fig: 3.

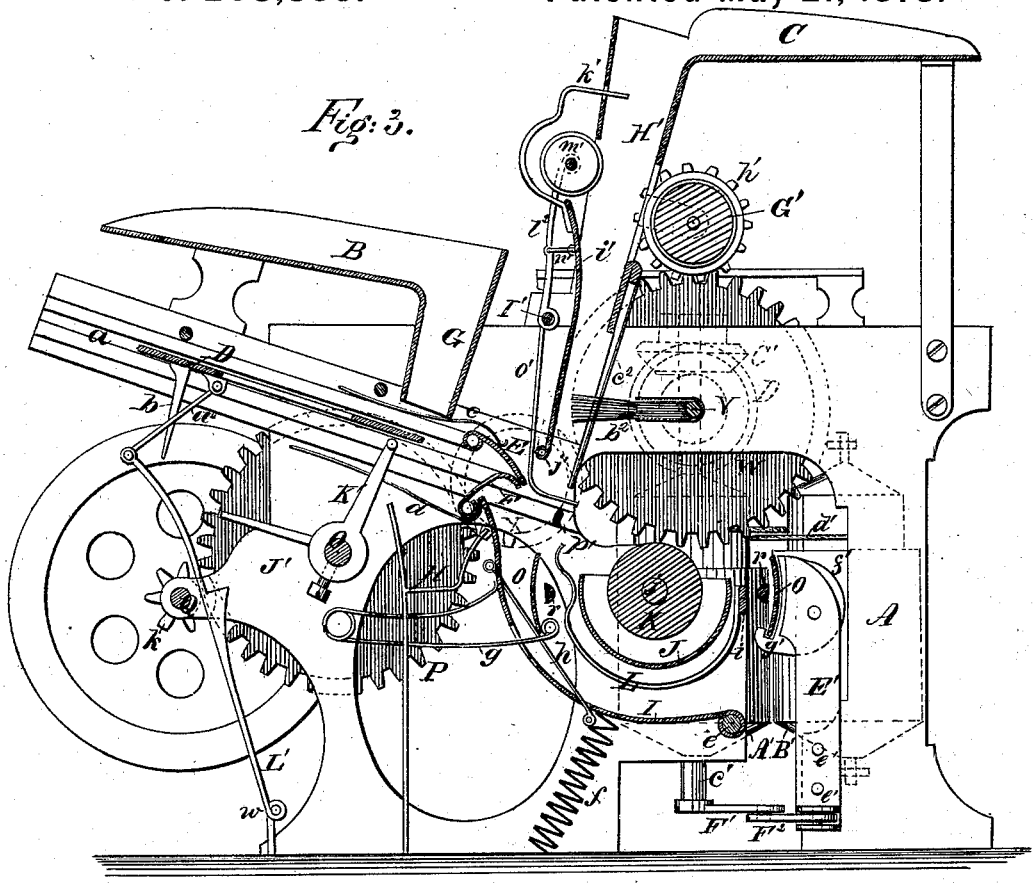

Fig: 4.

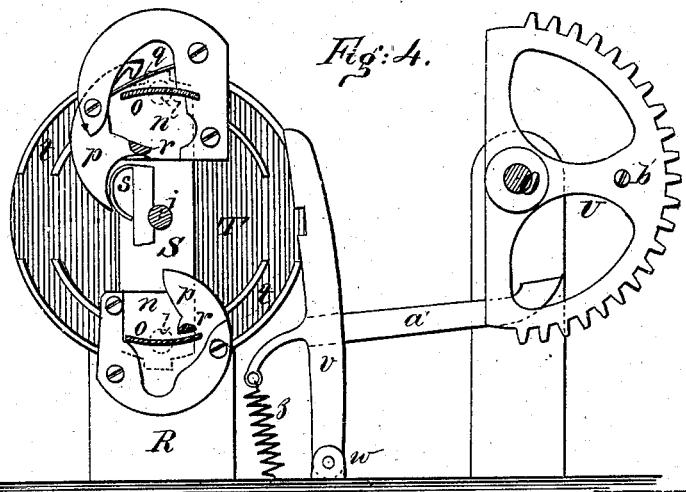

Fig: 5.

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UNITED STATES PATENT OFFICE.

PLEASANT A. CHALFANT, OF INDEPENDENCE, CALIFORNIA.

IMPROVEMENT IN NEWSPAPER WRAPPING AND PASTING MACHINES.

Specification forming part of Letters Patent No. **203,888**, dated May 21, 1878; application filed September 29, 1877.

To all whom it may concern:

Be it known that I, P. A. CHALFANT, of Independence, in the county of Inyo and State of California, have invented a new and Improved Wrapping and Pasting Machine, of which the following is a specification:

Figure 1 is a plan view of my improved wrapping-machine. Fig. 2 is a side elevation. Fig. 3 is a vertical longitudinal section taken on line *x x* in Fig. 1. Fig. 4 is a vertical section on line *y y* in Fig. 1. Fig. 5 is a detail view of a modified form of paste-roller.

Similar letters of reference indicate corresponding parts.

My invention consists in a combination of devices for wrapping and pasting newspapers and pamphlets for mailing, as hereinafter described.

Referring to the drawing, A is the main frame, which supports the working portions of the machine, and also a table, B, for papers or pamphlets, and a table, C, for wrappers. Below the table B a groove, *a*, is formed in each side of the frame A for receiving a sliding plate, D, having two fingers, *b*, which project downward from its under surface, near its edge.

A plate, E, extends across the frame A, and is pivoted in the sides of the frame above the groove *a*. Its free edge is serrated, and is pressed downward by a spring, *c*.

A curved plate, F, is pivoted to the frame A below the plate E, and is thrown upward against the serrated edge of the plate E by a spring, *d*. At the end of the paper-table there is a chute, G, for conveying the papers to the forks H, which project upward from the bed of the machine.

A curved plate, I, which is supported by a rod, *e*, that runs across the frame A, extends upward in front of the forks H, and terminates under the curved plate F. The curved plate I is supported by a spiral spring, *f*, and is slotted to permit the rounded ends of the springs *g g*, which are attached to its back, to project through it.

Two or more elastic straps, *h*, are stretched across the concave surface of the plate I at the point where the rolling operation takes place, for holding the overlapping portion of the paper closed in upon the inserted end of the wrapper, preventing its release during the first revolution in said rolling operation. The ends of spring *g* pass through apertures in the plate I, to which they are fastened at the back, then taking the form of a spiral spring, giving their lower ends a free downward motion, to permit the passage of the wrapped paper.

J is a paste-trough, which is supported by the shaft *j*, and is kept from turning by attachment at one end to the frame A, and in which the paste-roller K revolves.

L is a curved plate, that is attached to a cross-bar, *i*, and extends under the paste-trough to the opposite side, where it is bent inward or concaved, to permit of turning the paper while applying the wrapper.

Upon the end of the shaft *j* which supports the paste-roller K there is a mutilated spur-wheel, M, that takes motion from a toothed sector, N, on the shaft O. A spur-wheel, P, is secured to the opposite end of the shaft O, and is driven by a pinion, *k*, on the shaft Q. The end of the shaft *j* to which the wheel M is secured is supported by a standard, R, and to the said shaft, near the standard R, a head, S, is attached, which projects equally on both sides of the shaft. In each end of this head a shaft, *l*, carrying a pinion, l^1, is journaled parallel with the shaft *j*. To the outer end of the short shaft *l*, a cross-head, *m*, is attached, and to its inner end a head, *n*, is secured, from the center of which the folding-plate *o* projects in line with the shaft *l* and parallel with the shaft *j*.

A curved lever, *p*, is pivoted in the head *n*, and is thrown against the face of the plate *o* by a spring, *q*. A finger, *r*, is secured to the lever *p*, extending from it at right angles and parallel with the plate *o*. A cam, *s*, is attached to the end of the paste-trough support, for engaging the free end of the curved lever *p* during a part of its revolution around the paste-trough.

To the standard R is attached a disk, T, having an annular groove, *t*, in its face for receiving the cross-heads *m*. At points diametrically opposite the face of the disk is cut away to permit the cross-heads *m* to rotate.

On each end of the head S a projection, *u*, is formed, which is engaged by a notched lever, *v*, pivoted in ears *w* that project from the

bed of the machine. This lever is provided with an arm for receiving the spring *z*, by which it is carried forward, and with an arm, a^1, which is engaged by a pin, b^1, that projects from the face of the toothed sector U on the shaft O, which drives the pinions l^1 carried by the head S.

V is a shaft, upon which is placed a spur-wheel, *w*, that takes motion from the wheel P through the intermediate wheel X.

Two rollers, A′ B′, are journaled in brackets that project from the side of the frame A. The shaft *c′* of the roller A′ carries a miter-wheel, C′, that takes motion from a miter-wheel, D′, on the shaft V. Motion is communicated from the roll A′ to the roll B′ by means of a crossed elastic belt, *d′*. These rollers are partly or wholly covered with elastic rubber, and their contact-surfaces are opposite the folding-plate *o* when the latter is at rest and in position for discharging the wrapped paper.

E′ is a follower, moving on the bars *e′* and carrying the pivoted scraper or discharger *f*, which is provided with a nib or hook, *g′*, that drops through a notch in the folding-plate *o* near the head *n* when the folding-plate comes to rest. The follower E′ is moved by the crank F^1, on the lower end of the shaft *c′*, and is connected therewith by the curved connecting-rod F^2.

Below the table C there is a roller, G′, upon the shaft of which there is a pinion, *h′*, that meshes into the wheel W. This roller projects through the back of the chute H′, that leads downward from the table.

A portion, *i′*, of the opposite side of the chute is movable, being pivoted at *j′*, and to its upper edge two fingers, *k′*, are attached, which extend through holes in the outer side of the chute, and prevent feeding wrappers to the chute except at the proper time.

I′ is a shaft, that is journaled at the top of the frame A between the chutes G H′, and carries two arms, l^2, in which a roller, *m′*, is journaled. The movable portion *i′* of the chute is connected with the arms l^2 by links *n′*. Wire fingers *o′* project downward from the shaft I′, and are bent at their lower ends, so that when thrown forward toward the shaft V they will catch and retain the wrapper in the chute.

To the shaft I′ a crank, *r′*, is attached, to which is connected a rod, *s′*, that passes through a guide, *t′*, and is bent around the shaft O, and is engaged by a pin, *u′*, that projects from the boss of the sector U. A spring, *v′*, surrounds the rod *s′* between the guide *t′* and the crank *r′*.

Below the chute H′, and just within the path of the folding-plates *o*, there is an oval rod, *p′*, that projects from the side of the frame to which the rollers A B are attached, toward the head S, parallel with the folding-plates *o*.

Upon the shaft O there are two arms, J′, which engage the fingers *b*, projecting from the plate D, and move the said plate forward at the proper time. An arm, K′, is also placed upon the shaft O, which engages a lever, L′, pivoted at *w* and connected with the plate D by a link, a^2.

Upon the shaft V a flat brush, b^2, is placed, which touches the paste-roller K and the wrapper at every revolution.

The paste-roller or wallower may consist of two thin strips of metal, working diametrically opposite each other on fixed arms carried by the shaft *j*, as shown in Fig. 5. These plates will cut through the paste in the paste-trough, the capacity of which by this arrangement will be increased. These plates may be removed for cleaning, and the paste-trough and paste-brush are also made removable for the same purpose.

The operation of my improved machine is as follows: The paper to be folded and wrapped, having previously been folded square, is dropped into the chute G and permitted to rest in the forks H. When the fingers *k′* are drawn back by the action of the pin *u′* on the rod S′, a wrapper is dropped into the chute H′ and rests upon the rods *o′*.

The sliding plate D is now moved forward by the engagement of the arm J′ with the finger *b*, carrying the paper doubled over the end of the plate D, between the plates E F, and over the oval rod *p′*. The plate D is now retracted by the engagement of the arm K′ with the lever L′, leaving the paper between the plates E F, it being retained by the serrations in the edge of the plate E. At this instant the rods *o′* swing back, and the wrapper is pressed between the rollers *m′* G′, the rotation of which carries it downward into contact with the paper. As one of the folding-plates *o* advances toward the paper, the lever *p* is moved by engagement with the cam *s*, removing the finger *r* from contact with the plate *o*. As this plate moves forward it is kept from rotating by the cross-head *m*, which moves in the groove *t* in the disk T until after it passes between the plates E F and bar *p′*, carrying with it the paper and wrapper. After the plate *o* passes the bar *p′* the lever *p* slips from the cam *s*, and the spring *q* moves the lever so as to bring the finger *r* against the paper with sufficient force to clamp the paper during the wrapping operation. During this time the paste-brush b^2 is charged by contact with the paste-roller K, and turns so as to touch the edge of the wrapper as it passes downward in the chute H′. The wrapper is guided down this chute by two fingers, c^2, projecting downward, forming the lower part of the chute on that side, and designed also to permit free contact of the paste-brush with the upper end of the wrapper at the proper time.

When the head S is in a horizontal position it is engaged by the lever *v*, which holds it until the folding-plate *o* is rotated by the engagement of the toothed sector U with the pinion l^1. As this plate rotates the paper is folded, and the wrapper is smoothed by the curved plate L and by the springs *g*.

As the toothed sector U completes its half-revolution the pin b^1 engages the lever u, and releases the head S, which is now carried through a half-revolution by the engagement of the toothed sector N with the mutilated wheel M, during which time the operation of grasping a paper is performed by the plate o at the opposite end of the head S. As the head again comes to rest in a horizontal position the nib g' of the discharger f' drops through a notch in the plate o. The discharger is now moved by the crank F^1 and rod F^2 toward the rolls A′ B′, carrying with it the wrapped paper, which is received by the said rolls and delivered at the side of the machine.

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

1. The combination, with frame A and table B, of the slide D, the pivoted plate E, serrated and pressed by spring c, the subjacent curved plate F, pivoted and thrown upward by a spring, d, the chute G, forks H, slotted curved spring-plate I, springs g, and elastic strips h, as and for the purpose described.

2. The chute H′, having a portion, i, movable, pivoted at j', and provided at its upper edge with fingers k', extending through holes in the outer side of chute, as and for the purpose set forth.

3. The curved plate L, attached to cross-bar i, and extending beneath the paste-trough to the opposite side, where it is bent inward to permit the turning of paper, as described.

4. The head n, having shaft l, pinion l', and cross-head m, the head S, and disk T, having the annular slot t, in combination, substantially as shown and described.

5. The combination of the head n, folding-plate o, lever p, finger r, cam s, and the spring q, substantially as shown and described.

6. The combination of the chute H′, roller G′, movable plate i', arms l^2, roller m', and rods o', substantially as shown and described.

7. The folding-plate o and finger r, the bar p', and plates E F, in combination, substantially as shown and described.

8. The arms J′ K′ and lever L′, in combination with the sliding table D, having the finger b, for imparting a reciprocating motion to the said table, substantially as shown and described.

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Witnesses:
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