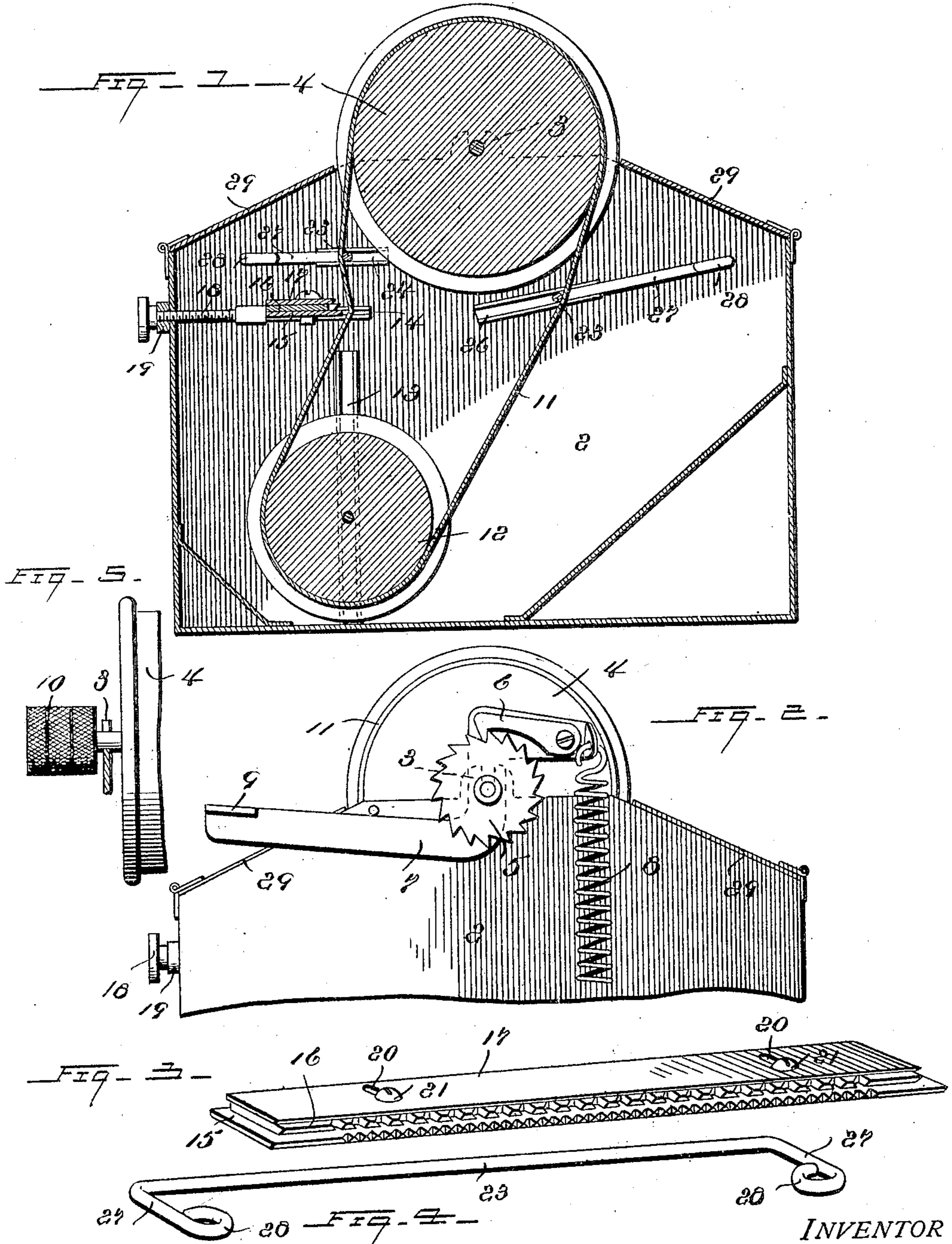


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PATENTED DEC. 19, 1905.

R. A. PELHAM.  
PASTING APPARATUS.  
APPLICATION FILED SEPT. 14, 1905.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

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## PASTING APPARATUS.

No. 807,685.

Specification of Letters Patent.

Patented Dec. 19, 1905.

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*To all whom it may concern:*

Be it known that I, ROBERT A. PELHAM, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Pasting Apparatus, of which the following is a specification.

The present invention relates to pasting apparatus designed particularly for applying an adhesive to strips of paper which are to be transferred to a book or sheet to build up tabulated data, and has for its object to provide a device which will expedite the work of coating the strips, which will be economical in the use of paste or adhesive, in which the supply of adhesive may be conveniently controlled and regulated, and which will render the work of pasting cleanly and rapid.

The apparatus, briefly stated, comprises a suitable box or receptacle for the adhesive, a supporting-roller journaled in said box, a paste-supplying web depending from said roller into the paste-well, a floating or idler roll within the bight of the endless web to hold the web down into adhesive or paste in the receptacle, and tensioning and scraping devices adjacent the web to control the deposit of paste or adhesive upon the web and give a proper tension to the web.

In the drawings herewith I have illustrated one embodiment of my invention in order that the same may be clear to those skilled in the art, and in said drawings—

Figure 1 is a longitudinal sectional view of the apparatus. Fig. 2 is a detail view to show the roll-operating mechanism. Fig. 3 is a detail perspective view of the multiple-blade scraper. Fig. 4 is a detail perspective view of one of the stretcher-rods. Fig. 5 is a detail view of a modified form of roller-operating mechanism.

Referring to the drawings by numerals, like numbers indicating like parts in the several views, 2 indicates a box or receptacle of any suitable shape or design, the bottom of said box or receptacle being preferably inclined from its ends toward its middle, as shown in Fig. 1, to direct paste or adhesive therein to the well or deep part of the receptacle. Mounted in suitable bearings 3 on the sides of the box 2 is a supporting-roller 4, said roller 4 being provided at one end with any suitable operating mechanism, by means of which it may be rotated, the mechanism shown in the present case comprising a ratchet-wheel 5,

fixed to the spindle of the roller 4, which ratchet-wheel 5 is adapted to be engaged by a pawl 6, carried by a lever 7, pivotally mounted on the spindle of the roller 4 and normally held in the position shown in Fig. 2 by a spring 8, the said lever 7 having a thumb-piece 9, by means of which it may be depressed so as to cause the pawl 6 to ride forward and engage the teeth of ratchet-wheel 5 and rotate the roller 4 in a well-known and obvious manner. Obviously this operating mechanism for the roller may be varied, if desired, and a very convenient modification of this operating mechanism is shown in Fig. 5, in which the spindle of the supporting-roller is provided at one end with a milled head 10, which the operator may grip and give a rotary movement to the roller. The pawl-and-ratchet mechanism is, however, an advantageous and satisfactory construction, as it may be conveniently manipulated, and not only serves to advance the roller 4, but by reason of the engagement of the hooked pawl 6 with the teeth of the ratchet-wheel 5 prevents reverse or backrotation of the roller 4. Depending from the said roller 4 is an endless web 11, within the bight of which is placed a floating or idler roll 12, which serves to hold the web down within the well of the receptacle 2, as will be obvious, said roll 12 being free to move vertically, so as to adjust itself automatically and maintain always the proper tension on the web. The said roll 12 is provided at its ends with gudgeons, which are held and travel in vertical guideways 13, formed on the inner sides of the receptacle 2, so that while the said roll 12 may rise and fall in a vertical direction it is held against displacement and movement horizontally, at the same time being free to rotate.

Mounted in suitable guideways 14 on the sides of the receptacle 2 is a tensioning and paste-removing device for the web 11, and this tensioning and scraping device I preferably make in the form of a multiple-blade scraper, to the end that scrapers having different faces may be quickly and readily interchanged according to the needs of the work or the character of the adhesive being used without dismantling the apparatus or taking out the tensioning and scraping device. In the present embodiment of the invention I have shown a three-bladed scraper, the lower one of which, 15, forms the supporting member of the multiple-blade device and is made a little longer

than the superposed blades 16 and 17 in order that its ends may engage and slide in the guides 14, above referred to. This lower blade 15 is shown as being provided with a serrated edge which impinges upon the web 11 and serves not only to scrape the superposed paste or adhesive brought up from the well by the web, so as to leave a thin evenly-distributed film of adhesive on the surface thereof, but it acts also as a tensioning device to take up the slack of the web and give it the proper tension, so that it may be readily advanced by the supporting-roller, and, furthermore, be kept in smooth condition. In order that the multiple-blade tensioning and scraping device may be adjusted relative to the web 11, I provide adjusting-screws 18, which are threaded through suitable lugs 19 in the end of the receptacle 2, said screws 18 bearing at their forward ends against the rear of the tensioning and scraping device. The upper blades 16 and 17 of the multiple-blade scraper are provided with slots 20, through which pass adjusting and holding screws 21, tapped into lower blade 15, and it will be obvious that either one of the superposed blades 16 and 17 may be advanced, so as to bear against the web 11 and from the scraping and tensioning instrumentality by simply loosening the screws 21 and sliding the blade which is to act upon the web forward beyond the edges of the other blades of the multiple-blade device. A greater or less number of blades than I have shown and described can of course be used, if desired; but I find that the three blades 15, 16, and 17, the edges of which are all given different conformation—for example, the blade 15 having comparatively fine serrations, the blade 16 somewhat coarser serrations, while the blade 17 is given a smooth edge—will meet all ordinary requirements.

To aid in tensioning the web 11, removing superfluous paste from the inner surface thereof, and to prevent also the adhesion of its inner surface to the supporting and idler rollers as it travels around the same, I provide stretcher-rods 23, one of which is mounted in suitable guides 24 on the inside of the receptacle 2, just above the multiple-blade scraping and tensioning device, so as to bear on the inner surface of the web 11, as shown, while the other stretcher-rod 23 is mounted in ways 26 on the sides of the box or receptacle 2 so as to engage the inner surface of opposite run of the web 11. The said rods 23 are preferably U-shaped, as shown, (see Fig. 4,) and the limbs 27 thereof slide in the respective guideways, sufficient spring being given to the said limbs to hold the stretcher-rods in any adjusted position, and the ends of these limbs 27 are preferably bent over to form eyes 28, by means of which the rods may be readily grasped and adjusted. The said rods 23 exert sufficient tension on the web 11 to draw it smoothly and tightly

over the supporting-roller 4, so that a uniform and smooth paste-supplying surface is always presented at the top of the roller, and at the same time the web 11 is caused to hug the roller sufficiently to insure always the necessary friction to give a good driving engagement between the roller and web. Furthermore, said rods 23 hold the paste-coated web 11 away from the roller during the operation of the device, so that it will not adhere to and wind about the roller, and, again, said stretcher-rods scrape off and remove any adhering paste with which the inner surface of the web may become coated, thus keeping the web reasonably clean and free from accumulated paste. The said box or receptacle 2 is preferably provided with hinged flaps or doors 29 at either end, which, when closed, as shown, leave the supporting-roller 4 and a portion of the web 11 only exposed, so that the receptacle and its contained parts are effectually shut against the ingress of dirt to the paste-well, and additionally the rapid evaporation or drying out of the contents of the receptacle is obviated.

In use of the apparatus the operator will draw a strip of paper or other material which it is desired to coat across the surface of the exposed web 11, carried by the roller 4, and this will be repeated until the deposit of paste upon the exposed portion of the web has been used, whereupon the roller 4 will be rotated and a freshly-coated section of the web will be brought into place, the section from which the paste has been removed passing downwardly into the receptacle to receive a fresh supply of paste or adhesive.

While I have shown and described a particular embodiment of my invention, and that the best now known to me, it will be understood that the disclosure is simply for illustrative purposes, and since the mechanical expression of my invention may be varied by the skilled mechanic without departing from the spirit thereof I do not limit myself to anything herein shown and described, except so far as I am limited by the prior art to which this invention belongs.

Having fully disclosed my invention, I claim—

1. In an apparatus of the class described, a suitable paste box or receptacle, a supporting-roller journaled thereon, an endless web carried by said roller and depending within said paste box or receptacle, and a vertically-movable idler-roll within the bight of said web.

2. In an apparatus of the class described, the combination with a suitable paste box or receptacle, a supporting-roller journaled thereon, an endless web carried by said roller and depending within said paste box or receptacle, an idler-roll within the bight of said web, and vertical guides in which said idler-roll is mounted.

3. In an apparatus of the class described,

the combination with a suitable paste box or receptacle, of a supporting-roller journaled thereon, an endless web carried by said supporting-roller and depending within said paste box or receptacle, a vertically-movable idler-roll in the bight of said web, and an adjustable scraping and tensioning blade bearing against said web between said roller and said idler.

4. In an apparatus of the class described, the combination with a suitable paste box or receptacle, of a supporting-roller journaled thereon, an endless web carried by said roller and depending within said paste box or receptacle, an idler-roll within the bight of said web, an adjustable scraping and tensioning blade bearing against the outside of said web between the said roller and said idler, and an adjustable stretcher-rod bearing against the inner surface of said web adjacent said scraper.

5. In an apparatus of the class described, the combination with a suitable paste box or receptacle, of a supporting-roller journaled thereon, an endless web carried by said roller and depending within said paste box or receptacle, an idler-roll within the bight of said web, an adjustable scraper bearing against the outer surface of said web between said roller and said idler, an adjustable stretcher-rod bearing against the inner surface of said web adjacent said scraper, and an adjustable

stretcher-rod bearing against the inner surface of opposite run of said web.

6. In an apparatus of the class described, the combination with a suitable paste box or receptacle, of a supporting-roller journaled thereon, an endless web carried by said roller and depending within said paste box or receptacle, and stretcher-rods bearing against the inner surfaces of the two runs of said endless web to keep the same from adhering to and winding about the roller.

7. In an apparatus of the class described, the combination with a paste-supplying web, of a web-scraping instrumentality comprising a plurality of superposed scraping-blades, and means for locking said blades together with any one of the series in operative position.

8. In an apparatus of the class described, the combination with a paste-supplying web, of a scraping-blade mounted in suitable supports, means for adjusting said blade toward and from said web, and a plurality of scraper-blades adjustably mounted on said first-named scraping-blade.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ROBERT A. PELHAM.

Witnesses:

A. V. CUSHMAN,  
GEO. W. REA.