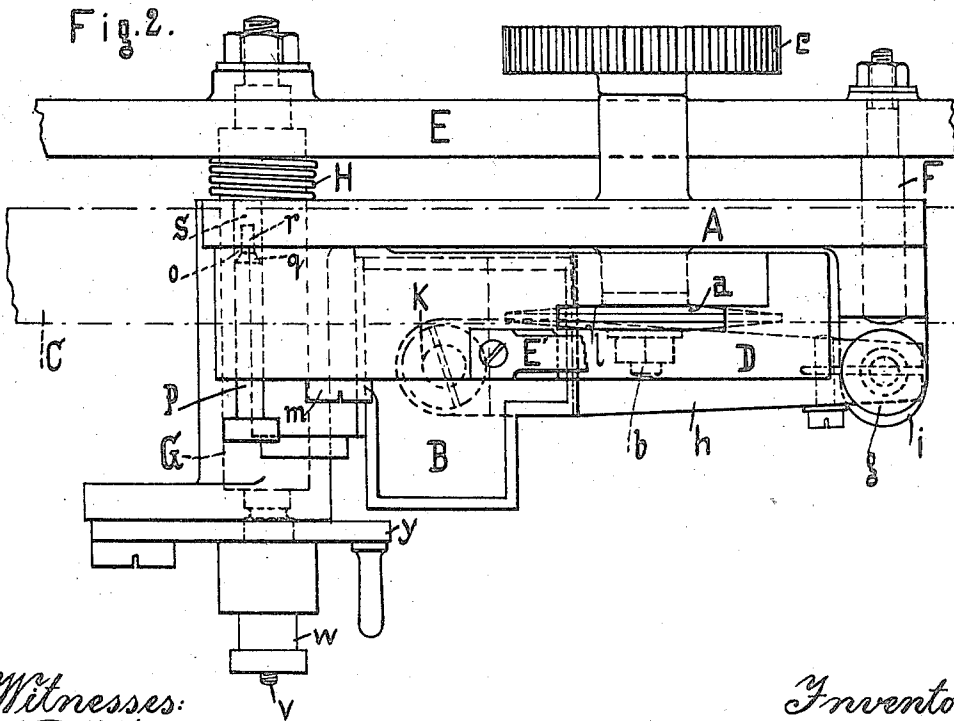
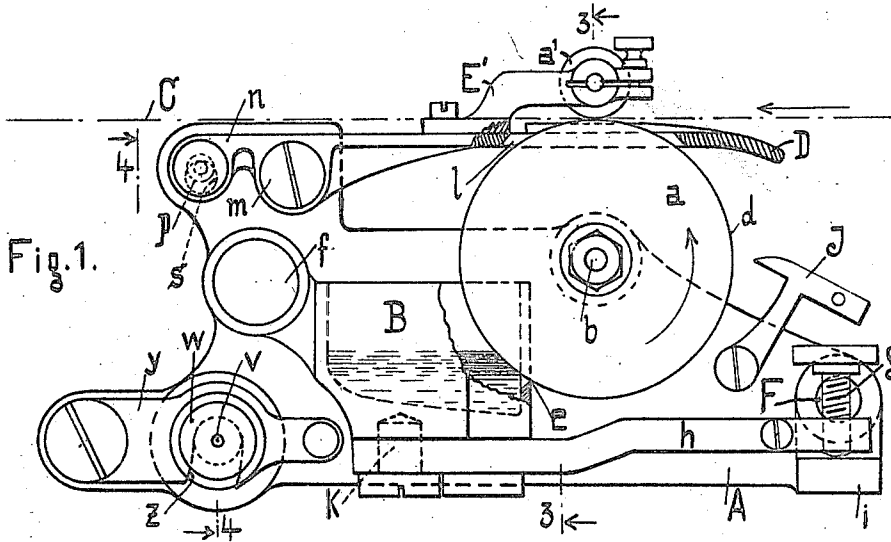


M. C. GRAHL.
 PASTING APPARATUS FOR CIGARETTE MAKING MACHINES.
 APPLICATION FILED JAN. 7, 1915.

1,248,314.

Patented Nov. 27, 1917.

2 SHEETS—SHEET 1.



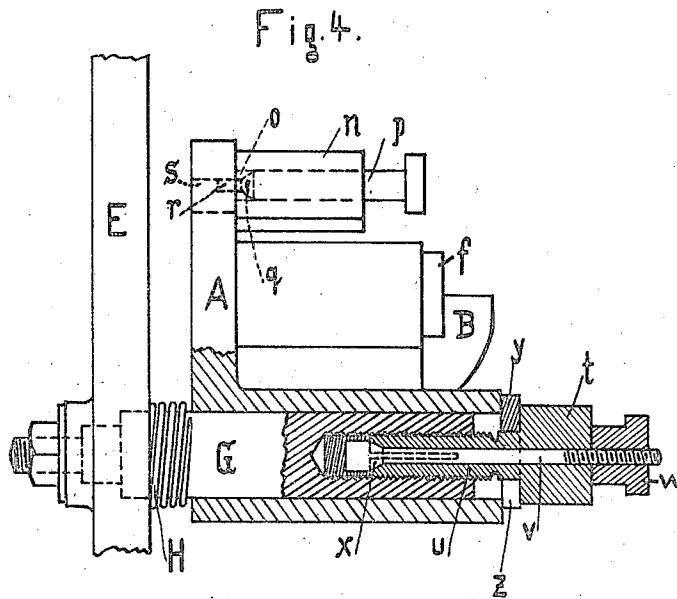
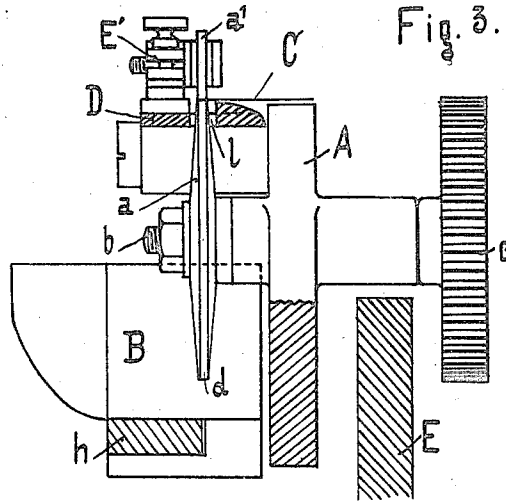
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 F. Hogg.
 Jost Disbano.

Inventor:
 Max Clemens Grahl
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UNITED STATES PATENT OFFICE.

MAX CLEMENS GRAHL, OF DRESDEN-LOEBTAU, GERMANY.

PASTING APPARATUS FOR CIGARETTE-MAKING MACHINES.

1,248,314.

Specification of Letters Patent.

Patented Nov. 27, 1917.

Application filed January 7, 1915. Serial No. 990.

To all whom it may concern:

Be it known that I, MAX CLEMENS GRAHL, a citizen of the German Empire, and residing at Dresden-Loebtau, in the German Empire, have invented a new and useful Improvement in Pasting Apparatus for Cigarette-Making Machines, of which the following is a full and clear specification.

The invention relates to a pasting apparatus for cigarette-making machines, in which a moving and flat strip of cigarette paper is provided with paste on one of its long edges, so that when the strip of cigarette paper is shaped to form to a round sleeve, the longitudinal edges of the strip are pasted together. Such forms of pasting apparatus are already known. They all have pasting disks, which revolve in a vertical plane and project into a container having pasting material.

The pasting apparatus according to the present invention has a container for the pasting material movably mounted, and the pasting disk is arranged so as to dip into the paste of the container. The paste container is also provided with a cover, and the entire pasting apparatus is movable as a unit.

An advantageous embodiment of my invention is set forth in the following description and drawings in which—

Figure 1 is a side-view in partial section.

Fig. 2 is a top-view.

Fig. 3 is a special view showing details of the construction which enables the uncovering of the pasting disk and of the paste-container (it is a cross section on line 3—3 of Fig. 1 in the direction of the arrow).

Fig. 4 is a special view of the arrangement for putting the pasting apparatus into operative position and is a cross section on line 4—4 of Fig. 1 in the direction of the arrow.

The pasting disk *a* is mounted on a horizontal shaft *b* which is mounted in the vertical wall *A* of the frame of the pasting apparatus. On the other end of this shaft is a toothed wheel *c* by means of which the pasting disk *a* is revolved in the direction of the arrow shown in Fig. 1.

The pasting disk dips into the container *B* for the pasting material, through the front side thereof through a vertical slit. Because of the dipping in, the pasting disk *a* comes in touch with the pasting material found in the container *B*, in such a manner

that the edge *d* of the pasting disk is covered with a layer of the pasting material. Above this edge *d* the strip of cigarette paper *C* is led. This strip of cigarette paper *C* is indicated by dotted lines in Figs. 1 and 2. The strip of cigarette paper *C* lies flat and in such relation to the pasting disk that one longitudinal edge of the strip *C* is provided with pasting material. The strip of cigarette paper *C* moves forward in the direction of the arrow shown in Fig. 1.

The pasting material is thus applied equally and in desired strength upon the edge of the pasting disk *a*. This can be readily regulated in the pasting apparatus, because the pasting disk *a* dips into the container for the pasting material *B* from the front. To regulate the amount of the pasting material on the edge *d* of the pasting disk *a* the lower edge *e* of the slit in this front side is approached more or less to the edge of the pasting disk *a*. The pasting material remaining clinging to the sides of the disk *a* will thus be stripped off by the side edges of the slit in the container *B*. As these side edges are inclined, corresponding to the conical shape of the disk *a*, they always fit tightly against the sides of the pasting disk *a* during the lifting and lowering of the container *B*.

The container *B* for the pasting material forms a part of a lever which is revoluble in a vertical plane on the horizontal frame bolt *f*. By means of this revolution around the bolt *f* the edge *e* of the slit can be moved with respect to the pasting disk *a*. In order to exactly regulate the relative position between the edge *e* and disk *a*, the position screw *g* is provided. This is at the front end of a pin *h* fastened to the bottom of the container *B*. The pin *h* forms the free end of the lever revolving on the bolt *f*. The position screw *g* reacts against the projection *i* of the wall *A* of the frame. The turning of the screw *g* results in the rising and lowering of the container for the pasting material.

In order to bring the container *B* of the pasting material entirely out of engagement with the pasting disk *a*, the arm *h* is made revoluble in a horizontal plane, namely upon the vertical bolt *k* upon the bottom of the container *B* for the pasting material. If the arm *h* is swung away from the wall *A* of the frame, then the container *B* can be moved below, until it is perfectly free. This

is often necessary for the purposes of cleaning and the like.

The strip of cigarette paper C runs, as already said, above the top of the pasting roller in order to receive paste on one of its longitudinal edges.

This delicate silk cigarette paper strip, in some cases, tears in the very quickly moving cigarette making machine. If such a tearing of the strip occurs, the fluttering ends of the strip may fall at the place of breaking upon the pasting roller and upon the container for the pasting material. In particular the end of the strip can twist and wind upon the pasting disk *a*. In this manner the strip of paper C would be soiled with paste, and a long and disagreeable delay would occur. In order to avoid this evil, the pasting apparatus, according to the invention, is provided with a horizontal cover-plate D, which lies at some distance from the stretched strip of cigarette paper. This covering-plate D prevents the torn strip of cigarette paper from falling down upon the pasting disk or the container of the pasting material. The pasting disk *a* projects through a slit *l* of the covering plate D. Upon the covering plate is a bearing E¹ tightened by means of screws which carries a cooperating disk *a'*, for the pasting disk *a*. Between the cooperating disk *a'* and the pasting disk *a* the longitudinal edge of the strip of cigarette paper C that is to be covered with paste is led. This cooperating disk *a'* is only necessary, when the strip of cigarette paper is provided with mouth pieces of straw or similar brittle material, because the strip of cigarette paper may be bent and stretched at the place of covering. The covering plate D is revoluble in a vertical plane. It can revolve about the bolt *m* resting in the wall A of the frame. It has a projection *n* beyond the point of revolution *m* which projection is provided with a horizontal boring *o*. In this boring *o* the pin *p* is located, and the pin is longitudinally movable therein. This pin has on its front end a cone *q* and a pin projection *r*. In the wall A of the frame a corresponding boring *s* is provided. As long as the pin *p* only projects in the boring *s* of the wall of the frame with its projection *r*, the covering plate D lies in its normal position as shown in Fig. 1. As soon, however, as the pin is pushed forward to the wall of the frame, the cone *q* through its action with the edge of the boring *s* of the wall of the frame causes a lifting of the covering plate D to a small amount. This lifting of the covering plate D raises the strip of cigarette paper from the edge of the pasting disk *a*. The lifting of the strip of cigarette paper is especially necessary when a new strip is to be led into the machine or a torn strip is to be threaded in. In this case, it is highly unde-

sirable that the strip which must be grasped by the hands of the attendant should have an edge of pasting material. If now the pin *p* is pulled so far back that its end which is adjacent to the wall A of the frame is entirely pulled out of the boring *s*, then the covering plate D can be turned freely around the horizontal bolt *m*, so that the covering plate can therefore be freely moved upwardly in order that free access can be obtained to the pasting apparatus.

The pasting apparatus which is mounted on the wall A of the frame is mounted movably as a unit in the frame E of the machine. In order to attain this, the plate of the frame is placed on two horizontal bolts F and G fastened upon the frame E of the machine. The pasting apparatus rests movably upon these bolts so that it can be approached or withdrawn from the frame E of the machine. This movability is necessary in order to always place the edge *d* of the pasting disk *a* so exactly that it coincides with the outer longitudinal edge of the strip of cigarette paper. As the width of the strip of cigarette paper changes (being dependent upon the diameter of the cigarettes manufactured at that time), but the position of the edge to be provided with pasting material always remains the same, the pasting disk must therefore be placed in the proper position. In order to secure this positioning of the pasting disk most accurately and to fasten the pasting apparatus in the proper position, the following arrangement is provided.

Around the bolt G a spring H is wound which presses on one side thereof against the frame E of the machine and on the other side thereof against the wall A of the frame of the pasting apparatus and presses this wall against a ledge or abutment *t*. The ledge *t* is movable. It consists of the head *t* of a spiral screw *u* that is screwed into a corresponding boring of the pin G provided with inner screw threading. The position of the ledge *t* changes according to the amount which the spiral screw *u* is screwed into the boring of the pin G. In order to fasten the spiral screw in the desired position, it is hollow and longitudinally slitted, so that two elastic legs are produced. In the hollow of the pin a special spindle is arranged which can be tightened or loosened by means of a screw *w*. The spindle is provided with a cone *x* which rests against a corresponding depression on the front end of the spiral screw. Upon the tightening of the screw *w*, it therefore forces apart the spiral screw so that it is fastened by friction in the boring of the bolt G which is provided with cooperating threads. In this manner an exact positioning and a secure fixing of the pasting apparatus in the desired position is possible.

Between the ledge *t* and that part of the

wall A of the frame which is movable upon the bolt G an intermediate member *y* is placed. The intermediate member consists of a lever provided with a handle which lies with a recess *z* above the spiral screw *u*. The lever is revolvably fastened to the wall of the frame A. If, however, the lever is lifted upwardly from the spiral screw *u*, then the frame glides forwardly till it strikes against *t*. This gliding is sufficient to bring the edge *d* of the pasting disk *a* out of contact with the strip of cigarette paper. The pasting disk *a* can be separated from the strip of cigarette paper by raising the lever *y*, as well as by raising the covering plate D.

A doctor J is provided which can be temporarily pressed against the wall of the pasting disk *a* in order to scratch off the pasting material dried there.

I have mentioned one embodiment of my invention, but it is clear that numerous changes could be made in the detail without departure from the spirit thereof.

What I claim is—

1. In a pasting apparatus for a cigarette making machine, the combination of a paste container having a tapered slit in its wall, a pasting disk having tapering sides projecting through said tapered slit into said paste container, and means for moving one of said parts relatively to the other to vary the depth of dip of said disk.

2. In a pasting apparatus for a cigarette-making machine, a combination of the revoluble pasting disk, a movable paste-container adjacent thereto and having a slit in one of the sides thereof, said pasting disk projecting through said slit into said paste-container, said paste-container being connected to a pivoted arm, an abutment connected with the frame of said cigarette-making machine and adjacent an end of said arm spaced from said pivot, said arm having a position-screw adapted to rest upon said abutment and adapted to regulate the position of said paste-container, said arm and its position-screw being revoluble upon a vertical axis whereby the revoluble portion of said arm and said position-screw can be swung entirely away from said abutment and the paste-container can be revolved vertically and entirely out of engagement with said pasting disk.

3. In a pasting apparatus for cigarette-making machines, a vertical pasting disk, a paste-container, means for guiding a strip of cigarette paper in contact with the uppermost part of said pasting disk, and a cover for said pasting disk and below the said uppermost part thereof, and said pasting disk having its uppermost part projecting through said cover, said pasting disk also projecting into said paste-container.

4. In a pasting apparatus for cigarette-

making machines, a paste-container, a vertical pasting disk projecting therein, a slitted cover above said paste-container and below the uppermost part of said pasting disk, said pasting disk having its uppermost part projecting through said slit, means for guiding a strip of cigarette paper in contact with said uppermost part of said pasting disk, and above said cover, said cover being movable away from the pasting disk.

5. In a pasting apparatus for cigarette-making machines, a paste-container, a vertical pasting disk projecting therein, a slitted cover above said paste-container and below the uppermost part of said pasting disk, said pasting disk having its uppermost part projecting through said slit, means for guiding a strip of cigarette paper in contact with said uppermost part of said pasting disk and above said cover, said cover being movable away from the pasting disk, and means for holding said cover when it is moved away from said pasting disk.

6. In a pasting apparatus for cigarette-making machines, a paste-container, a vertical pasting disk projecting therein, a slitted movable cover above said paste-container and below the uppermost part of said pasting disk, said pasting disk having its uppermost part projecting through said slit, a pin connected with said cover and adjacent a boring in the frame of the machine, said pin having a conical end and a projection at the tip of said conical end, means for guiding a strip of cigarette paper in contact with the uppermost edge of said pasting disk and over said cover, whereby when said cover is raised it moves said cigarette paper therewith, said pin and said boring being so relatively disposed that when the projection of said pin is in said boring, said paper is in contact with the uppermost edge of said pasting disk, while when the conical end of said pin is forced into said boring said cover is lifted and removes said cigarette paper from the pasting disk, said cover being entirely removable from said pasting disk when the projection of said pin is withdrawn from said boring.

7. In a pasting apparatus for cigarette-making machines, a frame, a pasting apparatus proper, having a vertical pasting disk, means for guiding a flat strip of cigarette paper in contact with the uppermost portion of said pasting disk, the plane of the cigarette paper being perpendicular to the plane of the said pasting disk, and means for moving said pasting apparatus proper with said vertical disk laterally with respect to the frame of said machine.

8. In a pasting apparatus for cigarette-making machines a frame, a horizontal bolt secured to said frame and provided with a screw-threaded socket at its outer end, a pasting apparatus movably mounted on said

bolt and carrying a vertical pasting disk, a spring disposed on said bolt between said frame and said pasting apparatus and tending to move said apparatus outward on said bolt, an abutment provided with a threaded shank or projection engaging said screw-threaded socket and with a bore extending through said threaded shank or projection and flared at the inner end thereof, a spindle disposed in said bore and provided with a conical head at its inner end engaging the flare of said bore and with a screw-threaded projection at its outer end, and a nut engaging said screw-threaded projection.

9. In a pasting apparatus for cigarette-making machines having frames, a pasting

apparatus proper having a vertical pasting disk movably mounted on said frame of said machine, an abutment for limiting the movement of said pasting apparatus proper, springs operating to move said pasting apparatus proper away from said frame, and a lever intermediate said frame and said abutment, said lever being adapted to lock said pasting apparatus proper.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

MAX CLEMENS GRAHL.

Witnesses:

OTTO WOLFF,
JOHANNA SCHÄFER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."