No. 765,149. PATENTED JULY 12, 1904.

J. PETRIC.

PAPER BAG MACHINE.

APPLICATION FILED OCT. 18, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

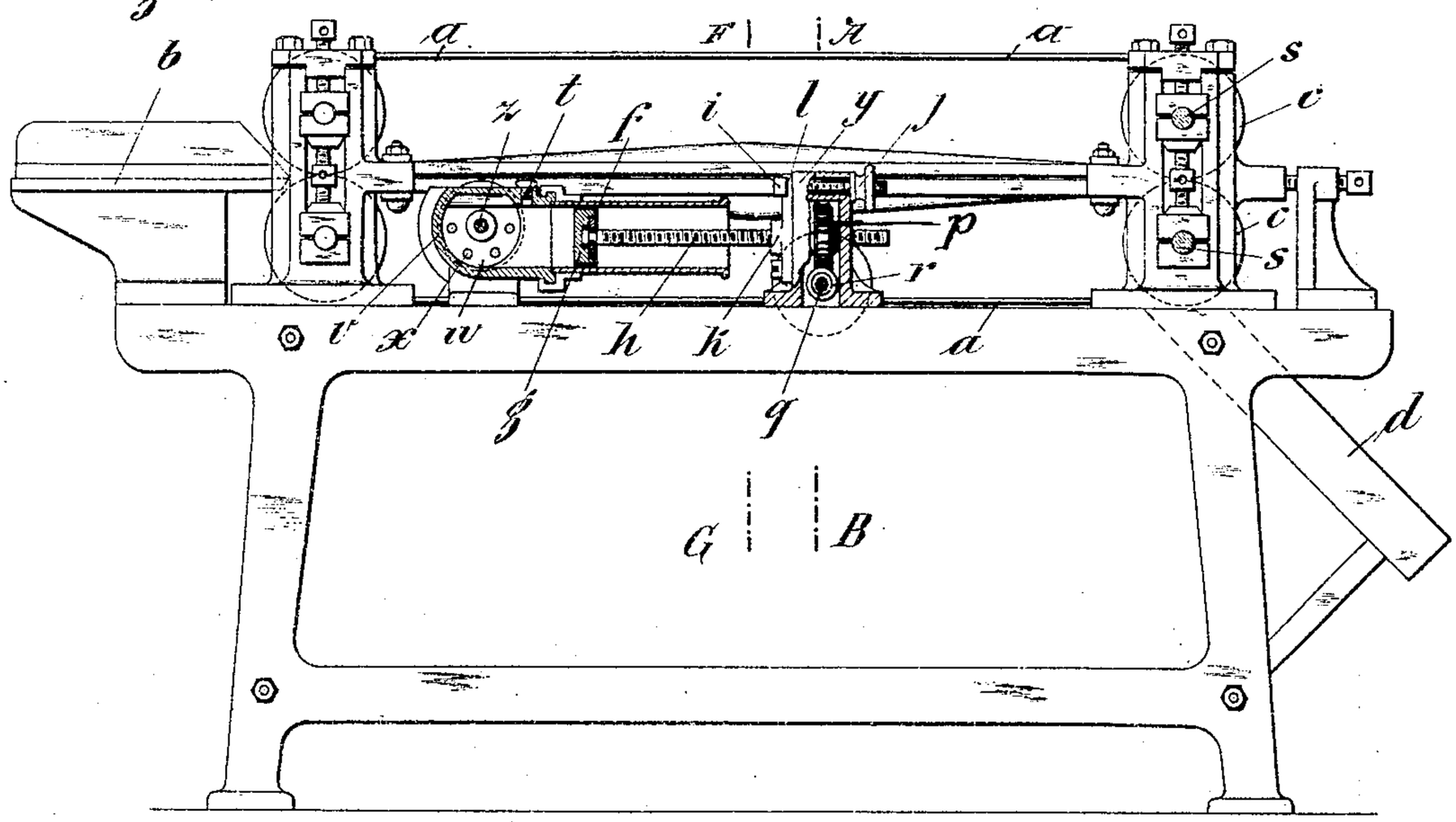
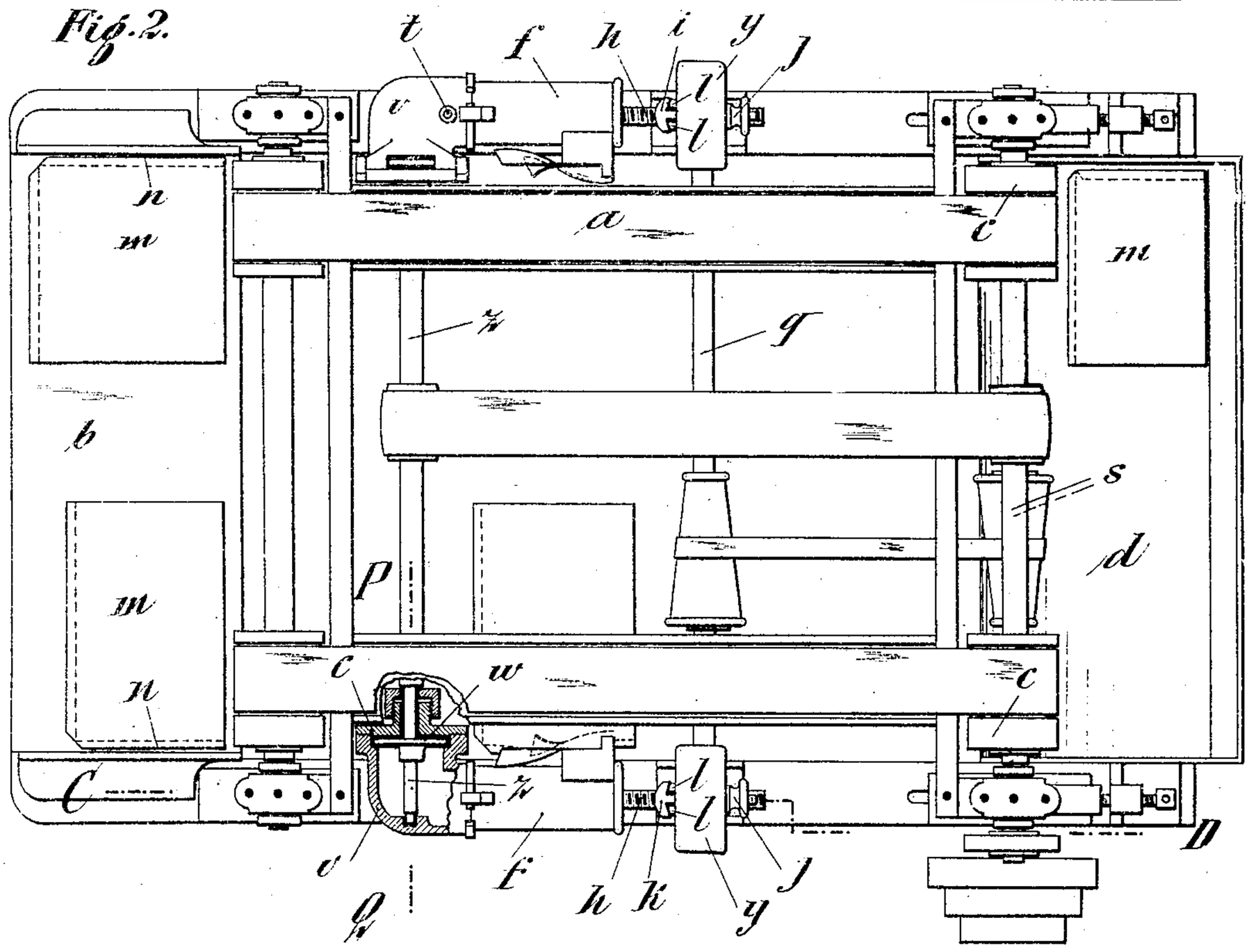


Fig. 2.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

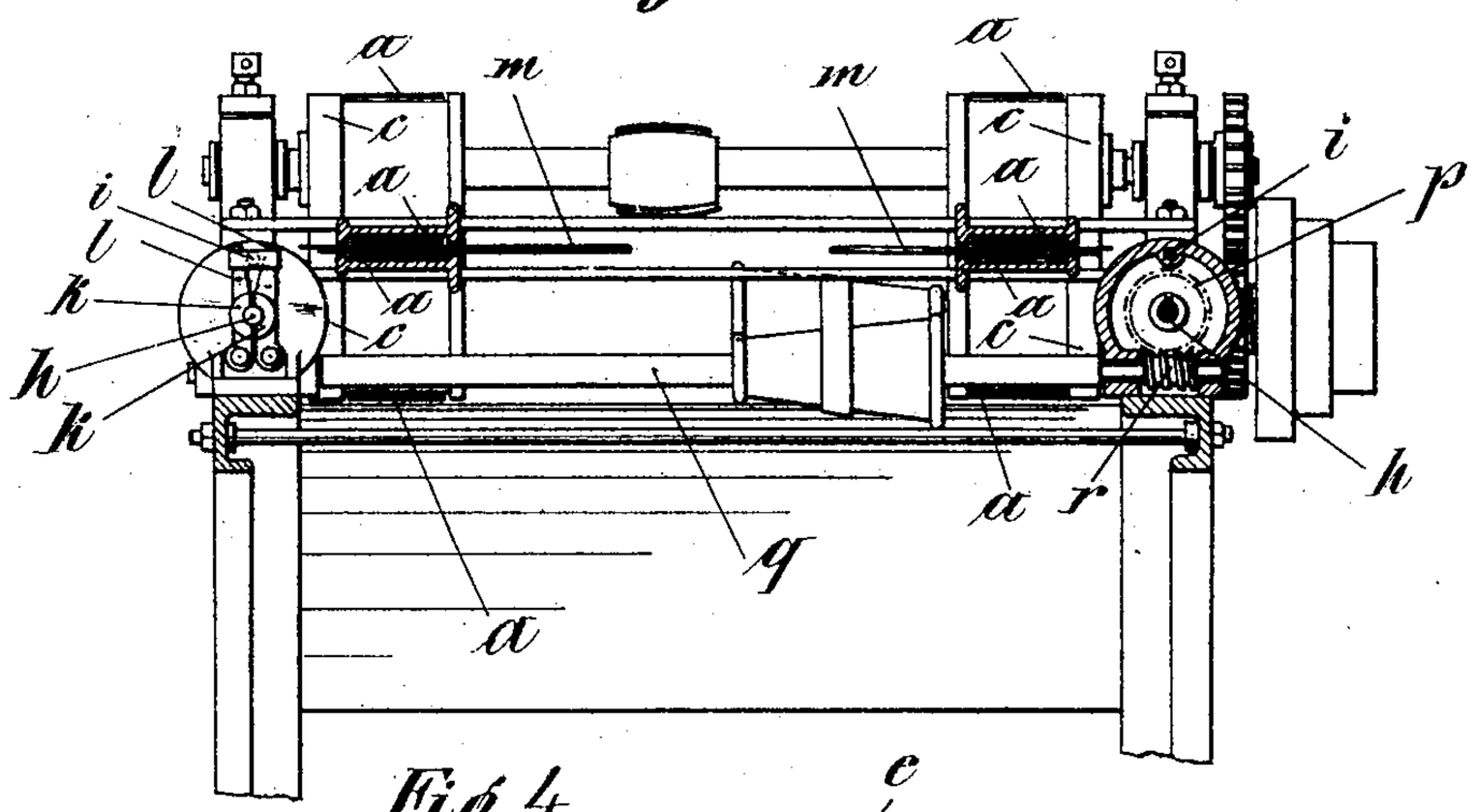

Fig. 4.

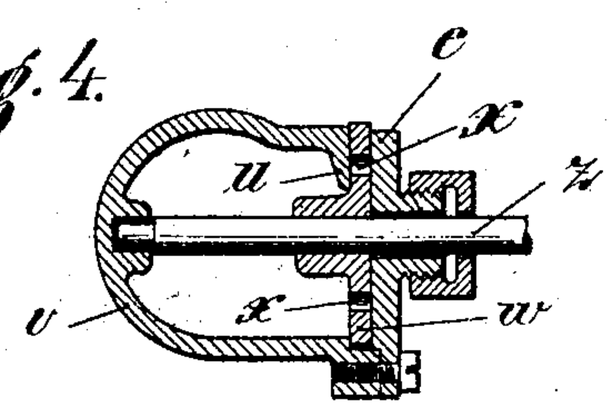

Fig. 5.

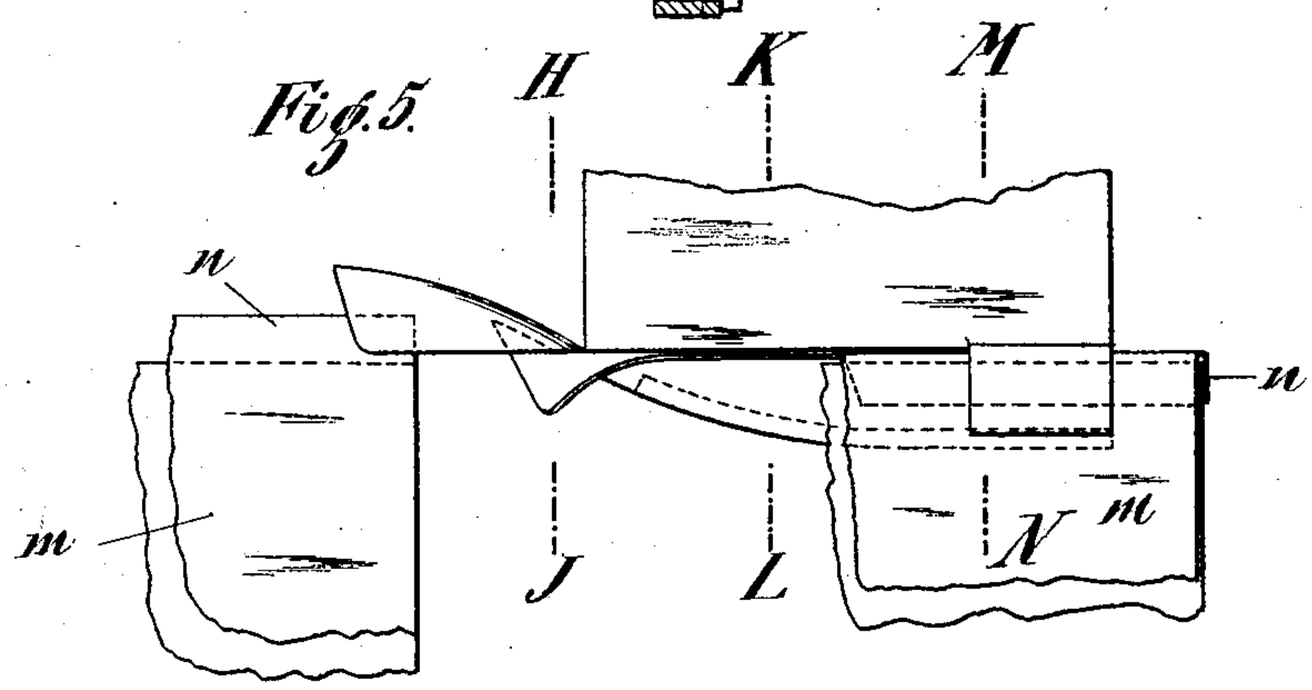

Fig. 6. Fig. 7. Fig. 8.

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No. 765,149. Patented July 12, 1904.

UNITED STATES PATENT OFFICE.

JOSEF PETRIC, OF LAIBACH, AUSTRIA-HUNGARY, ASSIGNOR TO EMERICH C. MAYER, OF GRATZ, AUSTRIA-HUNGARY.

PAPER-BAG MACHINE.

SPECIFICATION forming part of Letters Patent No. 765,149, dated July 12, 1904.

Application filed October 18, 1902. Serial No. 127,852. (No model.)

To all whom it may concern:

Be it known that I, JOSEF PETRIC, manufacturer, a citizen of the Empire of Austria-Hungary, residing in Laibach, Austria-Hungary, have invented certain new and useful Improvements in Paper-Bag Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to paper-bag machines of the kind in which the doubled paper blanks, having a projecting folding lap, are by two endless carrier-belts moving in the same direction and carried consecutively over a pasting device, through a folding device for turning down the lap, and, finally, between two presser-rolls, which press the folded lap upon the pasted side of the body of the bag.

The object of my invention is an improved device for applying the paste.

In the annexed drawings a paper-bag machine fitted with my improved pasting device is shown, of which—

Figure 1 is a front elevation, partly in section, on line C D of Fig. 2. Fig. 2 is a plan view of the machine. Fig. 3 is a sectional view of the machine on lines A B and F G of Fig. 1. Fig. 4 is a section, on an enlarged scale, on line P Q of Fig. 2. Fig. 5 shows the folding device in plan view; and Figs. 6, 7, and 8 are sections thereof on lines H J, K L, and M N, respectively, of Fig. 5.

In all the figures corresponding letters of reference indicate like parts.

The doubled paper blanks *m*, which are placed upon the table *b*, are folded in such manner that their upper part projects beyond the lower part by the width of the lap *n*, which is to be folded back and pasted upon the lower part of the blank. These doubled blanks are by hand fed between the two endless carrier belts or bands *a a*, so that the lap *n* and that portion of the other part of the blank to which said lap is to be pasted stand clear of or remain uncovered by the carrier-belts. The doubled blanks are carried over a pasting device which applies paste to that portion of the lower half of the blank to which the lap *n* when folded is to be pasted, whereupon they pass a folder which turns down the lap *n* and folds it against the pasted portion, and, finally, they pass between two presser-rolls *c c*, by which the lap *n* is pressed tightly against the pasted part of the blank. The tubes thus formed are delivered on a table *d*, to be afterward closed on one end in the same or any other suitable manner.

The machine is by preference constructed symmetrically, so that it has a carrier, paster, folder, and presser at either side.

The device for applying paste to that portion of the lower surface of the narrower part of the blank to which the lap *n* is to be pasted and which forms the object of my present invention essentially consists of a cylinder *f* for containing the paste, in which a piston *g* may be moved with uniform velocity.

Motion is imparted to the piston *g* by a screw-threaded rod *h*, rotatably connected to the piston *g*, which rod works in a correspondingly-threaded nut composed of the two halves *k k*. Each of these two halves is attached to a swinging arm *l*, and the free ends of these arms *l l* carry a grip *i*, having a nut *j*, by means of which the two halves of the nut may be held in working contact with the thread of the rod *h*. The rod *h* receives its rectilinear motion from a worm-wheel *p*, movably connected therewith and journaled in the casing *y*. Into this worm-wheel *p* gears an endless screw *r*, keyed fast to the shaft *q*, which is rotated from the driver-shaft *s* of the carrier-belts *a a* by means of two conical pulleys and a belt, as shown.

The paste is applied to the under side of the bag-blank by a disk *w*, over the upper part of the periphery of which the paper blanks are carried. The disk *w* is inclosed by a casing *v*, which forms a knee with the cylinder *f* and in which the shaft *z* of the disk *w* is journaled. One end of the casing *v* is closed by a cover *e*, through which passes the shaft *z*, and the aperture is closed by a stuffing-box, as shown in Fig. 4 of the drawings. The shaft *z* receives its movement by a belt from the

driving-shaft of the carriers *a a*, as shown in Fig. 2. The paste-disk *w* is so placed in the casing *v* that it bears with one surface against the inner side of the cover *e*, with the other surface against a web *u* in the casing *v*, which covers about half of this surface of the disk, and with its periphery against the inner periphery of the casing, so that when rotated it will be in frictional contact with these parts. The disk *w* is provided with a number of perforations *x* for taking up and carrying along the paste contained in the casing *v*. In the top part of the casing *v* there is an open space between the cover *e* and the flange or web *u* of the casing *v*, through which protrudes a small part of the periphery of the disk *w*. Owing to the circumstance that the greater part of the sides and the periphery of the disk *w* is inclosed by and in frictional contact with the rigid surfaces of the casing *v*, only a small part of the disk projecting therefrom, the paste taken upon by the disk is not only ground up very finely, but is also heated, and is by the projecting part of the disk applied to the paper in a finely-distributed and heated state as the blanks are passed over the disk.

The casing *v* is attached to the cylinder *f* by a bayonet-joint, so that the two parts can easily be separated from each other when the cylinder is to be filled with paste.

For refilling the cylinder the nut *i* is loosened and the swinging arms *l l* with the nut-halves are opened, whereupon the piston is drawn back by hand. The bayonet-joint connecting the cylinder with the casing *v* being opened, the former may be turned to the right and fresh paste be introduced behind the piston. To avoid this manipulation, the casing *v* may be provided with an aperture *t*, which when the cylinder is empty may be connected with a paste-reservoir, from which the paste will enter the cylinder by suction as the piston is drawn back, whereupon the aperture *t* may be closed again by a suitable plug or cap.

Having now described my invention, what I claim, and wish to protect by Letters Patent, is—

1. In paper-bag machines the combination with a carrier and a folder, of a receptacle in which the paste is under pressure, having a web therein, a cover to said receptacle, a reciprocating piston, a disk rotating in said receptacle at right angles to the piston between friction-surfaces formed by said web and cover and having a portion of its periphery projecting from said receptacle, and of means for rotating the disk.

2. In paper-bag machines the combination with a carrier and a folder of a paste-receptacle, having a web therein, a cover for said receptacle, of a perforated disk rotating in this receptacle between friction-surfaces formed by said web and cover and having a portion of its periphery projecting from said receptacle, of means for rotating the disk, of a cylinder connected with said receptacle, and extending at right angles thereto, a piston working in said cylinder, and means for imparting rectilinear motion to said piston.

3. In paper-bag machines the combination with carrier and a folder of a paste-receptacle, having a web therein, a cover for said receptacle, a perforated disk rotating in this receptacle between friction-surfaces formed by said web and cover, and having a portion of its periphery projecting from said receptacle means for rotating the disk, a cylinder connected with said receptacle, and extending at right angles thereto, a piston working in said cylinder having a screw-threaded rotatable rod attached thereto, of a stationary adjustable nut adapted to be brought into and out of engagement with the threads of said rod, and of means for rotating this rod, all substantially as and for the purpose set forth.

4. In a paper-bag machine, the combination with a carrier and a folder, of a paste-receptacle, a cylinder at right angles thereto, a piston in the cylinder, a screw-threaded rod pivotally connected with the piston, a two-part threaded nut in which said rod works, swinging arms carrying said two parts of the nut, and means carried by the said arms for holding the two parts of the nut in working contact with said rod.

5. In a paper-bag machine, the combination with a carrier and a folder, of a paste-receptacle, a cylinder at right angles thereto, a piston in the cylinder, a screw-threaded rod pivotally connected with the piston, a two-part threaded nut in which said rod works, swinging arms carrying said two parts of the nut, a grip carried by the free ends of said arms, and a nut carried by said grip, and means for actuating said threaded rod.

In testimony whereof I affix my signature.

JOSEF PETRIC.

In presence of—

FRIEDRICH BINDER,
ALVESTO S. HOGUE.