

D. M. SMYTH.

MACHINE FOR PREPARING PAPERS FOR PHYSICIAN'S POWDERS
No. 276,297. Patented Apr. 24, 1883.

Fig. 2.

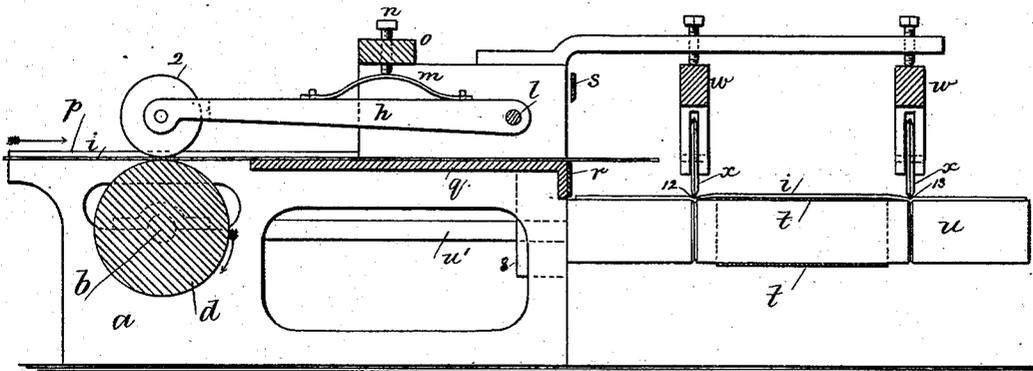
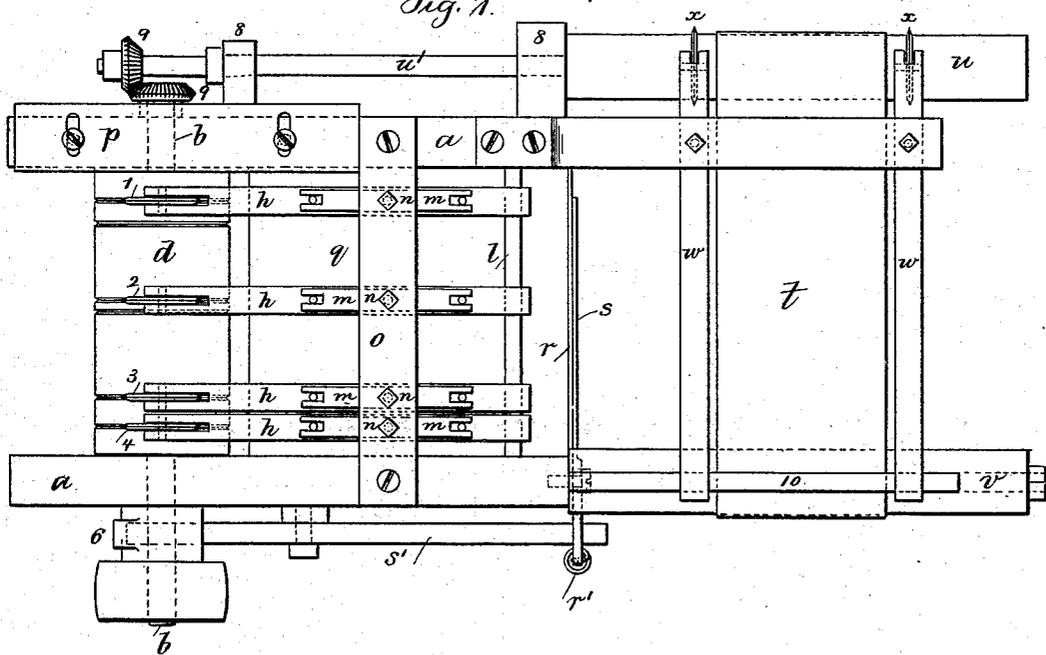


Fig. 1.



Witnesses
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Fig. 3.

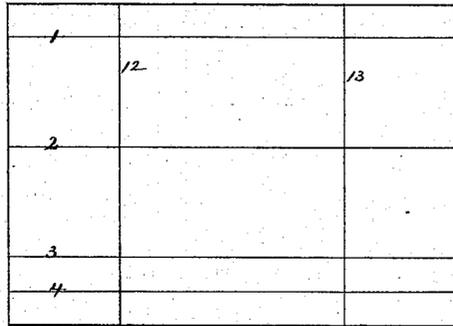


Fig. 4.

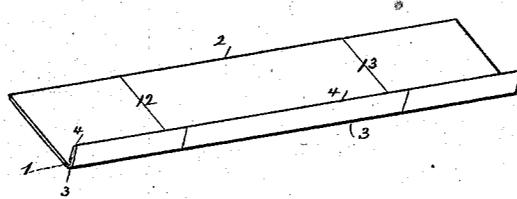
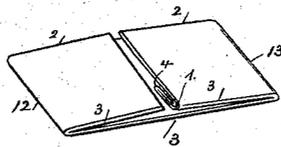


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

DAVID M. SMYTH, OF HARTFORD, CONNECTICUT, ASSIGNOR TO HIMSELF
AND GEORGE WELLS ROOT, OF SAME PLACE.

MACHINE FOR PREPARING PAPERS FOR PHYSICIANS' POWDERS.

SPECIFICATION forming part of Letters Patent No. 276,297, dated April 24, 1883.

Application filed October 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, DAVID M. SMYTH, of Hartford, in the State of Connecticut, have invented an Improvement in Machines for Preparing Papers for Physicians' Powders, of which the following is a specification.

Powders are used extensively in medical practice, and it is desirable that the powders be put up in packages of uniform size, for convenience in handling and for neat appearance. In folding paper for inclosing the powder some folds are in one direction and others in the opposite direction. In my present improvement I have made the mechanism very simple and of a character adapted to crease the paper at the places where it is folded, at the same time the powder-papers are not folded up, but are sold in a nearly flat form, and I have found that it is not essential that the crease be made in the direction in which the fold is to be made, that so long as the crease is made in the paper, so as to disturb the fibers and soften the glazed or hot-pressed paper, the same will fold in either direction. I have been able to simplify my machine very much in consequence of this fact, and although the majority of the creases act in the direction in which the paper is subsequently folded in putting up the powders, still some are not in the direction of the fold, but are equally efficient in enabling the druggist or physician to put up the powders of a uniform size.

In the drawings, Figure 1 is a plan view of my machine, and Fig. 2 is a longitudinal vertical section. Figs. 3, 4, and 5 represent the paper for the powders.

The frame *a* is provided with bearings or journal-boxes for the shaft *b*, which shaft is revolved by suitable power, either by hand or a belt. The roller *d* is upon this shaft, and it is provided with narrow peripheral grooves at the places where the paper is to be folded.

Above this roller there are small creasing-wheels 1 2 3 4, set in jaw-levers *h*, that are pivoted upon the cross-shaft *l* and provided with springs *m* to press the creasing-wheels upon the paper. The pressure of these springs may be adjusted by screws *n*, passing through the head-bar *o*. The paper *i* is passed along over the roller *d*, and guided at its edges by

the gage *p* at one side and the frame *a* or a second gage at the other side. The rollers 1, 2, 3, and 4 are placed so as to make the creases at the proper places for the paper to be folded in the regular form required by druggists, as indicated in Fig. 3, the creases being numbered the same as the creasing-wheels, so that the paper can be folded longitudinally to inclose the powder, as seen in Fig. 4.

It is to be understood that the roller *d* may be movable, so that a different roller can be introduced with grooves adapted to different size of powder-paper, or else the same roller may have numerous grooves, and the creaser-wheels and jaw-levers be shifted from time to time, as required. The paper as creased passes upon the table *g*, at the end of which is a bed-shear, *r*, and moving shear *s*. This shear may be made and actuated in any convenient manner. I have, however, shown the samelike ordinary shears, with a spring, *r'*, to open the same, and a lever, *s'*, and cam *6* on the shaft *b* to close such shears. The web of paper, as it is drawn along by the roller *d* and creasing-wheels, passes over the table *g*, and is cut off by the shears and falls upon the transverse apron *t*, which is supported by a roller, *v*, upon a stationary gudgeon or shaft, and a roller, *u*, which is upon or forms a continuation of the shaft *u'*, that is in bearings 8 8 on the frame *a*. The bevel-gear wheels 9 9 serve to transmit motion from the shaft *b* to the shaft *u'*.

The creasing-wheels *x x* are upon jaw-levers *w*, that have the shaft or gudgeon 10 for their fulcra, and these are kept down by springs or other suitable means, so that as the paper passes across between the roller *u* and the wheels *x* it receives the creases 12 and 13. (Shown in the plan view of the paper, Fig. 3.) Hence after the powder has been inserted in the paper and the folds 1 2 3 4 have been made the ends are folded back on the creases 12 and 13 to close the ends of the powder-package, as shown in Fig. 5.

I do not in this application lay claim to the paper itself as a new article, but reserve the same for a separate application.

I claim as my invention—

1. The combination, with the grooved roller *d*, of the creasing-wheels, jaw-levers, support-

ing-frames, shear *r s*, endless belt *t*, grooved roller *u*, levers *w*, and creasing-wheels *x*, substantially as set forth.

2. In the preparation of paper for powders, the combination of creasing-wheels acting to crease the paper longitudinally, and a second set of creasing-wheels to crease the paper transversely, and mechanism, substantially as set forth, for transferring the sheet from one

set of creasers to the other, substantially as set forth.

Signed by me this 16th day of October, A. D. 1882.

DAVID M. SMYTH.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.