

F. L. SCHMIDT.
 TRAP DOOR MECHANISM FOR ENVELOP AND SIMILAR MACHINES.
 APPLICATION FILED OCT. 30, 1908.

1,006,687.

Patented Oct. 24, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

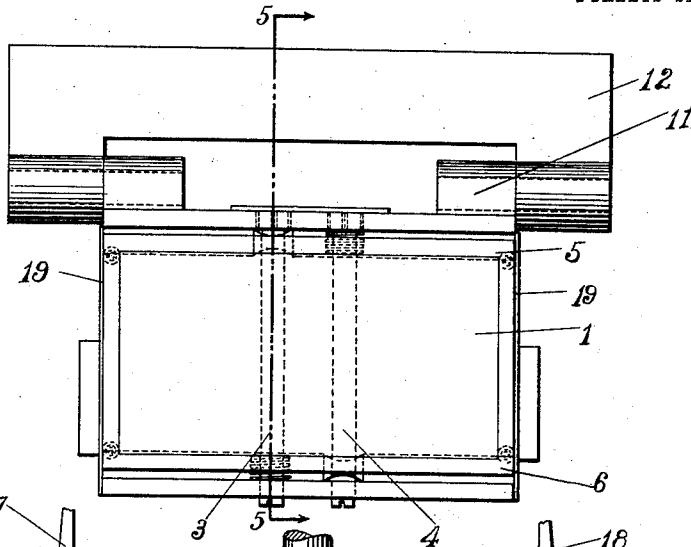


Fig. 2.

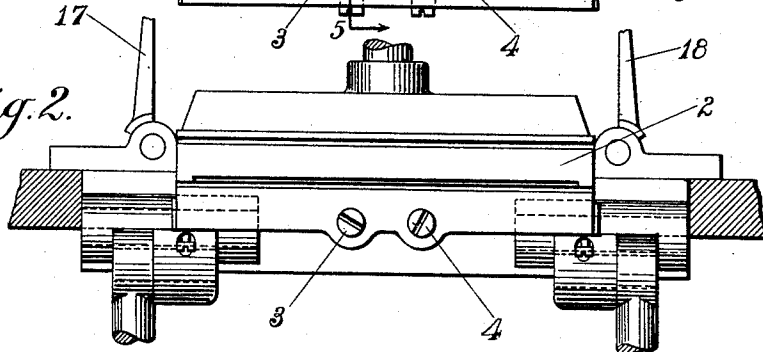
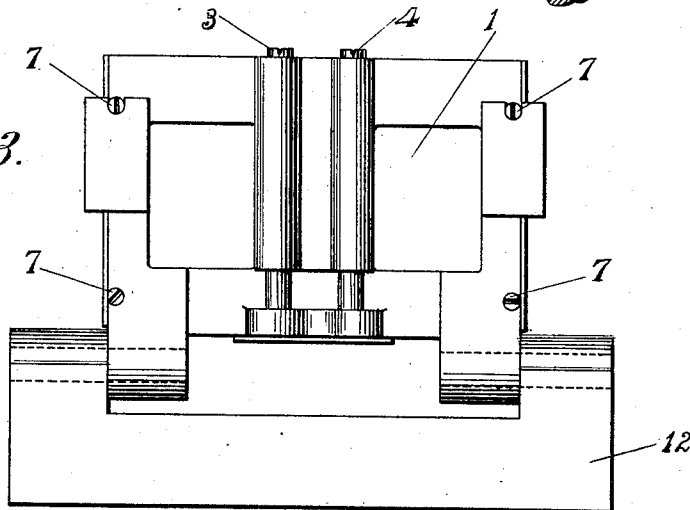


Fig. 3.



Witnesses:
 Alfred W. May.
 O. C. Hinge.

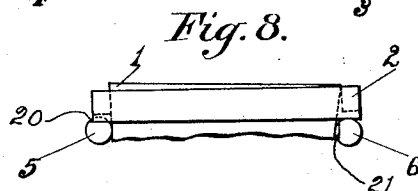
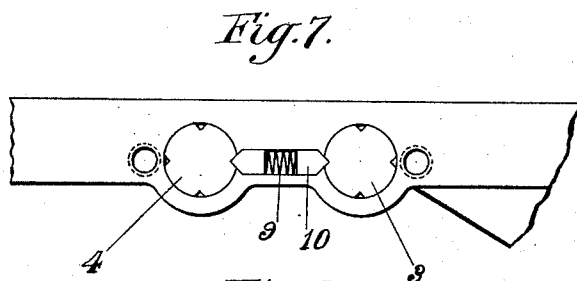
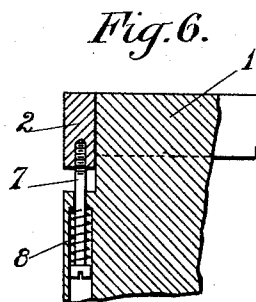
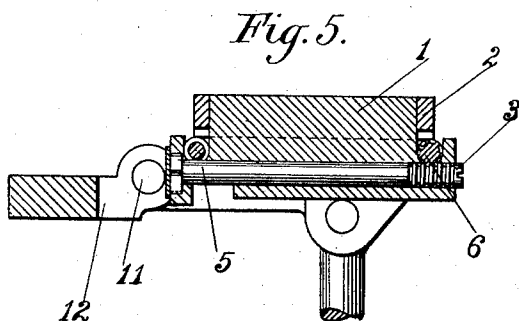
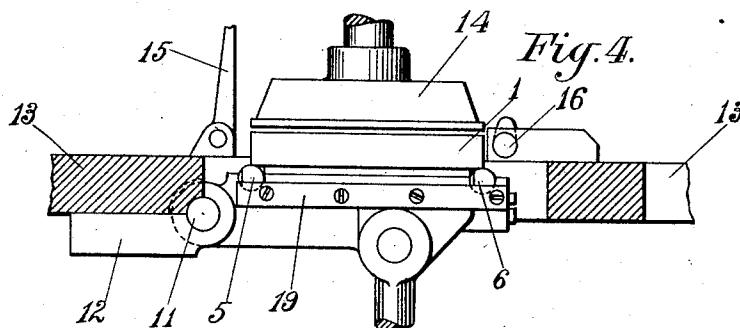
FERDINAND L. SCHMIDT Inventor
 By His Attorney George Finkelstein

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2 SHEETS—SHEET 2.



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 O. Minge.

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 By His Attorney George Finkelstein

UNITED STATES PATENT OFFICE.

FERDINAND L. SCHMIDT, OF NEW YORK, N. Y.

TRAP-DOOR MECHANISM FOR ENVELOP AND SIMILAR MACHINES.

1,006,687.

Specification of Letters Patent.

Patented Oct. 24, 1911.

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To all whom it may concern:

Be it known that I, FERDINAND L. SCHMIDT, a citizen of the United States, residing at the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Trap-Door Mechanisms for Envelop and Similar Machines, of which the following is a specification.

My invention relates to the means for regulating and controlling the folding and creasing of envelopes so as to make either thin and sharp creased or thick and round creased envelopes or to make one side of the envelop thin and the other side thick or vice versa as desired.

In the drawings accompanying and forming a part of this specification, Figure 1 is a plan view showing trap hinged to a stationary bearing. Fig. 2 is a front elevation showing the plunger and side folders of an envelop machine. Fig. 3 is a view similar to Fig. 1 but from bottom. Fig. 4 is a side elevation showing a portion of the table, also plunger and front and back folders of an envelop machine. Fig. 5 is a transverse section through line 5—5 in Fig. 1 in direction of arrow. Fig. 6 is a longitudinal section of a portion on an enlarged scale showing a tensional holding device for the rim. Fig. 7 is a rear view of a portion on an enlarged scale showing the locking means of the operating parts of rim. Fig. 8 is a side elevation of a portion showing the rim lowered on one side and raised on the other. Fig. 9 is a view similar to Fig. 8 showing rim lowered on both sides.

In detail 1 represents the trap door hinged by a pin 11 to a stationary bearing 12 fastened to table 13 in such a manner as to allow trap door 1 to swing downward so that the finished envelop may drop into a drying mechanism (not shown),

In its normal position the trap door 1 is perfectly parallel and flush with table 13 so as to receive the envelop blank which is placed upon it by carrying means (not shown) and by a plunger 14 and then folded by folders 15, 16, 17 and 18, which compress and crease the envelop on the rim 2, which surrounds the trap door 1. The position of this rim 2 determines whether the envelop will be thick or thin. If the rim is flush with the trap door a sharp edged or thin envelop will result and by lowering this rim 2 below the trap door 1 as in Fig. 9 a thicker

envelop will result. If as indicated in Fig. 8 one side of rim 2 is flush with trap door 1 and the other side of rim 2 is lowered, one side of the envelop will be thin and the other thick. The thickness or thinness of the envelop being always controlled by the position of the rim. Prior to this invention it has been usual to secure the adjustment by means of eight screws, and as each had to be adjusted separately it entailed a great deal of work, and owing to the nicety of this adjustment the regular machine operator had to call in the aid of a special machinist termed an adjuster to make this adjustment. To overcome this difficulty some manufacturers use one main screw which would raise or lower the rim at one operation. But as this raised or lowered the rim evenly all around and as envelops will generally be thicker at the seal flap side than on the other side it is necessary in order to make the envelop of one thickness on all sides that one side of the rim be lower than the other and it is with the view to overcoming the defects in all previous means of adjusting the trap door rim that I have invented this improvement for making envelops uniformly thick or uniformly thin or one side thicker or thinner than the other and so constructed as to offer greater advantages of accessibility and ease of adjustment than any other means heretofore used, and being so simple in operation as not to require any special knowledge or a great deal of strength to make the adjustment so that a girl who is the usual attendant of an envelop machine can make the adjustments herself.

Having described the nature and advantages of my invention I will now explain the operation and construction of the same.

The means whereby the rim 2 is raised or lowered is effected by two lateral spindles 3 and 4 having slots at front end for screw driver and lying in grooves from front to back of trap door body. Over these spindles 3 and 4 and lying in grooves at front and rear of trap door body are two longitudinal spindles 5 and 6 which are partly cut down at the ends 20 and 21 where the rim 2 engages them. These longitudinal spindles 5 and 6 are kept from sliding endwise by plates 19. Spindles 5 and 6 are worm cut and spindles 3 and 4 are worm threaded where they cross each other so that the back spindle 5 will mesh into spindle 4 and the

front spindle 6 will mesh into spindle 3 and thus by turning spindle 4 it will operate and revolve spindle 5 and the turning of spindle 3 will operate and revolve spindle 6. A
 5 locking mechanism which regulates all adjustment is provided for the lateral spindles 3 and 4 which terminate in the rear with flat heads around the periphery of which are V
 10 shaped notches engaging detents 10 held in tension by a spring 9 clearly illustrated in Fig. 7.

The turning of the lateral spindles 3 and 4 by means of a screw driver will revolve the longitudinal spindles 5 and 6 which raise
 15 or lower the rim 2 and when the rim 2 is resting on the highest part of the longitudinal spindles 5 and 6 the rim 2 will be flush with the trap door body 1 and as the longitudinal spindles 5 and 6 are revolved
 20 so that the rim 2 will rest on a partly flattened surface. Said rim reaches the lowest point when it rests entirely on the flat or cut surfaces 20 and 21 of the longitudinal spindles 5 and 6. Four screws 7 are pro-
 25 vided one in each corner of the rim 2. These screws 7 connect the rim 2 to trap door body 1 and have compression springs 8 which

keep the rim down and make it follow the longitudinal spindles 5 and 6 positively.

What I claim as my invention and desire 30 to secure by Letters Patent is:

1. In an envelop machine, the combination of a trap door, a sliding rim and supporting spindles with cam shaped or flat-
 35 tended ends.

2. In an envelop machine, the combination of a trap door, a sliding rim, supporting spindles with cam shaped or flattened
 40 ends and means for keeping the rim in contact with the spindles.

3. In an envelop machine, the combination of a trap door, a sliding rim, supporting spindles with cam shaped or flattened
 45 ends and means for revolving said spindles.

4. In an envelop machine, the combination of a trap door, a sliding rim, supporting spindles with cam shaped or flattened
 50 ends, means for revolving said spindles and means for retaining the adjustment of the rim.

F. L. SCHMIDT.

Witnesses:

E. M. J. KUNZE,
 JOS. FROELICK.