No. 766,388. PATENTED AUG. 2, 1904.

J. C. ROBERTSON.

ENVELOP OPENING MACHINE.

APPLICATION FILED NOV. 7, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

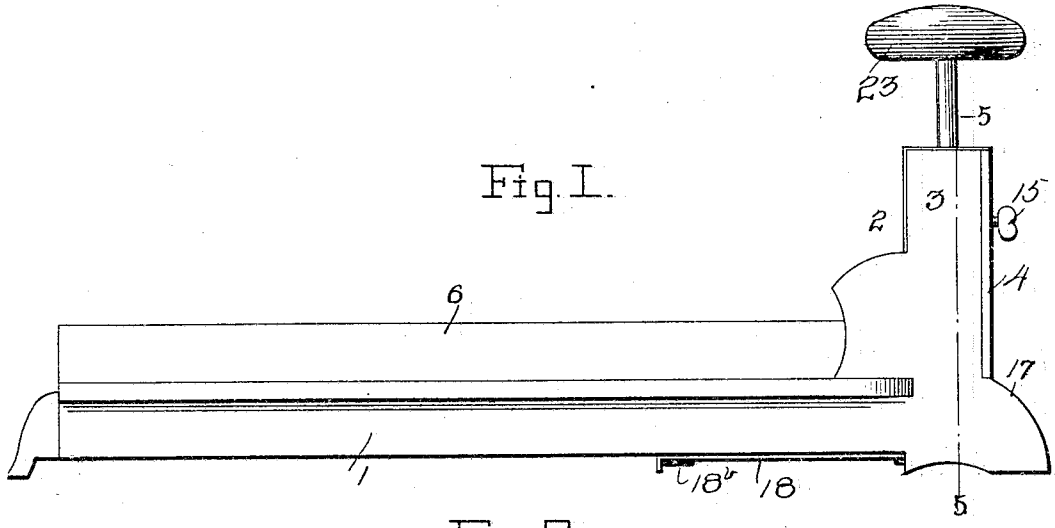
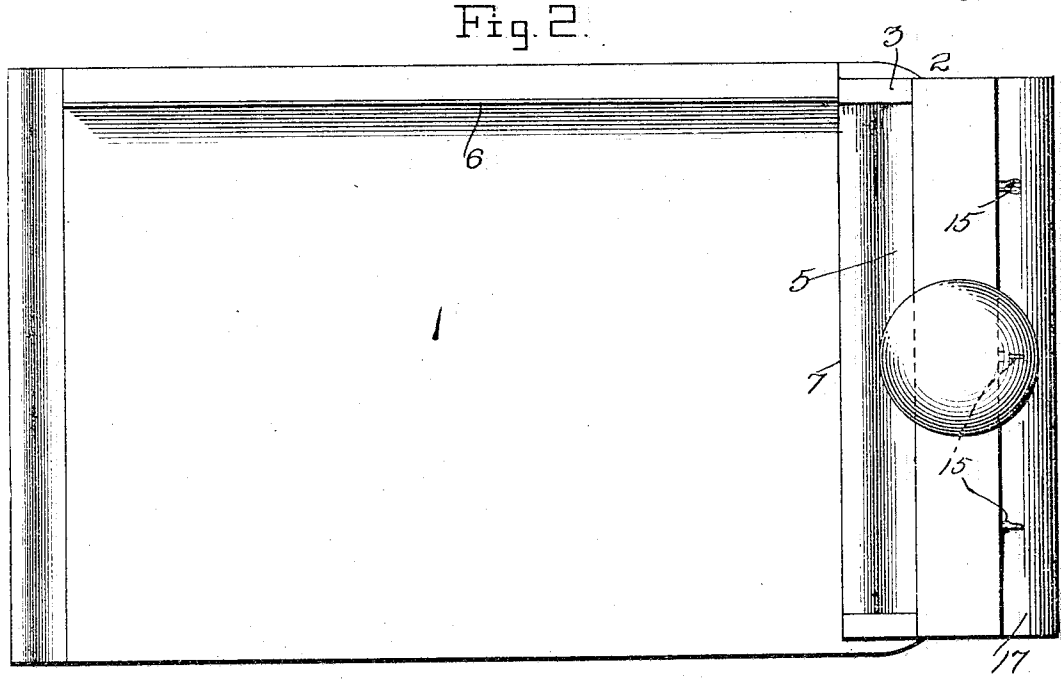


Fig. 2.



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Witnesses
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NO MODEL. 2 SHEETS—SHEET 2.

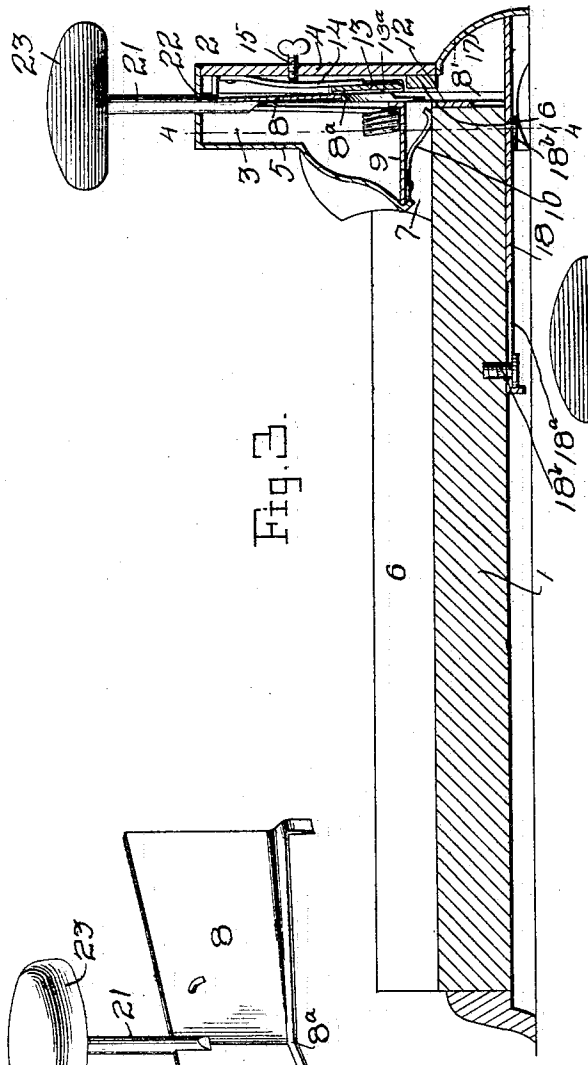


Fig. 3.

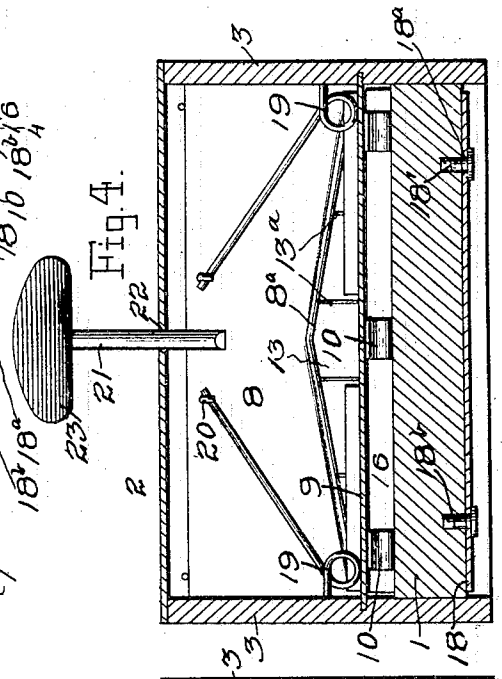


Fig. 4.

Fig. 6.

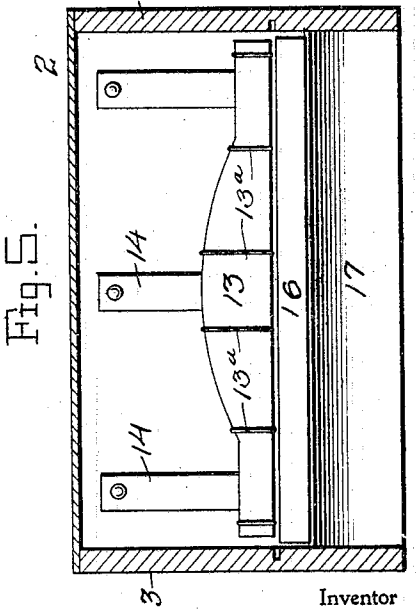


Fig. 5.

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No. 766,388. Patented August 2, 1904.

UNITED STATES PATENT OFFICE.

JOHN C. ROBERTSON, OF AFTON, IOWA.

ENVELOP-OPENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 766,388, dated August 2, 1904.

Application filed November 7, 1903. Serial No. 180,270. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. ROBERTSON, a citizen of the United States, residing at Afton, in the county of Union and State of Iowa, have invented certain new and useful Improvements in Envelop-Opening Machines; and I do 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.

This invention relates to machines for opening envelops.

The object of the invention is to provide a machine whereby the opening of large numbers of envelops may be expedited.

A further object is to provide a machine for this purpose by which the end of an envelop may be quickly clipped off in a smooth even manner, means being provided whereby the clipped ends of the envelops are caught and retained.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of the machine. Fig. 2 is a top plan view. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a vertical cross-section on the line 4 4 of Fig. 3. Fig. 5 is a similar view on the line 5 5 of Fig. 1. Fig. 6 is a detail view of the knife.

Referring more particularly to the drawings, 1 denotes a base forming a table on one end of which is arranged a housing 2, consisting of side pieces or standards 3, a front end or head piece 4, and a hood or cover plate 5. On said base or table, along one side thereof, is arranged an upwardly-projecting strip 6, forming a gage or guide. The lower edge of the hood or cover extends to within a short distance of the top of said table and engages the rear end of a bridge-plate hereinafter described, the space or opening between said edge and the table forming an inlet 7 for the envelops to the clipping mechanism arranged within said housing.

The clipping or cutting mechanism consists of a reciprocating knife or blade 8, arranged across the machine, the ends of the same engaging vertical guide-grooves 8′ in the side pieces or standards of the housing. The lower or cutting edge of the blade is preferably inclined or beveled from the outer corners of the same inwardly and upwardly toward the center, as shown at 8^a, said edge being slightly flared or offset from one side of the body of the blade, as shown in Fig. 6. This flaring edge facilitates the cutting action of the blade when the same is brought into engagement with a stationary knife or blade 12, arranged at the front end of the base or table 2, immediately in rear of said reciprocating blade and in position to coact therewith when the same is depressed, thereby forming the cutting-shears. The stationary blade 12 may be secured to the end of the base or table in any suitable manner.

In order that the reciprocating blade 8 will always be held in close engagement with the stationary blade, a presser-bar 13 is provided, said bar being arranged across the forward side of the blade 8 and is forced against the same by springs 14, the lower ends of which are fixed to said bar and their upper ends to the inner side of the front end or head piece 4. In front of each spring and passing through the head-piece are set-screws 15, the inner ends of which engage the front side of said springs, so that by adjusting said screws the tension of the springs may be regulated to press the bar more or less tightly against the knife 8, thereby forcing the same into close engagement with the stationary knife 12. At intervals across the bar 13 are formed narrow vertically-disposed ribs or ridges 13^a, which engage the forward side of the blade, and thereby lessen the friction between the same and the presser-bar, as will be understood.

A horizontally-disposed shelf or bridge 9 is arranged across the machine immediately in rear of the knife or blade 8 and beneath which the envelops pass when inserted through the inlet 7. On the lower side of the shelf or bridge 9 is connected one end of flat leaf-springs 10, of which there are preferably three, spaced apart across said bridge. The free ends of the springs bear on the table

in position to engage the envelop and hold the same in close engagement with said table while the end is being clipped off.

In order to raise or return the reciprocating knife or blade 8 to its normal position after being depressed, coil-springs 19 are provided, said springs being arranged within the housing 2 at each end of the blade and rest upon the bridge 9. One end of said springs is fixed to the side pieces or standards of the housing, and the opposite end is adapted to bear up under hooks or lugs 20, fixed to the inner side of the blade, the tendency of the springs being to force said blade upwardly against the top of the housing.

An upwardly-projecting stem or handle 21 is formed on or fixed to the blade 8 midway between the ends of the same, said stem extending upwardly through an opening 22 in the hood or cover plate 5 of the housing and is provided on its upper end with a knob 23, whereby the knife may be depressed.

Below the presser-bar 13 and fixed to the inner side of and across the head-piece is arranged a stop or limiting bar 16, against which the end of the envelop abuts when the same is inserted beneath the knife 8.

The lower ends of the standards or side pieces are extended forwardly and form curved or rounded projections which support a curved cover-plate 17, arranged across the front of the machine. On the lower side of the base or table is arranged a plate 18, which is adapted to slide between the lower ends of the standards and to engage the lower edge of the curved cover-plate 17, thereby forming a space or compartments into which the clipped-off ends of the envelops drop. When said compartment is full, the plate 18 is slipped rearwardly and the clippings discharged.

The plate 18 may be slidingly engaged with the bottom of the base or table in any suitable manner, but is here shown as provided with longitudinally-disposed slots 18^a, through which and into said base are passed flat-headed screws or rivets 18^b, which hold said plate in place.

The rear end of the table may be finished in the form of a compound curve, as shown, or in any ornamental manner, and along the upper edge of the sides of the base or table are formed laterally-projecting flanges. The hood or cover of the housing and also the sides and front end of the same may, if desired, be finished in an ornamental style.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine of the class described, the combination with a base or table, of a housing arranged thereon, a receptacle below the housing for the reception of the clipped ends of the envelops, a closure for said receptacle adapted to be opened to allow the clipping to discharge, and cutting mechanism arranged within said housing and operated to cut off the ends of the envelops and allow the clippings to discharge into said receptacle.

2. In a machine of the class described, the combination with a base or table, of a housing arranged at one end of the same, a reciprocating and a stationary cutter arranged in said housing, means for retracting said reciprocating cutter after the same has been depressed, means for holding the same into close engagement with said stationary cutter, an envelop-guide fixed on said table, and means arranged in said housing to hold the envelops in position while being cut, substantially as described.

3. In a machine of the class described, the combination with a base or table, of a housing arranged at one end thereof, a shelf at the base of the housing spaced from the base or table and forming an admission-opening for the ends of the envelops, a stop at the inner end of said opening, cutting mechanism including a reciprocating cutting-blade and a fixed cutting member, means for yieldingly adjusting the cutting-blade to vary its path of reciprocation, and means for retracting the blade, substantially as described.

4. In a machine of the class described, the combination with a base or table, of a housing arranged at one end of the same, a reciprocating and a stationary knife-blade or cutter arranged in said housing, springs arranged in said housing to engage said reciprocating knife and raise the same after being depressed, a spring-actuated presser-bar arranged to engage said reciprocating knife-blade and hold the same in close engagement with said stationary blade, a bridge-plate arranged transversely within said housing, springs carried by said plate to hold the envelops in position while being cut, and a limiting-bar against which the inserted end of the envelop abuts, substantially as described.

5. In a machine of the class described, the combination with a base or table, of a housing arranged at one end of the same, a reciprocating and a stationary knife-blade or cutter arranged in said housing, springs arranged in said housing to engage said reciprocating knife and raise the same after being depressed, a spring-actuated presser-bar arranged to engage said reciprocating knife-blade and hold the same in close engagement with said stationary blade, a bridge-plate arranged transversely within said housing, springs carried

by said plate to hold the envelops in position while being cut, a compartment formed at the forward lower end of said housing whereby the clipped-off ends of the envelops may be caught and retained, and means whereby said ends may be discharged or removed from said compartment, substantially as described.

6. In a machine of the character described, the combination with a base or table, of a housing arranged at one end of the same, a reciprocating knife or blade having a substantially V-shaped cutting edge, guides formed in the side pieces of said housing in which said knife or blade slides, a stationary knife fixed on the end of said table in position to coact with said reciprocating blade, means for retracting said movable blade, a spring-actuated presser-bar arranged in said housing to engage said reciprocating blade and hold the same into close engagement with said stationary blade, set-screws arranged to engage and regulate the tension of said presser-bar springs, and means for holding the envelops in place on said table while being cut, substantially as described.

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

JOHN C. ROBERTSON.

Witnesses:
C. E. SUNSUN,
G. W. HART.