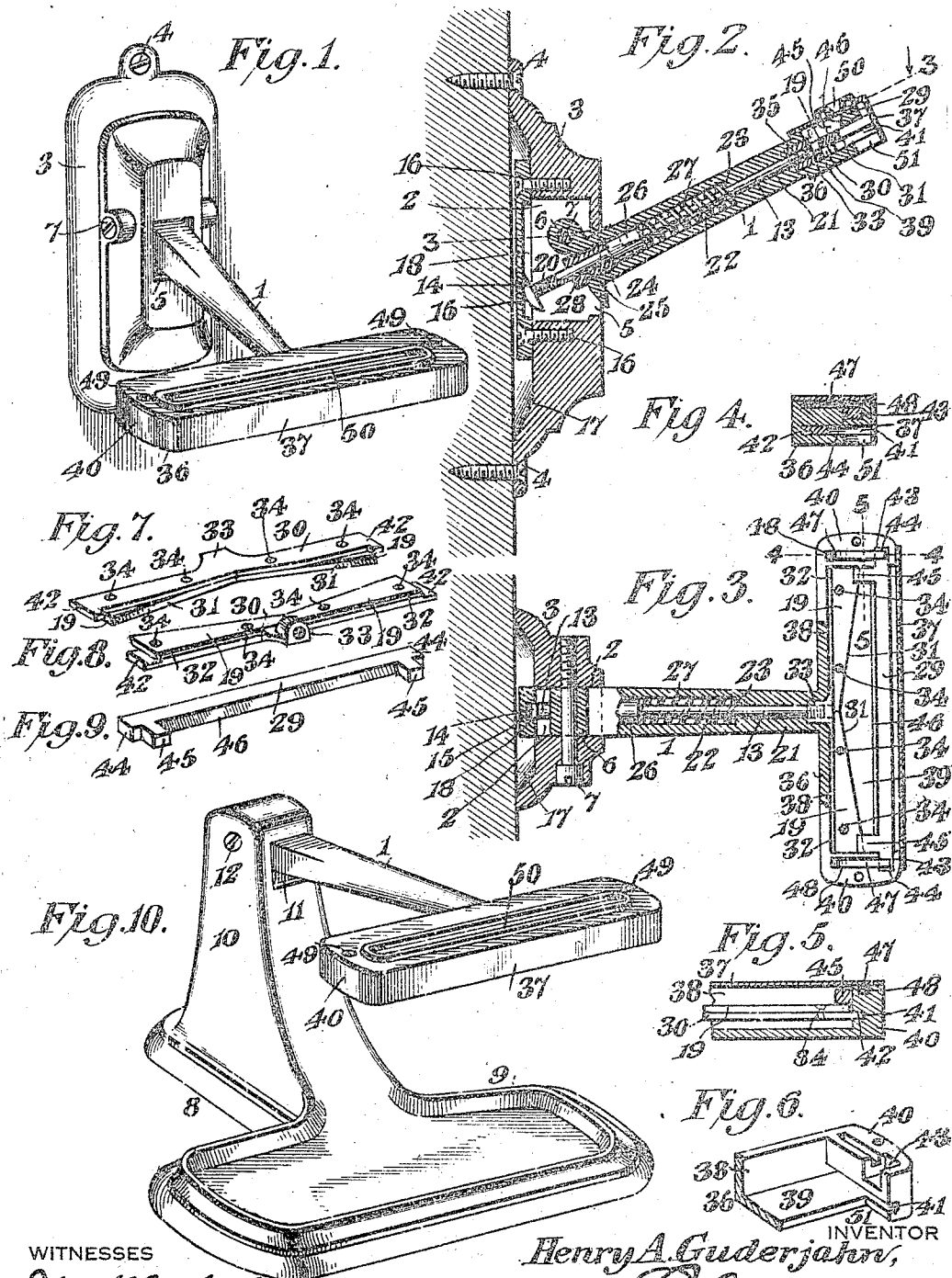


H. A. GUDERJAHN.
 ENVELOP OR LETTER OPENER.
 APPLICATION FILED SEPT. 1, 1914.

1,148,896.

Patented Aug. 3, 1915.



WITNESSES

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HENRY A. GUDERJAHN, OF WESTFIELD, WISCONSIN.

ENVELOP OR LETTER OPENER.

1,148,896.

Specification of Letters Patent.

Patented Aug. 3, 1915.

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To all whom it may concern:

Be it known that I, HENRY A. GUDERJAHN, a citizen of the United States, residing at Westfield, in the county of Marquette and State of Wisconsin, have invented a new and useful Envelop or Letter Opener, of which the following is a specification.

The invention relates to improvements in envelop or letter openers.

10 The object of the present invention is to improve the construction of envelop or letter openers and to provide a simple, practical, and efficient device of strong, durable, and comparatively inexpensive construction, adapted to be readily secured in a convenient position to the side of a desk, wall, or similar support, or arranged upon a desk, table, or the like, and capable of being easily operated with a single movement to cut the edge of an envelop and of automatically returning to its normal position and of discharging the severed portion of an envelop, whereby the opening of a relatively large number of envelops may be rapidly effected without liability of clogging the device.

25 With these and other objects in view the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims here-to appended, it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

30 In the drawing:—Figure 1 is a perspective view of an envelop or letter opener constructed in accordance with this invention and equipped with a support or bracket, the oscillatory arm being at the limit of its downward movement. Fig. 2 is a central vertical sectional view of the same, the oscillatory arm being in its normal or elevated position. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 2. Fig. 4 is a detail sectional view on the line 4—4 of Fig. 3. Fig. 5 is a detail sectional view on the line 5—5 of Fig. 3. Fig. 6 is a detail perspective view of one end of the head of the oscillatory arm. Fig. 7 is a detail perspective

view of the slidable knife carrying cross head, the knives or blades being in position. Fig. 8 is a similar view showing the opposite side of the knife carrying cross head. Fig. 9 is a detail perspective view of the relatively fixed blade or cutter. Fig. 10 is a perspective view of an envelop or letter opener provided with a supporting stand. 60

Like numerals of reference designate corresponding parts in all the figures of the drawing.

In the accompanying drawing, in which is illustrated the preferred embodiment of the invention, 1 designates an oscillatory arm arranged to swing upwardly and downwardly and pivotally mounted at its inner end in a recess or chamber 2 of a support or bracket 3, adapted to be secured by screws 4 or other suitable fastening device to the side of a desk, or to a wall or other support, as clearly illustrated in Fig. 2 of the drawing. The bracket or support 3, which is constructed of suitable material, may be of any preferred configuration, and it is provided at the front wall of the recess 2 with an opening 5, through which the inner end of the oscillatory arm 1 extends. The arm 1, which is hollow, is provided at the upper side of its inner end with an eye 6, through which passes a transverse pin or screw 7, which pivots the arm 1 in the recess or chamber 2 of the bracket or support. Instead, however, of pivoting the oscillatory arm to the bracket, any other suitable form of support may be employed and in Fig. 10 of the drawing, the oscillatory arm is shown pivoted to a stand 8 consisting of a base 9 and a standard 10 rising from the back of the base, which has a flat lower face to enable it to be placed upon a desk, table, or other supporting surface. The standard 10 is hollow to constitute an interior chamber or recess, and it is provided at its front with an opening through which extends the inner end of the oscillatory arm, which is pivoted to the standard by a pin or screw 12. 85

The arm 1, which is tubular or hollow, receives a plunger rod 13 slidable longitudinally in the oscillatory arm and having its inner end projecting beyond the said arm and carrying a head 14, which contacts with a plate or abutment 15 arranged in a

vertical position and secured at its ends by screws 16 or other suitable fastening devices to the rear face of the bracket 3. The bracket 3 is recessed at its inner face at 17 to receive the abutment plate, which is provided in its inner or front face with a vertical groove 18 in which the head 14 slides. The head 14, which is approximately segmental, presents a rounded rear face to the rear wall of the groove 18, and the lower end of the reciprocatory plunger rod 13 extends below and in rear of the pivot 7 when the oscillatory arm is in an inclined position and at the limit of its upward movement. When in this position the oscillatory arm extends upwardly and outwardly, and it is adapted to be swung downwardly by the operator, which movement causes a relative upward sliding movement of the rod 13, the inner end of the latter and the segmental head sliding upwardly in the groove during such downward swinging of the oscillatory arm. The plunger rod, in its relative outward movement, carries with it a pair of blades 19, which are actuated for cutting the edge of an envelop or letter. The head 14, which may be attached to the inner end of the plunger rod in any desired manner, is preferably provided with a shank 20, which is threaded into the inner end of the plunger rod. The plunger rod is guided at its outer end in the outer portion 21 of the bore of the oscillatory arm, and the inner portion 22 of the bore is enlarged to form a shoulder 23 and is threaded at 24 for the reception of a bearing sleeve or bushing 25, which forms a guide and slidably receives the inner portion of the plunger rod 13. The plunger rod 13 is provided at its inner or rear portion with a collar 26 and interposed between the front end of the same and the shoulder 23 is a coiled spring 27. The coiled spring 27, by pressing against the shoulder 23 and the collar 26, tends to urge the plunger rod rearwardly and operates to maintain the oscillatory arm normally in the elevated position shown in Fig. 2. When the oscillatory arm is swung downwardly to the position shown in Fig. 1, the coiled spring is compressed by the forward or outward movement of the collar 26, and is adapted to automatically swing the oscillatory arm upwardly and return the same and the cutter to their normal or initial position after an envelop or letter has been cut or opened. The threaded sleeve or bushing 25 is provided at its rear end with a polygonal wrench receiving portion 28, and is adapted to be adjusted to vary the tension of the spring.

The blades 19, which cooperate with a relatively fixed blade or cutter 29, are secured to a cross head 30 and they are tapered toward their inner ends and present

oppositely inclined outer cutting edges 31, which are beveled transversely of the blade 19. The cutter carrying cross head, which is tapered inwardly from its ends to its center to conform to the general configuration of the blades 19, is provided with a substantially straight inner or rear edge and has integral longitudinal ribs or flanges 32 to form seats or abutments for the inner or rear edges of the blades. These ribs or flanges 32, which are located at opposite sides of a central socket 33, are adapted to relieve of strain the screws 34 or other fastening devices, for securing the blades to the cross head. The cutting edges of the blades 19 are arranged at an angle to each other and form substantially a concave cutter, and are adapted to produce a shear or draw cut, whereby the edge of an envelop is effectively severed. The socket 33 is interiorly threaded to receive the outer end 35 of the plunger rod 13, which is correspondingly threaded. The oscillatory arm is equipped at its outer end with an integral head 36, constituting one section of a casing, which consists of the head of the plunger rod and a removable cap or section 37. The head 36 consists of an inner or rear wall 38, a bottom wall 39, and ends 40, which are thickened and provided with guide grooves 41, formed in the inner side faces of edges of the end portions 40 for the reception of the terminal portions 42 of the cutter carrying cross head 30. The terminal portions 42 of the cross head 30 project beyond the outer ends of the blades and guided in their reciprocatory movement and the cross head and the said blades are held against lateral or endwise movement by the said head or integral section of the casing. The end portions 40 of the head 36 are also provided with recesses 43 forming seats for the terminals 44 of the relatively fixed blade or cutter 29, and the latter is also provided with inwardly or rearwardly projecting lugs 45 located at the terminals of the cutting edge 46 of the said blade or cutter 29 and fitting against the end portions of the movable blades 19.

The blades 19 and 29 are held in close frictional engagement by means of curved springs 47, operated in grooves 48 in the upper faces of the end portions 40, and having their outer ends bearing against the terminals 44 of the relatively fixed blade or cutter 29. The grooves 48 extend inwardly or rearwardly from the recesses 43, which are located at the front or outer portions of the enlarged ends 40 of the casing. The springs 47, which may be constructed of any suitable material, have their rear ends bearing against the inner end walls of the grooves 48, and they are placed under tension by the removable cap or section 37 of the casing when the said cap is secured to

the other section or hub 36. The springs, by holding the cutters tightly together, enable the same to make a clean positive cut in severing the edge portion of an envelop or letter. The removable cap or section of the casing, which is approximately L-shaped in cross section, consists of an upper wall and an outer side wall, and it is secured by screws 49 or other suitable fastening devices to the upper faces of the end portions 40 of the head 36. The upper wall or portion of the removable section of the casing is provided with a slot or opening 50, tapered downwardly or inwardly to form a flaring mouth or entrance and to present inclined edges or faces to an envelop or letter to facilitate the introduction of the same into the casing. When the oscillatory arm is at the limit of its upward movement, the cutting edges 31 and 46 are spaced apart, as clearly illustrated in Fig. 3 of the drawing, and the envelop receiving opening 50 is located above the space between the said cutting edges 31 and 46 to enable a portion of an envelop to extend between the cutters, so as to have the edge portion cut off by the same. The relatively fixed cutter 29 is located beneath the outer side of the opening 50, and the movable cutter is normally located below the inner side of the said opening 50.

In the operation of the device a portion of an envelop is introduced into the opening 50, so as to project between the cutters, and the oscillatory arm is then swung downwardly, which causes the movable cutter to move outwardly toward and over the cutting edge 46 of the relatively fixed cutter, thereby cutting off a portion of the letter or envelop. The letter or envelop is then removed from the device and the oscillatory arm is automatically swung upward and the movable cutter simultaneously returned to its initial position by the action of a coiled spring. The lower or bottom wall 39 of the casing terminates short of the outer end edges of the end portions 40 and is spaced from the outer end wall of the removable section to provide a lower opening 51 for the discharge of the severed portion of the letter or envelop. The severed portion of the letter or envelop falls through the bottom opening 51 and there is no liability of the device becoming clogged through a rapid operation of the same.

While the device is shown in the accompanying drawing as an envelop or letter opener, the construction may be advantageously employed in devices of an analogous character, such as a cigar cutter.

What is claimed is:—

1. A device of the class described including an oscillatory arm, a movable cutter carried by the arm, and a spring actuated rod mounted on the arm and connected with and adapted to operate the cutter, an abutment

adapted to be engaged by the rod when the arm is swung in one direction to actuate the cutter and simultaneously compress the spring, which returns the parts to their initial positions.

2. A device of the class described including a pivotally mounted oscillatory arm, a slidable plunger rod carried by the arm and projecting from the inner end thereof, a cutter also carried by the oscillatory arm and connected with and actuated by the rod, an abutment against which the rod is adapted to be brought into engagement, whereby the latter is forced outwardly when the arm is swung in one direction, and a spring arranged to swing the arm in the opposite direction and to move the rod inwardly.

3. A device of the class described including a pivotally mounted oscillatory arm, a rod slidably mounted in the arm and projecting from the inner end thereof, said inner end being adapted to engage a fixed abutment, whereby the rod will be forced outwardly when the arm is swung in one direction, a coiled spring disposed on the rod and housed within the arm for swinging the latter in the opposite direction and for moving the rod inwardly, and a cutter carried by the arm and connected with and operated by the rod.

4. A device of the class described including a pivotally mounted oscillatory arm, a slidable rod carried by the arm and projecting from the inner end thereof, said rod being provided at its inner end with a rounded head arranged to engage a fixed abutment, whereby the rod will be forced outwardly when the arm is swung in one direction, a spring arranged to swing the arm in the opposite direction and simultaneously move the rod inwardly, and a cutter carried by the arm and connected with and operated by the rod.

5. A device of the class described including a pivotally mounted oscillatory arm, a slidable rod carried by the arm and extending from the inner end thereof, said rod being provided at its inner end with a substantially segmental head, a fixed abutment having a groove receiving the head of the rod, the latter being adapted to be moved outwardly by the arm when the latter is swung in one direction, a spring for swinging the arm in the opposite direction and for simultaneously moving the rod inwardly, and a movable cutter carried by the arm and connected with and actuated by the rod.

6. A device of the class described including a support having an interior recess or chamber and provided at the front thereof with an opening, said support having a fixed abutment arranged at the back of the chamber, an oscillatory arm extending through the said opening and pivotally mounted within the recess or chamber of

the support, a spring actuated rod mounted on the arm and having a portion arranged to engage the said abutment, whereby the rod is moved outwardly when the arm is swung in one direction and the spring is compressed to move the arm and the rod in the opposite direction.

7. A device of the class described including a pivotally mounted oscillatory arm having a bore enlarged at the inner portion to form a shoulder and threaded at the inner end, a bearing sleeve or bushing threaded into the inner end of the arm, a slidable rod guided in the outer portion of the arm and in the said bushing, said rod projecting from the inner end of the arm and arranged to engage a fixed abutment, whereby the rod is moved outwardly when the arm is swung in one direction, a coiled spring housed within the inner portion of the arm and seated at one end against the said shoulder and connected at its other end with the rod for swinging the arm in the opposite direction and for moving the rod inwardly, and a cutter carried by the arm and connected with and actuated by the rod.

8. A device of the class described including an oscillatory arm arranged to swing upwardly and downwardly, said arm being provided at its outer portion with a casing having an opening at the upper portion, a cutter slidably mounted within the casing and movable beneath the opening, and a spring actuated rod carried by the arm and connected with the cutter, an abutment against which said rod is brought into engagement, whereby the rod is forced in one direction against the action of its spring.

9. A device of the class described including an oscillatory arm arranged to swing upwardly and downwardly, said arm being provided with a casing having an opening at the top for the introduction of a letter or envelop and provided at the bottom with a discharge opening located beneath the said opening, a cutter mounted within the casing and movable beneath the upper opening, and a spring actuated rod carried by the arm and connected with the cutter, an abutment adapted to be engaged by the rod when the arm is swung in one direction, whereby the cutter is actuated and the spring compressed to return the parts to their initial position.

10. A device of the class described including an oscillatory arm provided with a casing having an opening, detachable fixed and movable cutters mounted within the casing and located on opposite sides of the opening, a spring mounted in the casing for holding the cutters in frictional engagement, and means connected with the movable cutter for actuating the same when the arm is oscillated.

11. A device of the class described includ-

ing an oscillatory arm, a casing carried by the arm and provided with guides, a movable cutter slidably supported in the guides, a relatively fixed cutter bearing against the movable cutter, a spring mounted in the casing for holding the cutters in close frictional contact, and means carried by the arm and connected with the movable cutter for actuating the latter when the arm is oscillated.

12. A device of the class described including an oscillatory arm, a casing carried by the arm and provided with terminal recesses forming seats, a movable cutter, a relatively fixed cutter bearing against the movable cutter and having its terminals arranged in the said recesses, springs bearing against the terminals of the relatively fixed cutter for holding the cutters in close frictional contact, and means carried by the arm and connected with the movable cutter for actuating the latter when the arm is oscillated.

13. A cutter, comprising a movable arm, a cutter carried by the arm, means for actuating said cutter supported by the arm, and means for moving said actuating means longitudinally of the arm upon the movement of the arm.

14. A cutter, comprising a movable arm, a stationary cutter carried by the arm, a movable cutter, means connected to said cutter and supported by the arm, and means for operating said first-mentioned means upon the actuation of said arm.

15. A device of the class described including an oscillatory arm, a casing carried by the arm and consisting of a movable cap or section, and a head rigid with the arm, the section being provided with end recesses and having grooves extending from the recesses, a movable cutter arranged within the casing, a relatively fixed cutter bearing against the movable cutter and having its terminals arranged in the said recesses, and springs operating in the grooves and bearing against the relatively fixed cutter for holding the cutters in close frictional contact, said springs being placed under tension by the removable cap or section.

16. A device of the class described including an oscillatory arm, a casing carried by the arm, a movable cutter arranged within the casing, a relatively fixed cutter also arranged within the casing and provided with projecting lugs bearing against the movable cutter, means for holding the cutters in close frictional contact, and means carried by the arm and connected with the movable cutter for actuating the same when the arm is oscillated.

17. A device of the class described including an oscillatory arm provided with a casing, a cross head guided in the casing and provided with a central socket and having ribs or flanges at opposite sides thereof,

blades mounted on the cross head and fitted against the said ribs or flanges, and a spring actuated rod carried by the arm and having its outer end secured in the socket of the
5 cross head, said rod having a portion arranged to engage a fixed abutment when the arm is swung in one direction.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY A. GUDERJAHN.

Witnesses:

PHILO HAMMOND,
THEO. R. BERTIN.