June 23, 1942. J. F. JOHNSON 2,287,738

PAPER CUTTER GUIDE

Filed Oct. 4, 1941

Fig. 1

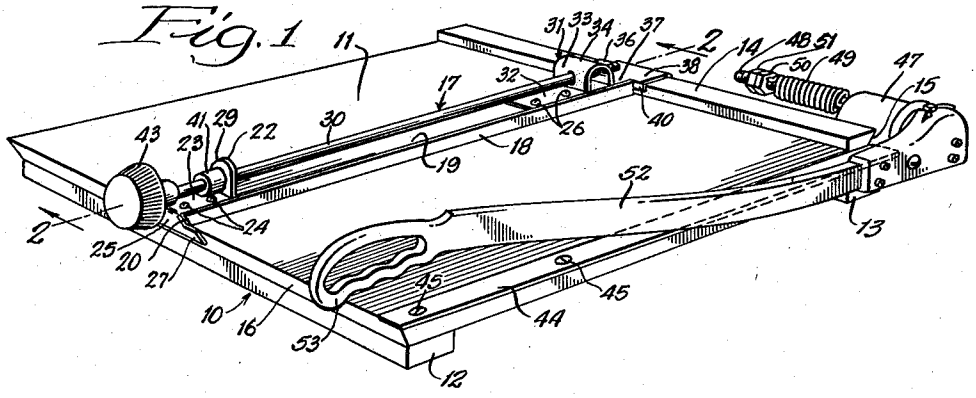


Fig. 2

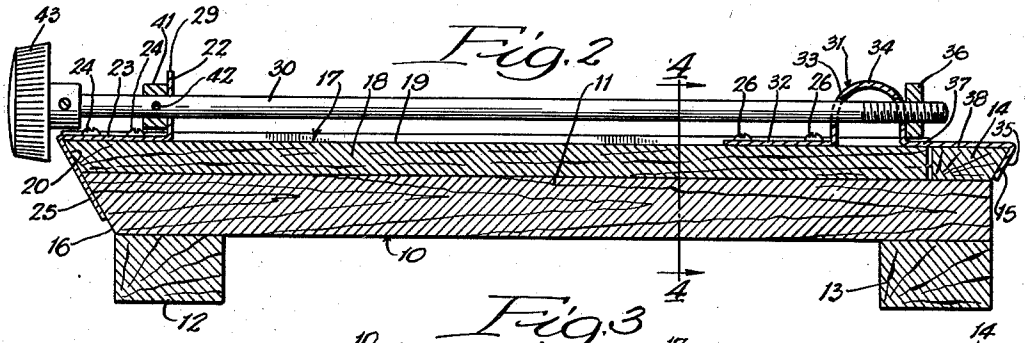


Fig. 3

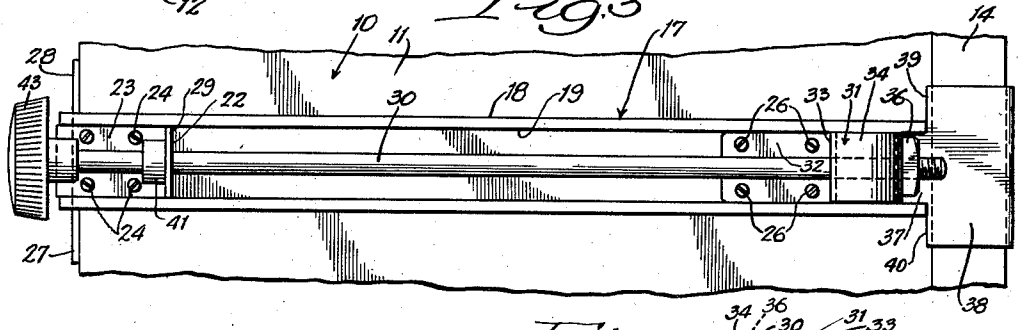


Fig. 4

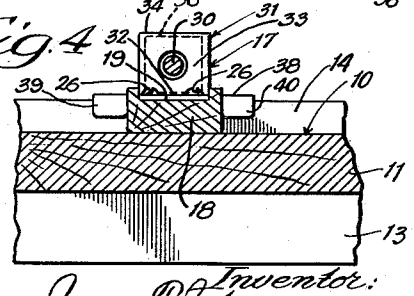
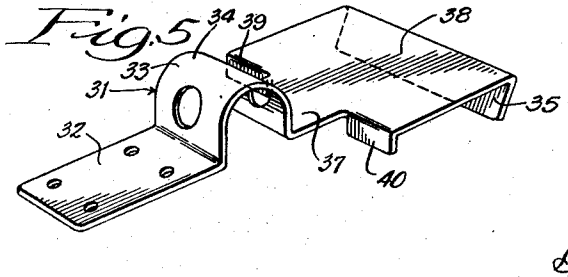


Fig. 5



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Patented June 23, 1942 2,287,738

UNITED STATES PATENT OFFICE

2,287,738

PAPER CUTTER GUIDE

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Application October 4, 1941, Serial No. 413,605

11 Claims. (Cl. 164—44)

This invention relates to a paper cutter guide, and contemplates mounting a guide on a paper cutting board to facilitate quick and accurate adjustment of the guide in desired positions for trimming and squaring various sizes of paper sheets, and to permit the guide member quickly and easily to be removed from and replaced on the cutting board as required.

The invention is based upon the need for a fully adaptable and easily and positively adjustable guide for paper cutting boards, and one which is adapted to be made, at least in large part, from materials other than metal. The problems involved, however, and their solution, involve considerably more than a mere substitution of materials.

Among the objects and features of the present invention are the following:

To increase the flexibility of mounting and adjustment of a guide for paper cutters, whereby the guide may be adjusted in desired variously spaced, parallel relation to a cutting blade, throughout the full width of the supporting area of a paper cutting board;

To maintain a paper cutter guide in perpendicular relation to a fixed guide member during a slidable movement of the guide from one adjusted position to another;

To improve the mounting of a readily removable guide member on a paper cutting board;

To provide clamping facilities for a guide member arranged to hold the guide member in adjusted position across a supporting surface of a cutting board, and parallel to a cutting edge thereof, and simultaneously to exert a cam-like action drawing the guide toward a paper supporting face of the board to prevent a sheet of paper from inadvertently slipping beneath the guide which would prevent it from functioning properly;

To provide for the ends of a movable guide bar for a paper cutter, clamping elements for engaging opposite edges of the board whereby to clamp the bar at desired positions, in which the clamping elements are fixed to the ends of the bar without the complication of providing for their slidable securement to the bar.

These and other features and objects of the invention will be more clearly apparent from the following description of an illustrative embodiment of the invention, and the accompanying drawing.

In the accompanying single sheet of drawings:

Fig. 1 is a view in perspective of a paper cutter, with a guide member embodying the present invention adjustably mounted thereon;

Fig. 2 is an enlarged section taken in the plane of the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary plan view of the guide member mounted on the cutting board, the end portions of the board being broken away;

Fig. 4 is a section taken in the plane of the line 4—4 of Fig. 2; and

Fig. 5 is a view in perspective of a spring clamp member as it appears removed from the guide member.

Referring to the drawing in detail, a cutting board 10 has a base 11 comprising a flat rectangular member which may be of wood. A pair of strips or battens 12 and 13 are secured transversely of opposite ends of the base on the underside thereof. These strips serve as supporting legs for the base 11 and also resist warping of the base. A rear fixed guide member 14 is secured to the upper face of the base 11 along the rear marginal edge portion thereof. The rear edge of the fixed guide member 14 is beveled inwardly as at 15 as is also the forward edge of the base 11, as at 16.

An adjustable guide member 17 comprises a body portion 18 which may be of wood and is generally rectangular in cross section with a shallow, flat-bottomed channel 19 in the upper face thereof. The adjustable guide member 17 is of a length to extend from the forward edge of the fixed rear guide member 14 to the front edge of the base 11. The forward end of the body portion 18 is beveled as at 20, to correspond with the bevel slope of the forward edge of the base 11, and to be coextensive therewith when the guide member 17 is positioned operatively on the base.

A front clamp and guide member 22 is mounted on the front end of the adjustable guide member 18 and comprises a flat base portion 23 which is secured, as by means of wood screws 24, in the channel 19 of the member 18. The front clamp member 22 has a downwardly turned front flange 25 extending across the beveled forward end of the member 18 and projecting below member 18 to engage the front beveled edge of the base 11. A pair of laterally projecting tabs 27 and 28 extend laterally from the flange 25 to provide a long guiding surface in engagement with the beveled forward edge of the base. The elongated flange thus formed assists in maintaining the guide member perpendicular to the front and rear edges of the cutting board. The rear end portion 29 of the clamp member 22 is bent upwardly at right angles and is provided with an opening

to receive a clamp rod 30 which is mounted rotatably therein.

A rear guide and clamp member 31 is secured to the rear end of the body member 18. The rear clamp member 18 comprises a flat portion 32 adapted to fit within the channel 19 in the upper face of the member 18 and secured to the member 18 as by wood screws 24. Rearwardly from the flat portion 32, the metal of the clamp 31 is bowed upwardly, as illustrated in Fig. 2, to provide a spring clip 33 of inverted V shape, with substantially parallel sides perpendicular to the flat portion 32, and web 34 of rather generous curvature. An opening is provided in each of the vertical portions of this bowed spring clip to receive the clamp rod 30 which is inserted through these openings and is provided with a nut 36 threaded onto its rearward end, the openings being spaced upwardly from the bottom of the spring clip so that the nut will be sufficiently close to the base of the clip to prevent rotation of the nut.

From the lower rear end of the bowed clip portion 33, a flat portion 37 extends horizontally rearward, the flat portion being of a width to slide freely within the channel 19 in the top of the member 18.

Rearwardly of the portion 37, and adapted to lie beyond the rear of the member 18, the rear clamp member widens materially, as is best illustrated in Fig. 5, having a flat portion 38 which is adapted to slide upon the top face of the fixed guide member 14. A pair of tabs 39 and 40 are bent downwardly from forward extensions of this top portion 38, and are adapted slidably to engage the front edge of the fixed guide member 14 to maintain the guide member perpendicular to the rear fixed guide member during an adjusting movement thereof. The rear portion 35 of the clamp member 31 is bent downwardly and inwardly, at an angle corresponding to that between the top and rear edge of the rear fixed guide member 14, frictionally to engage the beveled rear face of the rear guide member as best illustrated in Fig. 2.

The rod 30 as above mentioned is pivoted in the openings in the spring clip 33, and also in the upwardly extending portion 29 of the forward clamp member. A collar 41 is secured to the clamp rod 30 in front of the portion 29 of the forward clamp member, the collar being secured in position as by means of a pin 42. A clamp operating knob 43 is secured to the front end of the clamp rod 30 by means of which the rod may be screwed into or out of the nut 36 to clamp the guide member in position, or to release it to free the guide member 17 for slidable movement transversely of the board as required. The adjustable guide member 17 may be removed entirely by sliding the clamp members 22 and 31 entirely off the base and the rear guide member by moving the guide member 17 to the left from the position illustrated in Fig. 1.

A fixed cutting blade 44 is secured in a recess in the top face of a marginal edge portion of the base 11, and is secured in position therein as by means of wood screws 45. A blade supporting journal 47 is mounted on the rear of the base, and a pivot pin 48 is supported therein for free pivotal movement.

A coil spring 49 surrounds the pivot pin 48, one end thereof being inserted in an opening in the journal support 47, and the other end in an opening in an adjusting nut 50 which is threaded onto the outer end of the pivot pin and is held in adjusted position thereon by means of a lock nut 51. The coil spring resiliently holds the pivot pin inwardly to draw a cutting blade 52 secured to the pivot pin 48 inwardly against the fixed cutting blade 44. The spring 49 also acts as a counterbalance to assist in supporting the cutting blade against gravity which tends to swing the cutting blade downward. The forward free end of the pivoted cutting blade is molded to form a hand grip 53 to facilitate operating the blade.

To adjust the guide member 17 to a desired position on the base 11, the knob 43 is rotated to free the nut 36 from clamping engagement with the rear face of the bowed clip portion 33 of the rear clamp member, whereupon the clip member expands somewhat and separates the clamp flanges 25 and 35, thereby freeing the member 17 for slidable movement. The usual crossed guide lines (not illustrated) may be marked on the upper surface of the base member 11 to assist in setting the guide bar 17 in adjusted position.

The tabs 39 and 40 engaging the front edge of the fixed rear guide member 14 are adjusted to have light sliding engagement with the fixed guide member, these tabs, and the inwardly bent rear flange 35, engaging the rear guide member to maintain the adjustable guide member 17 substantially perpendicular to the rear guide member, and parallel to the cutting edge of the blade 44.

When the adjustable guide member has been moved to a required adjusted position, the knob 43 is rotated to tighten the nut 36 on the rod 30 to compress the bowed clip portion 33 and draw the two clamp members 22 and 31 toward each other, thereby to force the flanges 25 and 35 into frictional clamping engagement with the front face of the base 11 and the rear face of the fixed guide member 14, respectively.

The guide of the present invention lends itself to easy, rapid and inexpensive production, since the front and rear clamp members, being adapted to be made separately, may be made on small presses and from small pieces of steel which otherwise might be considered as scrap. The use of wood for the body portion of the guide member is at present preferred, although it is apparent that metal may be used in place of this wooden body portion if desired. The front and rear mounting clamps hold the adjustable guide member perpendicular to the rear guide member at all times, and thereby facilitate rapid and accurate adjustment of the guide member.

It is apparent that the bowed clamp member may be positioned in front, if desired, although the preferred arrangement of these members is as shown and described. The knob 43 conveniently is located at the front of the cutting board which makes for utmost convenience and ease of operation.

A feature of the invention is the unity of the guide bar and its clamping arrangement, whereby the guide bar has no loose or sliding connections which are apt to collapse or fall apart when the guide bar is removed from cutting board.

While a specific embodiment of the invention has been described, it is contemplated that many changes and substitutions may be made without departing from the scope or spirit of the invention.

What is claimed is:

1. An adjustable guide for a paper cutter having a substantially flat topped base with oppo-

sitely beveled front and rear edge portions, said guide comprising a guide bar adapted to be positioned transversely of the base of the paper cutter, a flanged member carried by the guide bar and adapted to have sliding frictional engagement with the beveled front edge of the base, a second flanged member carried by the guide bar and adapted to have sliding frictional engagement with the beveled rear edge of the base, and a clamp operating member carried by the base intermediate the front and rear flanged members and adapted to move the flanged members relatively to each other, and cam-wise transversely of the beveled edges with which said flanged members are engaged to anchor the guide bar and to force the guide bar close to the base.

2. An adjustable guide for a paper cutter having a substantially flat topped base with oppositely beveled edge portions disposed lengthwise thereof, said beveled edge portions being disposed at angles acute to the flat top of the base, the adjustable guide comprising a guide bar extending across the base and having an edge thereof disposed perpendicularly to the beveled edges of the base, a pair of flanged members carried by the bar, said flanged members being adapted normally to have sliding frictional engagement with the beveled edges of the base, and actuating means interconnecting said flanged members and adapted to move them relatively to each other to engage, frictionally, the beveled edges of the base to anchor the guide bar against movement, and to force the bar close to the base.

3. An adjustable guide for a paper cutter having a base with a longitudinally extending fixed guide member secured to a rear edge thereof, the rear edge of the guide member and the front edge of the base being beveled oppositely to each other, the adjustable guide comprising a bar adapted to be mounted with a guiding edge thereof positioned substantially perpendicularly to the rear guide member, a pair of clamping guide elements carried by the bar, said clamping guide elements being angularly disposed with respect to each other to coincide with the front and rear beveled edges of the base, and actuating means associated with the clamping guide elements to force said elements into frictional anchoring engagement with their coinciding beveled edge portions.

4. An adjustable guide for a paper cutter having a base with a longitudinally disposed fixed guide member secured to the rear thereof, the front and rear edges of the fixed guide member being disposed lengthwise of the base, said guide comprising a wooden guide bar adapted to be mounted on the base perpendicularly to the rear guide member with the rear end of the bar abutting the front edge of the rear guide member, a rear clamp member secured to the guide bar and having a bowed clip formed therein, portions of the rear clamp member rearwardly of the guide bar extending downwardly to embrace front and rear edges, respectively, of the fixed rear guide member, to have sliding engagement therewith to retain the bar substantially perpendicular to the rear guide member, a front clamp member secured to the guide bar and having a downwardly extending portion overlying the front edge of the base, and having a portion thereof extending upwardly from the guide bar, and an actuating member connecting the bowed clip to the upstanding portion of the front clamp member to spring the bowed clip to force the clamping members relatively to each other into frictional anchoring relation to the base.

5. An adjustable guide for a paper cutter having a base with a fixed guide member disposed lengthwise thereof, said guide comprising an adjustable guide bar adapted to be attached to the paper cutter by slidable movement endwise of the guide member, the adjustable guide bar having a rear clamp member extending beyond the rear end thereof, downwardly extending spaced guide elements carried by the rear clamp member and adapted to embrace opposite surfaces of the guide bar for slidable movement lengthwise thereon, a front clamp member carried by the guide bar and positioned slidably to engage a surface of the base opposed to one of said surfaces of the rear guide member, and operating means interconnecting the front and rear clamp members to move the clamp members relatively to each other into frictional anchoring relation with the surfaces with which they are in contact.

6. An adjustable guide for a paper cutter having a base with a fixed guide member positioned lengthwise thereof, said guide comprising a wooden guide bar adapted to be attached to the paper cutter by slidable movement endwise of the fixed guide member, a rear clamp member of sheet metal secured to the wooden guide bar and extending rearwardly beyond the rear end thereof, downwardly extending spaced guide elements carried by the rear clamp member and adapted to embrace a material length of two opposed surfaces of the fixed guide member for slidable movement lengthwise thereon, to maintain the guide bar perpendicular to the fixed guide member, a flanged front clamp member of sheet metal carried by the guide bar and having a flange thereof positioned slidably to engage a surface of the paper cutter opposed to one of said surfaces of the rear guide member, and operating means interconnecting the front and rear clamp members to move said clamp members relatively to each other into frictional anchoring engagement with surfaces with which they are in contact.

7. An adjustable guide for a paper cutter having a base with a fixed guide member positioned lengthwise thereof, the adjustable guide comprising a wooden guide bar adapted to be attached to the paper cutter by slidable movement endwise of the fixed guide member, a rear clamp member of sheet metal fixed to the wooden guide bar and extending rearwardly beyond the rear end thereof, a spring loop formed in the rear clamp member resiliently to support the rearward extension thereof, downwardly extending spaced guide elements carried by the rear clamp member and adapted to embrace a material length of two opposed surfaces of the fixed guide member for slidable movement lengthwise thereon, to maintain the guide bar perpendicular to the fixed guide member, a front clamp member of sheet metal carried by the guide bar and having a flange positioned slidably to engage a surface of the paper cutter opposed to one of said surfaces of the rear guide member, and operating means interconnecting the front and rear clamp members to move said clamp members relatively to each other into frictional anchoring engagement with the surfaces with which they are in contact.

8. An adjustable guide for a paper cutter having a flat top and oppositely disposed edgewise surfaces extending lengthwise thereof, the guide

comprising a wooden guide bar having an edge thereof adapted to be disposed transversely of the paper cutter, a clamp member carried by the guide bar and having a vertically offset flange adapted to engage one of said oppositely disposed surfaces, a movable connection between the flange and the guide bar, a second clamp member carried by the guide bar, said second clamp member having a vertically offset flange adapted to engage the other of said opposed surfaces, and adjustable means interconnecting the clamp members to move the movably connected flange of the first clamp member relatively to the flange of the other clamp member to force the flanges into anchoring engagement with the opposed surfaces with which they are in contact.

9. An adjustable guide for a paper cutter having a flat top and oppositely disposed edgewise surfaces extending lengthwise thereof, the guide comprising a guide bar having an edge thereof adapted to be disposed transversely of a paper cutter, clamp means carried by opposite ends of the guide bar and having portions thereof adapted to have slidable guiding engagement with said oppositely disposed surfaces, and operating means operatively connecting the clamp members and adapted to move the portions thereof overlying said lengthwise disposed surfaces relatively to each other into anchoring engagement with the oppositely disposed surfaces with which they are in contact.

10. An adjustable guide for a paper cutter having a flat top and oppositely disposed surfaces extending lengthwise thereof, said guide comprising a guide bar having an edge thereof adapted to be positioned transversely of the paper cutter substantially perpendicularly to said oppositely disposed surfaces thereof, a rear clamp member carried by the guide bar and having a flat portion thereof secured to the guide bar, the rear clamp member having an upwardly bowed spring clip portion adjacent the secured portion, and having a flanged portion rearwardly of the guide bar, said flanged portion being positioned to have slidable engagement with one of said lengthwise extending surfaces of the paper cutter, a front clamp member secured to the front of the guide bar and having a downwardly extending flange adapted to engage the other of said lengthwise extending surfaces, a clamp rod pivoted in the bowed portion of the rear clamp member, and a nut threaded onto the rod and having edgewise engagement with a guide bar element to prevent turning of the nut, whereby, upon screwing the rod into the nut, the clamp members are drawn into anchoring engagement with said opposed surfaces.

11. An adjustable guide for a paper cutter having a base with a longitudinally disposed fixed guide member secured to a marginal portion thereof, the front and rear edges of the fixed guide member being disposed lengthwise of the base, said adjustable guide comprising a non-metallic guide bar adapted to be mounted on the base perpendicularly to the fixed guide member with an end of the guide bar abutting an edge of the fixed guide member, a clamp member secured to the guide bar and having a bowed clip formed therein, portions of the clamp member beyond the end of the guide bar extending vertically to embrace front and rear edges, respectively, of the fixed guide member to have sliding engagement therewith, to retain the guide bar substantially perpendicular to the fixed guide member, a second clamp member secured to the guide bar and having a portion thereof overlying a longitudinally disposed edge of the base, and an actuating member mounted to engage a portion of the bowed clip to spring the clip and force the front and rear clamp members relatively to each other into frictional anchoring relation to the base.

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