

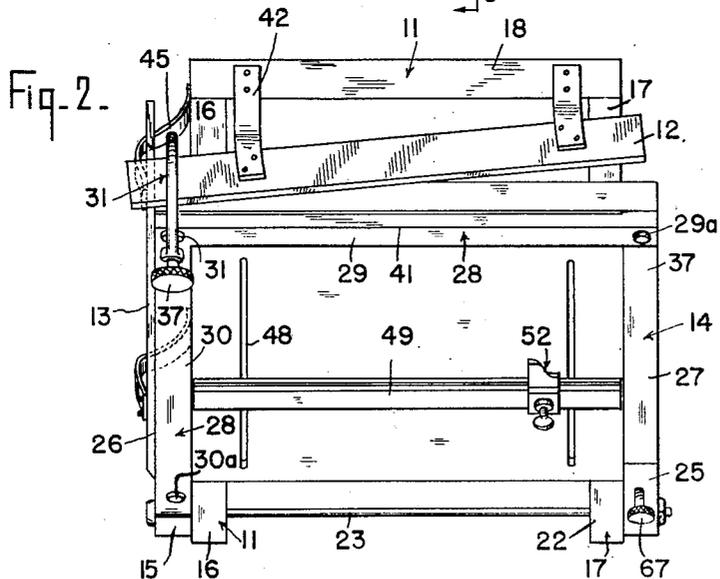
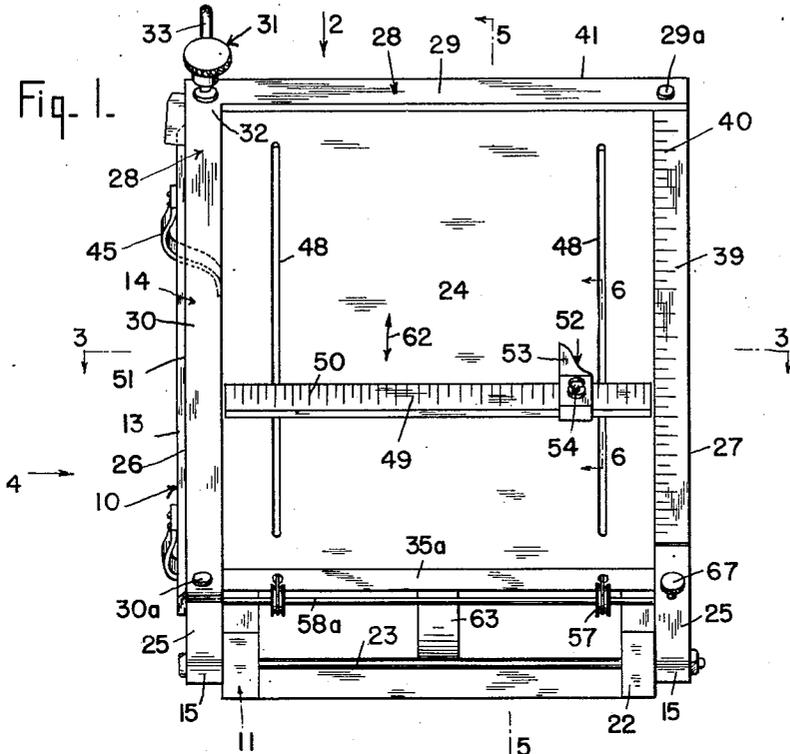
Oct. 31, 1950

S. L. CALGARY
PAPER TRIMMING DEVICE

2,527,620

Filed April 19, 1947

3 Sheets-Sheet 1



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3 Sheets-Sheet 3

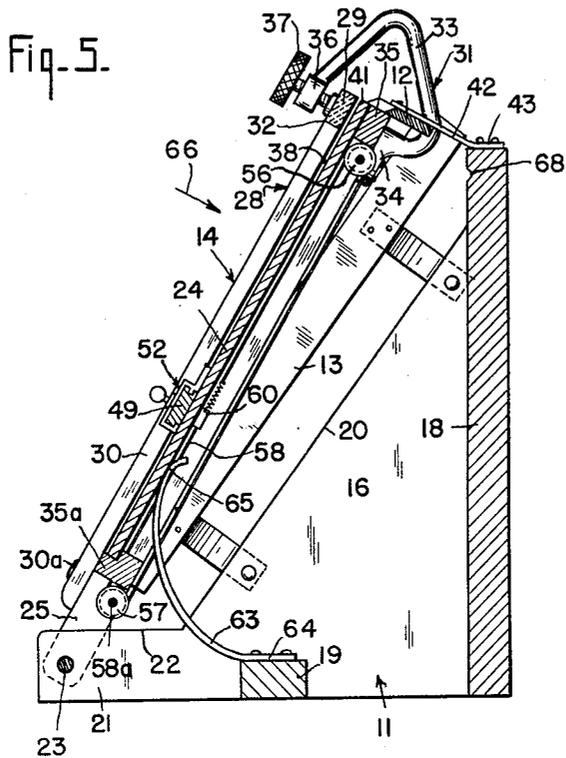


Fig. 6.

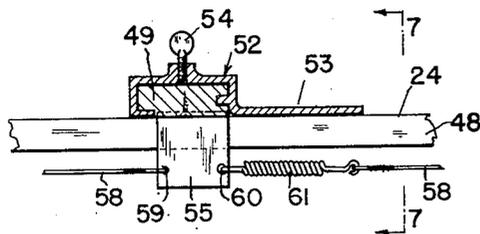
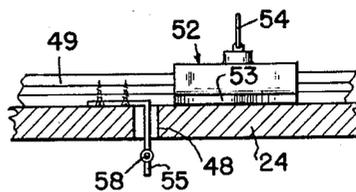


Fig. 7.



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UNITED STATES PATENT OFFICE

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PAPER TRIMMING DEVICE

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2 Claims. (Cl. 164—36)

1

This invention relates to devices for cutting or trimming sheets of paper, particularly photographs, and has for its main object to provide a device of this character, which will be more efficient than devices now used or heretofore proposed, for this purpose.

Another object of this invention is to provide a device as characterized hereinbefore, wherein paper sheets, particularly photographs, may be cut or trimmed with less effort, less labor, and with better chances of adjusting and observing the operation, than is the case with devices now used.

Still other objects of my invention will be apparent as the specification of the same proceeds, or will be pointed out therein, and among others, I may mention: to provide a cutting or trimming device for paper sheets, particularly photographs, which will be simple in construction, inexpensive to manufacture, and adapted to mass manufacturing.

In the drawings forming a part of this specification and accompanying the same:

Fig. 1 is a front view of a preferred embodiment of my device;

Fig. 2 is a plan view taken as indicated by arrow 2 in Fig. 1;

Fig. 3 is a sectional view, the section being taken on the line 3—3 of Fig. 1;

Fig. 4 is a side view, as indicated by arrow 4 in Fig. 1;

Fig. 5 is another sectional view transversely to the section shown in Fig. 3, and being taken on the line 5—5 of Fig. 1;

Figs. 6 and 7 are fragmentary details on a larger scale than the earlier figures.

Referring now to the drawings more in detail, by characters of reference, the numeral 10 indicates my paper cutting and trimming device in general, the same being formed of two main elements, a stationary frame structure generally indicated by the numeral 11 carrying the two cutter knives 12 and 13 and a swingable paper carrier plate device generally indicated by the numeral 14, being pivoted in the stationary frame as at 15.

The stationary frame of my device is formed of two side walls 16 and 17 and a rear wall 18 a re-inforcing cross bar 19 being secured into the side walls at their bottoms and at a distance in front of the rear wall 18.

The side walls 16 and 17 are considerably lower than the rear wall 18, for reasons to be explained presently, and their upper ends in their larger portions is inclined, as at 20, while the

2

front end of edge 21 of each side wall is quite low having a horizontal upper edge 22.

A shaft 23 is secured in said front portions 21 and the mentioned pivots 15 for the paper carrier device 14 are formed at the ends of the shaft 23.

The paper carrier device 14 mainly consists of a plate 24 having the legs or extensions 25 at the two sides thereof, said legs 25 being the pivot members on the shaft 23, as indicated in the drawings. It is to be noted that the paper carrier plate 24 in the embodiment of my device here shown is wider than the stationary frame structure 11 so that the two sides 26 and 27 of the same overlap and somewhat extend beyond the respective side members 16 and 17 of the frame.

An angular bar indicated by the numeral 28 is arranged over the top and the left hand marginal portions of the paper carrier plate 24 in a spaced apart manner but so close thereto that a sheet of paper pushed thereunder, between the same and the paper carrier plate 24, will be adapted to be severed along said two sides of the paper carrier plate when the same is moved against the knives 12 and 13, as will be more fully described hereafter. The angular bar 28 will have a top branch 29 and a side branch 30 at the respective ends of which it will be secured on the paper carrier plate 24 as at 29a and 30a. Since such a long angular bar may sag or warp between its two distant secured ends 29a and 30a, a spacing device generally indicated by the numeral 31 is arranged at the meeting corner 32 of the two branches thereof. The spacing device 31 will have an outwardly bulging loop member 33, the lower termination 34 of which will be secured to a frame 35 on which the paper carrier plate 24 rests while the upper termination 36 of said loop member carries the screw 37 threaded therethrough and rotatably secured into the material of the spacer angular bar 28 as will be understood. It will be seen that when the screw 37 is turned in one direction it will lift the angular bar 28 away from the plate 24 and when it is turned in the other direction it will press it down closer to said plate and in this manner the narrow space 38 between the two will always be adjusted as desired.

As has been mentioned a frame structure generally indicated by the numeral 35 may be arranged underneath the swingable plate member 24 and along its lower end as at 35a and the pivot operating legs 25 may be secured into said frame as well as the lower securing 30a of the angular spacer bar 28 may also be applied on said frame. On the right hand side of the paper carrier plate I arrange a strip 39 on which a scale

40 is indicated whereby the lower edge of the paper to be cut may be measured from the top edge 41 of the plate.

Two flat springs 42 are secured on the top of the rear frame wall 18 as indicated at 43 and an upper cutting or trimming knife 12 is carried whereby said knife will always be pressed against the top of the swinging plate 24 as well as its frame 35 and its spacer angular bar 28 when the same is in motion. It also will be seen that the knife 12 is set at an angle so as to perform its cutting or trimming by shearing action.

Two similar flat springs 45 are secured on the left side wall 16 carrying at their upper ends the left side trimming or cutting knife 13 in a similar manner as described for the upper cutting knife 12 and also causing said left side knife 13 to be pressed against the left side of the swinging paper carrier member by the resilient action of the springs.

It will be noted that springs 45 are secured on the wall 16 in a removable manner as by the screws 47 so that, if desired, the second knife 13 may be easily removed and my device operated only with the upper knife 12.

Two longitudinal slots 48 are cut in the material of the plate 24 and the transverse limiting and measuring bar 49 will be guided in its upward and downward movement through said slots 48. Bar 49 will have a measuring scale 50 whereby distances from the left hand severing edge 51 of the paper carrier plate 24 may be guided. A limiting device 52 is slidable on said bar 49 having the construction indicated in Fig. 6 with an upward plate arm 53 sliding on the paper carrier plate 24 against which the inner edge of the paper may be set as will be explained more in detail later on. Limit 52 may slide on the bar 49 in either direction and may be fixed in any of its positions through the screw 54. A plate 55 is secured to the under side of the bar 49 in each slot 48 depending from said bar below the plate 24 and being slidable in the slot 48. An upper roller 56 is arranged in the upper end of each slot 48 (Fig. 5) the top of said roller being below the surface of the plate 24 and a lower roller 57 is set registering with each upper roller said lower rollers being on a common pin or axle 58a rotatably arranged in the two frame legs 25. Wire cord 58 is secured by one of its ends 59 to each depending plate 55 and will be led over the lower roller 57 and then upwardly over and round the upper roller 56 and return to the depending plate 55, the upper end of said cord being secured therein as at 60. A helical spring 61 is inserted into said cord 58 keeping the same taut on the rollers 56 and 57.

It will be seen that the transverse limiting and measuring bar 49 may be moved upwardly or downwardly on the carrier plate 24 as indicated by the double arrow 62 and will be evenly guided and kept at its transverse position by the arrangement of said rollers 56 and 57 and cord or wire 58.

A curved flat spring 63 is secured by its lower end 64 on the crossing reinforcing bar 19 of the frame structure, its upper end 65 pressing against the swingable paper carrier plate 24 and having a tendency to keep the same in the position indicated in Figs. 4 and 5.

The use and operation of my device will be obvious from the drawings and from the herein description. However, I want to further explain the same as follows: the sheet or paper to be cut or trimmed, particularly a photograph, will be

placed on the swinging plate 24. The operator will push the same upwardly until the desired amount of it projects over the top edge 41 of the swinging device, whereupon pressure will be exerted on the swinging plate 24 as indicated by the arrow 66 (Figs. 4 and 5) and the projecting part of the paper will be neatly severed through the action of said upper edge and the knife 12, as will be obvious.

This operation has no effect whatsoever on the left hand side knife 13. When it is desired to cut the left side of the paper, the same will be moved by the operator to the left side to the desired distance and then the left side projecting portion thereof severed by the knife 13 through the downward swinging of the plate 24, similarly as has been indicated for the upper knife 12.

As it is well-known, trimming of a photograph to the best effect sometimes requires careful observation, judgment and may be called an art in itself. With my device the photographer may see the paper sheet placed on the plate 24, move it as he desires thereon, and through the narrow space 38 between the same and the spacing angular bar 28, and in this manner in an easy convenient way can manipulate the same and sever it in a desired, exact, clean way. When it is desired to sever only one side of the paper at one time, then the second side knife 13 may be removed and all the operations done through the upper knife 12. If a great number of identical photographs are to be trimmed the first one may be placed against the longitudinal measuring bar 39 and the transverse bar 49 pushed upwardly until it reaches the lower end of the placed photograph whereupon said transverse bar may be fixed in its position. For the fixing, I may use screw 67 which, in this embodiment is arranged in the right hand frame member 25 and upon its threading inwardly will engage the axle 58a and will prevent the rotation of the pulleys 57, whereby the movement of the transverse bar 49 also will be prevented.

After such an adjustment, the further identical photograph sheets may simply be placed against the bar 49 and then their upper protruding portions severed without any further changing or adjusting.

In a similar manner, if a great number of photographs are to be trimmed on the left side, the limit 53 on the transverse bar 49 will be moved to the desired inner position for limiting that end of the photographs to be cut, whereupon without any further measuring the photograph may be placed against it and their left side severed as desired.

Now, in case of large numbers of photographs to be trimmed on two sides, two adjustments may be made in my device, one to determine the amount to be cut from the upper end of the photographs, this by the measuring bar 39 and setting the limiting for it through the movement of the transverse bar 49. The other setting will determine the amount to be cut on the left side of the paper and for this the limit 53 may be moved as necessary. Each limitation can then be fixed by the devices 67 and 54, respectively, as has been described hereinbefore.

All the photographer now has to do is to place the right end and the lower end of said sheet against the limitation 53 and 49 and just press downwardly on the plate 24 and the two knives 12 and 13 at once will trim the same on the top and on the left side. Obviously, this will save a great amount of labor and will be a great con-

5

venience to the photographer when large numbers of sheets are to be trimmed on all the four sides, two sides can always be trimmed without any further adjusting.

The side walls 15 and 17 have been made comparatively low and their tops inclined so as to prevent the fingers of the operator to be caught between them and the swinging plate device 24, which device cannot swing downward further than to that angle where its top corner will hit the rear wall 13. For a better stopping and limiting of the same groove 68 may also be provided in said rear wall. The loop 33 is made with its peculiar wide outward bulge to permit a manipulation of the paper on the plate 24, as will be understood.

What I claim as new and want to protect by Letters Patent of the United States is:

1. A sheet paper trimming device, comprising an inclined plate pivoted at its bottom and adapted to receive a paper sheet placed thereon in a shiftable, adjustable manner, a stationary cutting knife arranged along its upper edge, said edge being closely slidable along said knife when the plate is rocked at its bottom pivot, a yielding resilient member tending to keep said plate in said inclined position, a second knife underneath and closely along the plane of a side edge of said plate, an angular bar having portions spaced over said plate along its two cutting edges and over their meeting corner, and a loop device secured on the underside of said plate at said corner, its upper end adjustably holding the corner of said angular bar.

6

2. A sheet paper trimming device, comprising an inclined plate pivoted at its bottom and adapted to receive a paper sheet placed thereon in a shiftable, adjustable manner, a stationary cutting knife arranged along its upper edge, said edge being closely slidable along said knife when the plate is rocked at its bottom pivot, a yielding resilient member tending to keep said plate in said inclined position, and a second knife underneath and closely along the plane of a side edge of said plate, a limiting and measuring transverse bar on said plate, upwardly and downwardly slidable thereon, to provide a lower longitudinal limit support for the paper sheet to be cut in the device, and a limit member slidable on said transverse bar adapted to limit the position of the inner longitudinal edge of the paper placed on said plate.

STEVEN L. CALGARY.

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