Jan. 10, 1950 C. E. WILKINSON 2,494,077

COMPOSITION-SELECTING FRAME

Filed Oct. 26, 1945 2 Sheets-Sheet 1

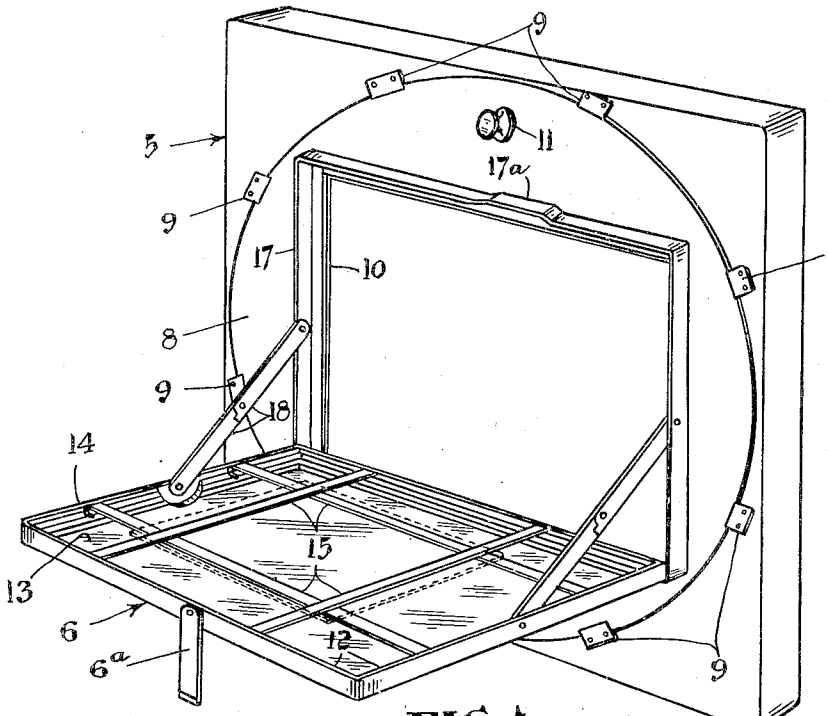


FIG. 1

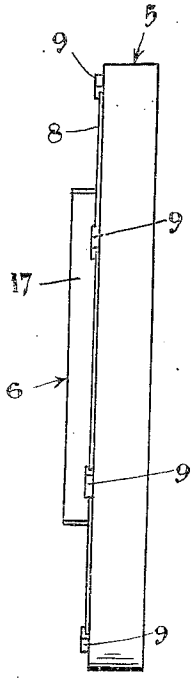


FIG. 2

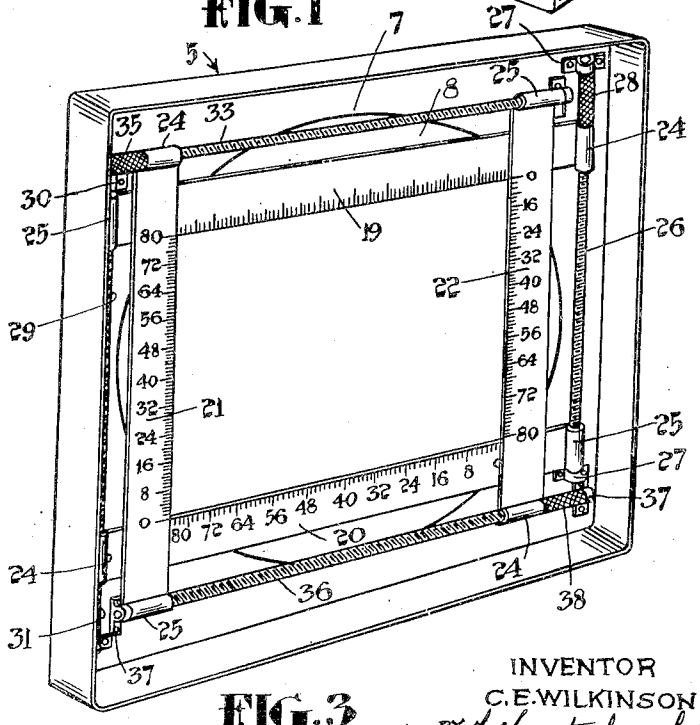


FIG. 3

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Filed Oct. 26, 1945 2 Sheets-Sheet 2

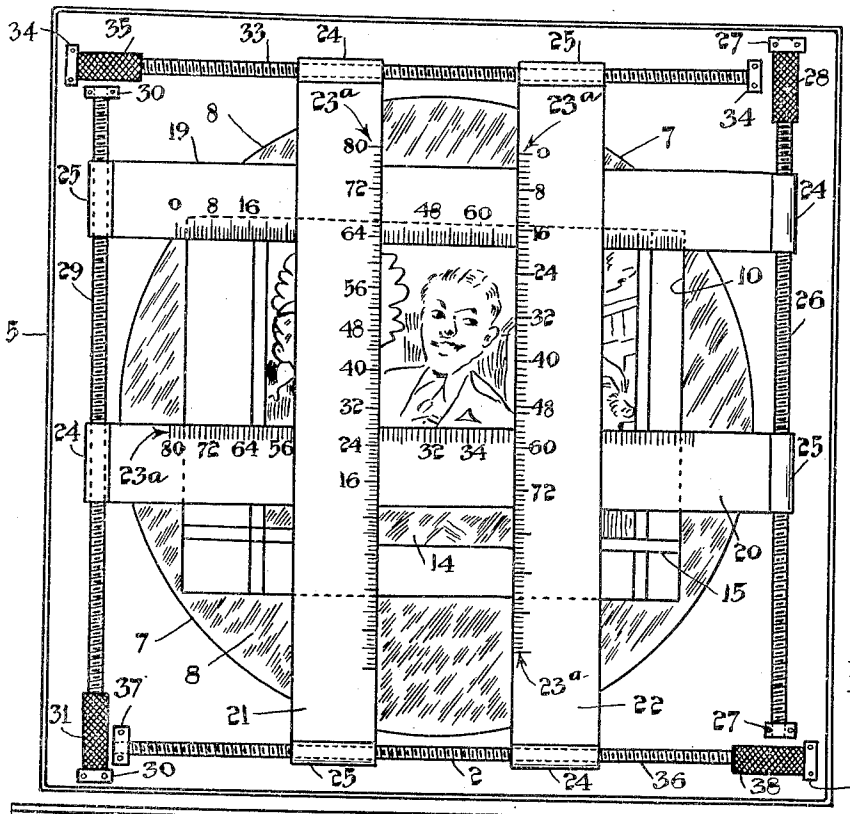


FIG. 4

SPACES	INCHES	TIMES ENLARGEMENT														
8	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	3¾	4	4½	5	
9	1⅛	1 3/32	1 5/16	1 13/32	2¼	2 17/32	2 13/16	3 3/32	3 3/8	3 21/32	3 15/16	4 7/32	4½	5 1/16	5 5/8	
10	1¼	1 9/16	1 7/8	2 3/16	2½	2 13/16	3 1/8	3 7/16	3 3/4	4 1/16	4 3/8	4 11/16	5	5 5/8	6¼	
11	1 3/8	1 23/32	2 1/16	2 7/32	2¾	3 3/32	3 7/16	3 25/32	4 1/8	4 7/32	4 13/16	5 5/32	5½	6 3/16	6 7/8	
12	1½	1 7/8	2¼	2 5/8	3	3 3/8	3 3/4	4 1/8	4½	4 7/8	5¼	5 5/8	6	6¾	7½	
13	1 5/8	2 1/32	2 7/16	2 29/32	3¼	3 21/32	4 1/16	4 15/32	4 7/8	5 9/32	5 11/16	6 3/32	6½	7 5/16	8 1/8	
14	1¾	2 3/16	2 5/8	3 1/16	3½	3 15/16	4 3/8	4 13/16	5¼	5 11/16	6 1/8	6 9/16	7	7 7/8	8¾	
15	1 7/8	2 11/32	2 13/16	3 5/32	3¾	4 7/32	4 11/16	5 5/32	5 5/8	6 3/32	6 9/16	7 1/32	7½	8 7/16	9 3/8	
16	2	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8	9	10	
17	2 1/8	2 23/32	3 3/16	3 23/32	4¼	4 25/32	5 5/16	5 27/32	6 3/8	6 29/32	7 7/16	7 31/32	8½	9 9/16	10 5/8	
18	2¼	2 13/16	3 3/8	3 13/16	4½	5 1/16	5 5/8	6 3/16	6 3/4	7 5/16	7 7/8	8 7/16	9	10 1/8	11¼	
19	2 3/8	2 31/32	3 9/16	4 5/32	4¾	5 11/32	5 15/16	6 17/32	7 1/8	7 23/32	8 5/16	8 29/32	9½	10 11/16	11 7/8	
20	2½	3 1/8	3¾	4 3/8	5	5 5/8	6¼	6 7/8	7½	8 1/8	8¾	9 3/8	10	11¼	12½	
21	2 5/8	3 5/32	3 15/16	4 17/32	5¼	5 23/32	6 9/16	7 7/32	7 7/8	8 17/32	9 3/16	9 25/32	10½	11 13/16	13 1/8	
22	2¾	3 7/16	4 1/8	4 13/16	5½	6 3/16	6 7/8	7 9/16	8¼	8 15/16	9 5/8	10 5/16	11	12 3/8	13¾	
23	2 7/8	3 1/32	4 5/16	5 1/32	5¾	6 15/32	7 3/16	7 29/32	8 5/8	9 1/32	10 1/16	10 25/32	11½	12 15/16	14 3/8	
24	3	3¾	4½	5¼	6	6¾	7½	8¼	9	9¾	10½	11¼	12	13½	15	
25	3 1/8	3 29/32	4 11/16	5 15/32	6¼	7 1/32	7 13/16	8 17/32	9 3/8	10 5/32	10 13/16	11 23/32	12½	14 1/16	15 5/8	
26	3¼	4 1/16	4 7/8	5 11/16	6½	7 5/16	8 1/8	8 15/16	9¾	10 9/16	11 3/8	12 3/16	13	14 5/8	16¼	
27	3 3/8	4 7/32	5 1/16	5 29/32	6¾	7 9/32	8 1/16	9 9/32	10 1/8	10 31/32	11 13/16	12 21/32	13½	15 3/16	16 7/8	
28	3½	4 3/8	5¼	6 1/8	7	7 7/8	8¾	9 5/8	10½	11 3/8	12¼	13 1/8	14	15¾	17½	
29	3 5/8	4 17/32	5 7/16	6 11/32	7¼	8 5/32	9 1/16	9 31/32	10 7/8	11 25/32	12 11/16	13 19/32	14½	16 5/16	18 1/8	
30	3¾	4 1/16	5 5/8	6 9/16	7½	8 7/16	9 3/8	10 5/16	11¼	12 3/16	13 1/8	14 1/16	15	16 7/8	18¾	
76	9½	11 7/8	14¼	16 5/8	19	21 3/8	23¾	26 1/8	28½	30 7/8	33¼	35 5/8	38	42¾	47½	
77	9 5/8	12 1/32	14 7/16	16 27/32	19¼	21 21/32	24 1/16	26 1/2	28 7/8	31 9/32	33 11/16	36 3/32	38½	43 5/16	48 1/8	
78	9¾	12 3/16	14 5/8	17 1/16	19½	21 15/16	24 3/8	26 13/16	29¼	31 11/16	34 1/8	36 9/16	39	43 7/8	48¾	
79	9 7/8	12 5/32	14 13/16	17 9/32	19¾	22 7/32	24 11/16	27 5/32	29 5/8	32 3/32	34 9/16	37 1/32	39½	44 7/16	49 3/8	
80	10	12½	15	17½	20	22½	25	27½	30	32½	35	37½	40	45	50	

FIG. 5

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COMPOSITION-SELECTING FRAME

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Application October 26, 1945, Serial No. 624,675

2 Claims. (Cl. 88—24)

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This invention relates to composition-selecting apparatus adapted to be used by photographers in preparing negatives or prints for enlargements; by teachers instructing pupils in the art of composition; by commercial layout artists in connection with precision cropping of photographs or sketches for page proofs; and in various other relations which will be apparent to those skilled in photography and commercial art.

More particularly, the invention consists in the provision of composition-selecting apparatus comprising a work-holding frame in which a negative, print, sketch or the like is held flat against a transparent supporting surface and a composition-selecting frame including a parallelogrammatic arrangement of composition-selecting masking strips movable relatively to each other over the composition of the negative, print or sketch until only a desired area, which may comprise any part of the total composition, is outlined by the inner edges of said strips. The composition-selecting strips may be provided with calibrated graduations which give the exact dimensions of the selected area of composition outlined by said strips and enables the user to determine, by reference to a prepared chart, the dimensions of the space which the selected area of composition will occupy for a given enlargement.

In the field of photography the invention is particularly useful to photographers for preparing negatives and prints for enlargement by darkroom men who, although good technicians, may not be sufficiently skilled in the art of composition to select the best composition or the composition the photographer may have in mind for enlargement. In such cases the photographer, after adjusting the masking strips to outline the desired area of composition, may use the inner edges of the strips as a guide for drawing around the selected composition a border indicating that the composition lying outside the border is to be excluded from the enlargement.

In the field of instruction the teacher, by adjusting the masking strips to selectively outline various areas of a composition and comparing the relative merits of the selected areas from a composition viewpoint, is able to give clear demonstrations of the art of composition.

In the field of commercial art the invention provides layout artists with a convenient apparatus for cropping photographs or sketches for page proofs and quickly determining the number of times the cropped composition may, if necessary, be enlarged without exceeding the available space.

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Another feature of the invention resides in the provision of a work-holding frame adjustable to vary the tilt of the selected composition outlined by the composition-selecting strips. This feature of the invention enables a desired forward or backward lean of the composition to be achieved whenever this is necessary to obtain the best effects.

Proceeding now to a more detailed description of this invention reference will be had to the accompanying drawings, in which—

Fig. 1 is a rear perspective view of a composition-selecting apparatus embodying my invention. In this view the selector frame is shown in a vertical position with the associated work holder frame swung to a horizontal position to facilitate placement or removal of the work.

Fig. 2 is a side view of said apparatus with the selector and work holder frames in the relative positions which they occupy when in use.

Fig. 3 is a front perspective view of said apparatus showing the composition-selecting strips in one position.

Fig. 4 is a plan view of said apparatus showing the composition-selecting strips in a different position from that shown in Fig. 3.

Fig. 5 is a view of a part of a reference chart which, in conjunction with the calibrated graduations on the composition-selecting strips, enables the user of the apparatus to quickly determine the dimensions of the space which the selected area of composition outlined by the composition-selecting strips will occupy for a given enlargement.

In these drawings the composition-selecting frame and the work-holding frame are respectively indicated at 5 and 6.

The composition-selecting frame 5 comprises a box-like structure provided with a central opening 7 over which a disk 8 is rotatably secured in place by supporting and retaining strips 9. Disk 8 is provided with a central opening 10 and an operating knob 11 and serves as an adjustable carrier for the work-holding frame 6.

The work-holding frame 6 comprises a marginal portion 12 in which a ground glass, plastic, or other suitable transparent pane 13 is secured to provide a supporting surface against which a negative, print or sketch represented by the dotted line showing 14 is flatly held by a parallelogrammatic arrangement of independently adjustable work-holding strips 15. The strips 15 are slightly bowed in the direction of the trans-

parent pane 13 to bear against the underlying negative, print or sketch with sufficient pressure to prevent casual displacement thereof. These strips 15 are adjustable so that they may be arranged to bear against the marginal edges of a negative, print or sketch of any size within the capacity of the work holder. One side of the marginal portion of frame 6 is fastened by hinges (not shown) to one side of a rectangular member 17 which is carried by disk 8 and borders the opening 10. Frame 6 and member 17 are also interconnected by collapsible struts 18 which serve, when extended, to support and lock frame 6 in the position shown in Fig. 1. These struts 18 are collapsible to permit frame 6 to be swung to a position in which it lies within member 17 parallel with the rear or bottom surface of disk 8. In this position of frame 6 the negative, print or sketch carried thereby is exposed through the central opening 7 of the composition-selecting frame 5.

The composition-selecting strips are indicated at 19, 20, 21 and 22. These strips lie within the box-like composition-selecting frame 5 and are provided with calibrated graduations 23 which enable the user to determine the exact dimensions of the selected area of composition outlined by said strips.

Each of the strips 19, 20, 21 and 22 is provided with terminal sleeves 24 and 25. Terminal sleeve 24 of strip 19 is in screw-threaded engagement with an operating shaft 26 which passes through and serves as a guide for the non-threaded terminal sleeve 25 of strip 20, said shaft being journalled in suitable bearings 27 and being provided with a knurled portion 28 which enables it to be rotated by hand to move strip 19 relative to strip 20. Sleeve 25 of strip 19 is a non-threaded sleeve which travels along and is guided by a screw shaft 29 which lies parallel with shaft 26 and is journalled in bearings 30. Shaft 29 is in screw-threaded engagement with sleeve 24 of strip 20 and provides an operating shaft by means of which strip 20 may be moved relative to strip 19. Shaft 29 is also provided with a knurled portion 31 which enables it to be turned by hand. Sleeve 24 of strip 21 is in screw-threaded engagement with an operating shaft 33 which passes through and guides the non-threaded sleeve 25 of strip 22. Shaft 33 is journalled in bearings 34 and is provided with a knurled portion 35. Sleeve 25 of strip 21 is a non-threaded sleeve which travels along and is guided by a screw shaft 36 having threaded engagement with the sleeve 24 of strip 22. Shaft 36 is journalled in bearings 37 and is provided with a knurled portion 38.

From the foregoing it will be seen that, by turning shafts 26 and 29, the parallel strips 19 and 20 may be moved toward or away from each other either simultaneously or independently. Likewise, the strips 21 and 22 may be simultaneously or independently moved toward or away from each other by turning shafts 33 and 36. It will also be apparent that the strips 19, 20, 21 and 22 are adjustable to outline any desired area of the composition of the work over which said strips are movable when the composition-selecting and work-holding frames are arranged as shown in Fig. 2. This will be readily understood by comparing the showing of Fig. 3, in which the composition-selecting strips are arranged in their outermost position, with the showing in Fig. 4 in which the composition-selecting strips have been adjusted inwardly so that their inner edges

are disposed to outline only a portion of the area of the total composition of the work. Since the composition-selecting strips are independently adjustable it will be apparent that they may be positioned to outline any desired area of the composition regardless of its location.

In the present instance the graduations 23*a* of the composition-selecting strips are calibrated so that each graduation represents one-eighth of an inch. Referring to the showing in Fig. 4 it will be noted that the selected area of the composition outlined by the inner edges of the composition-selecting strips is 24 x 32 as measured in terms of the number of graduations on the edges of the strips bordering said area. Bearing in mind that each graduation represents one-eighth of an inch, the space which the selected area of composition will occupy when enlarged a given number of times may be readily ascertained by reference to the prepared chart shown in Fig. 5. By referring to the first and second columns of this chart it will be seen that the thirty graduations representing the length of the selected area of composition as measured by the composition-selecting strips, is equal to 3¾". If it is desired to ascertain the length in inches of the selected area of composition when enlarged two times, this is readily found by referring to the proper enlargement column which, in this case, is column 6 and noting the number of inches given in this column in the space lying opposite the number 30 in column 1. In this connection it will be noted that each of the columns lying to the right of the second or inch column of the chart has a heading indicating the degree of enlargement to which the numerals in said column apply. For example, the figures in the third column apply to a 1¼" enlargement of the selected area of composition and the figures in each succeeding column apply to an enlargement which is ¼" greater than the enlargement to which the figures of the preceding column apply. While only a portion of the prepared chart is shown it will be readily understood from the foregoing that the chart will contain a suitable number of columns to take care of any area of composition which is capable of being bordered and measured by the inner edges of the composition-selecting strips.

The frame 6 is preferably provided with a supporting leg 6*a* which swung downwardly to support the frame in the position shown in Fig. 1. When frame 6 is swung to a position within member 17 the leg 6*a* is positioned parallel with the side of frame member 6 to which it is attached and is received in an offset portion 17*a* of member 17.

Having thus described what I now consider to be the preferred embodiment of this invention, it will be understood that various modifications may be resorted to within the scope and spirit of the invention as defined by the appended claims.

I claim:

1. In composition-selecting apparatus of the character described, a main supporting structure provided with a central opening and with a disk rotatably secured in place over said opening, said disk being itself provided with a central opening, a work holding frame comprising a centrally apertured frame member having one side hingedly secured to said disk adjacent the central opening of the disk, a transparent pane carried by said work holding frame and arranged over the opening in said frame to provide a flat

supporting surface for a negative print, sketch, or other work, said work holding frame being also provided with a parallelogrammatic arrangement of work holding strips adapted to hold the work in place against said pane, said work holding frame being swingable from a covering position over the opening in said disk to an inoperative position clear of said opening, and composition-selecting strips carried by said main supporting structure, said composition-selecting strips being independently movable over the composition of work carried by the work holding frame so that said strips may be positioned with their inner edges bordering a selected area of composition which may comprise any part of the total composition.

2. In composition-selecting apparatus of the character described, a main supporting structure provided with a central opening and with a disk rotatably secured in place over said opening, said disk being itself provided with a central opening, a work holding frame comprising a centrally apertured frame member having one side hingedly secured to said disk adjacent the central opening of the disk, transparent pane carried by said work holding frame and arranged over the opening in said frame to provide a flat supporting surface for a negative print, sketch, or other work, said work holding frame being also provided with a parallelogrammatic arrangement of work holding strips adapted to hold the work in place against said pane, said work holding frame being swingable from a covering position over the opening in said disk to an inoperative position clear of said opening, and composition-selecting strips carried by said main supporting structure, said strips being arranged in intersecting parallel pairs, and being provided with a threaded and non-threaded terminal sleeve, means operable for independently moving each composition-selecting strip relative to the remaining strips over the composition of work carried by said work holding frame, so that said strips may be positioned with their inner edges bordering a selected area of composition which may comprise any part of the total composition, said means comprising a plurality of screw-threaded operating shafts arranged about the main supporting structure to project through the terminal sleeves at each end of the parallel pairs of composition-selecting strips, the shaft at each end of a pair of composition-selecting strips being in screw-threaded engagement with the threaded sleeve of one strip and serving as a guide for the non-threaded sleeve of the other strip whereby each shaft is adapted to move one of a pair of composition-selecting strips relative to the other while serving as a non-operative guide to said other strip.

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