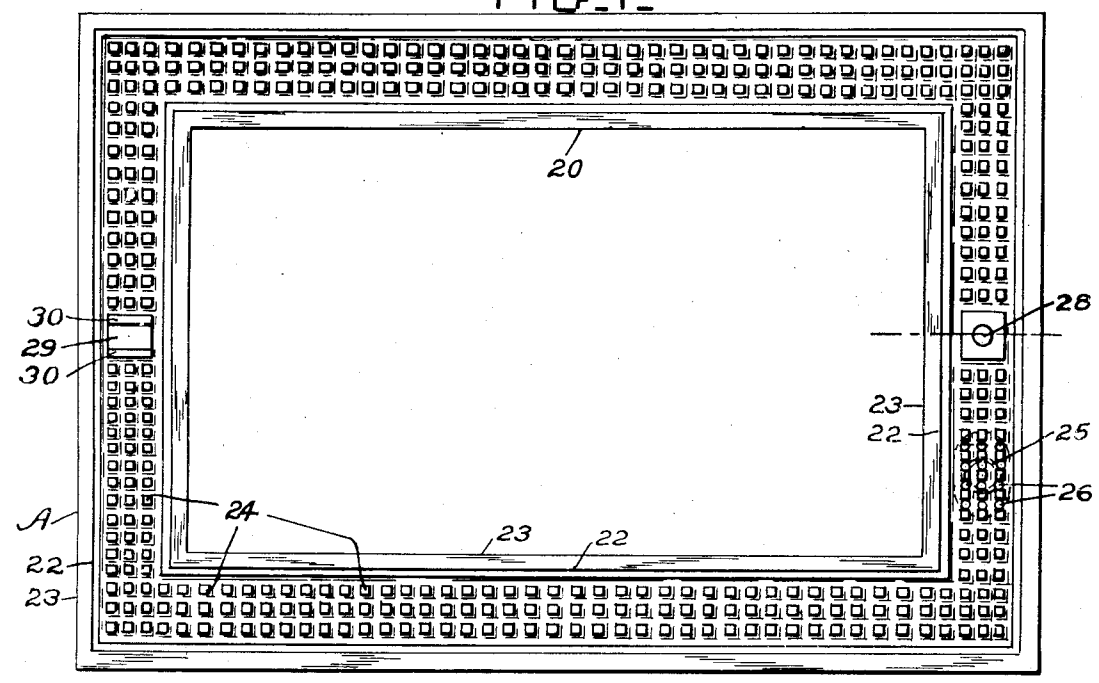
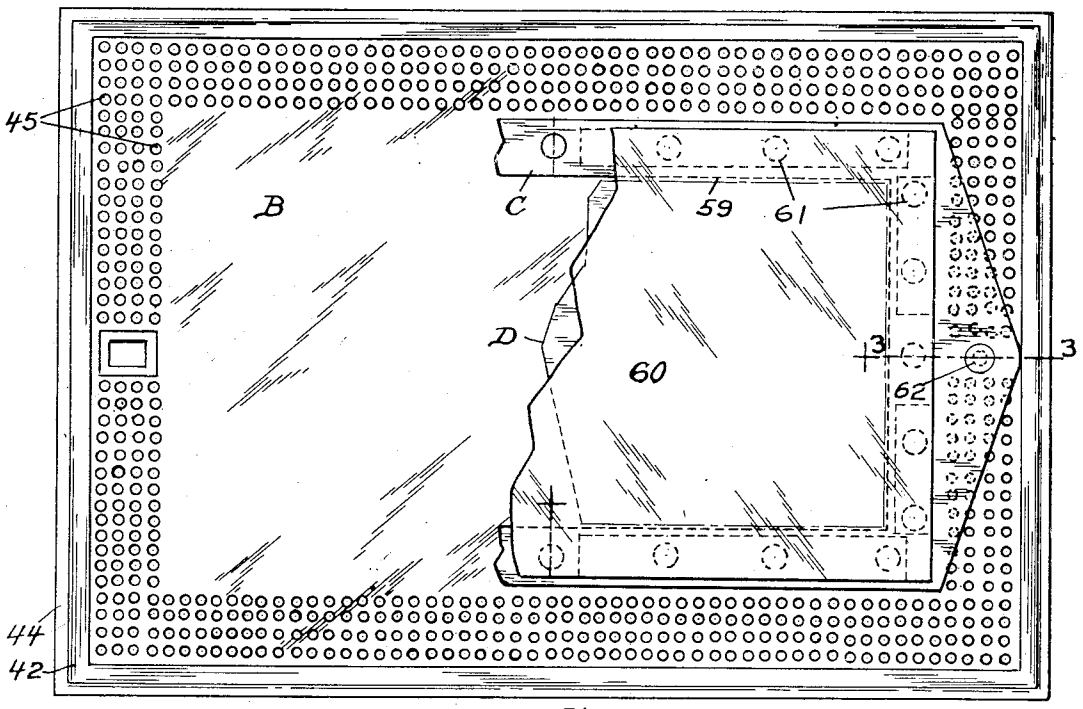
Oct. 3, 1939. W. C. HUEBNER 2,174,882

VACUUM HOLDER

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FIG. 1.





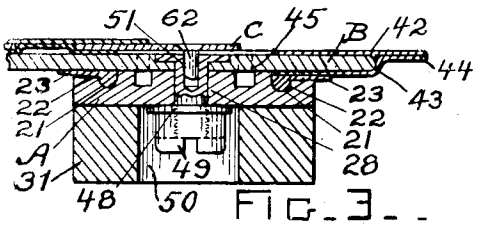


FIG. 3.

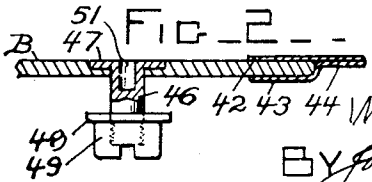


FIG. 4.

FIG. 2.

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VACUUM HOLDER

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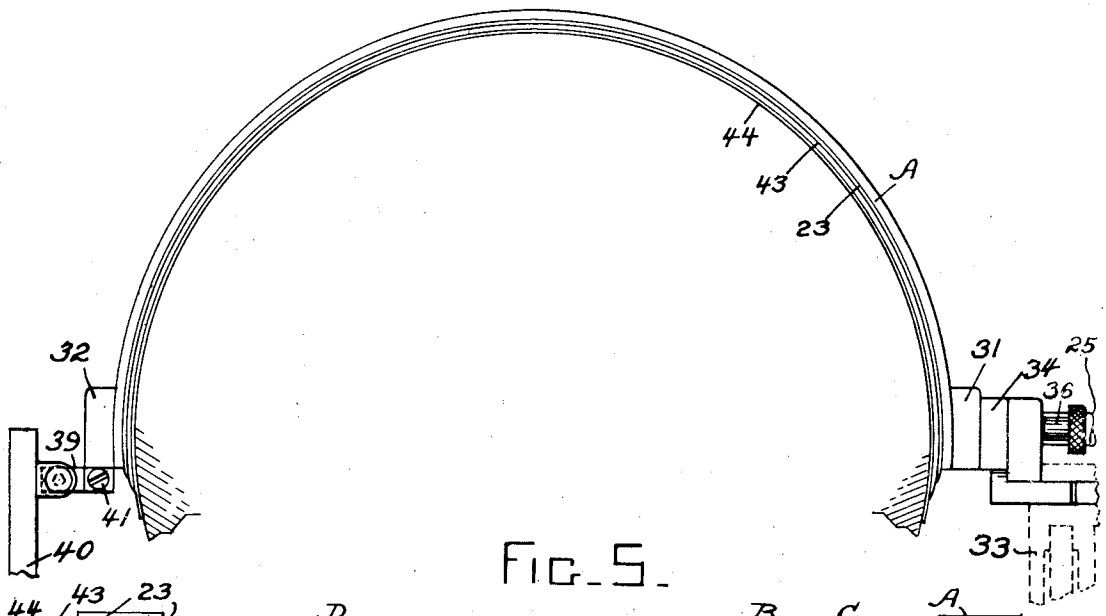


FIG. 5.

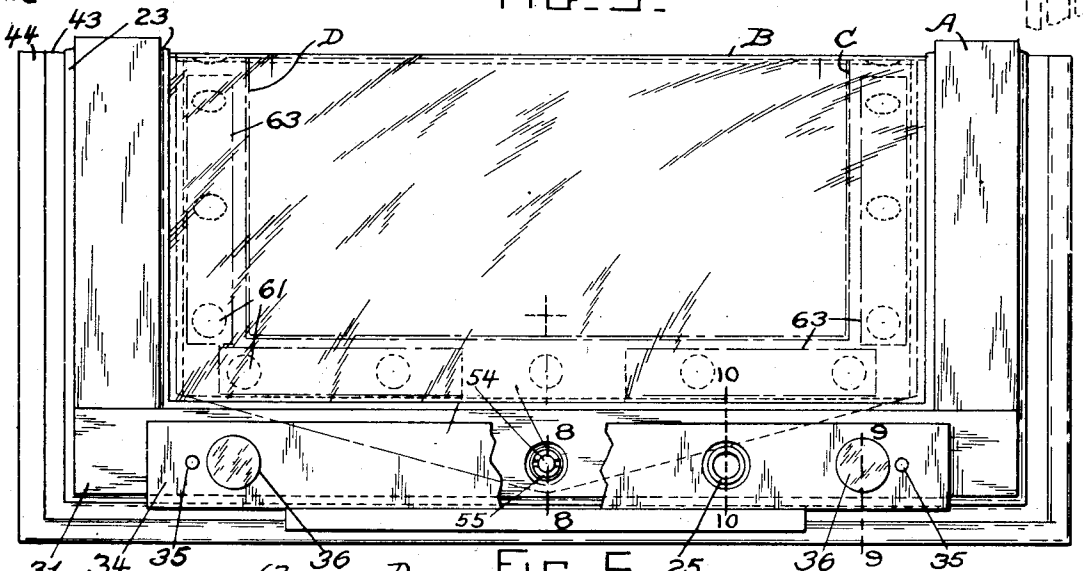


FIG. 6.

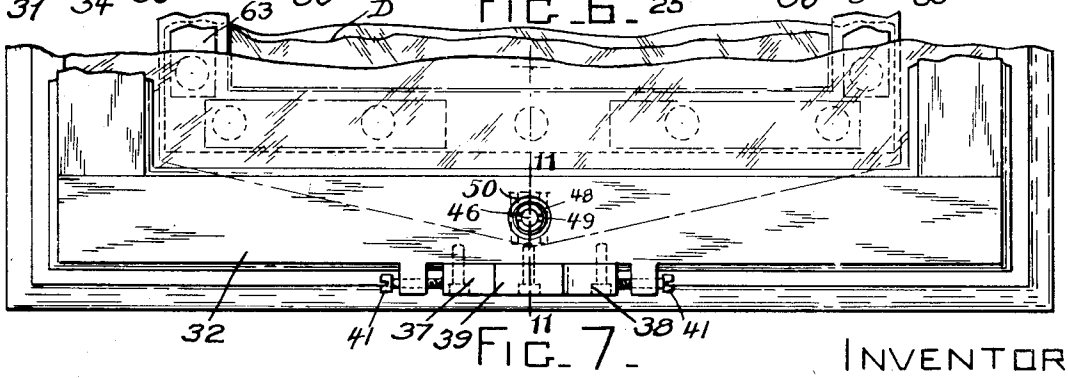


FIG. 7.

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VACUUM HOLDER

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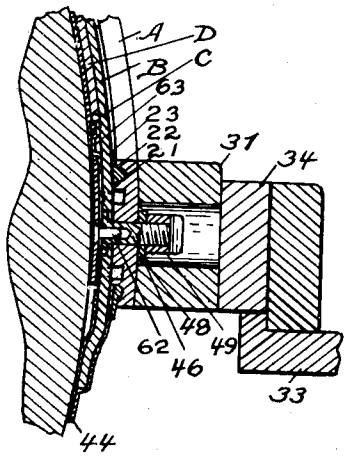


FIG. 8.

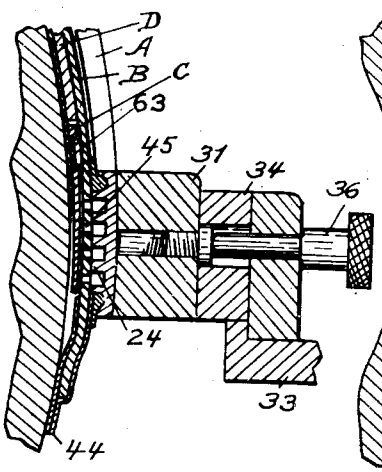


FIG. 9

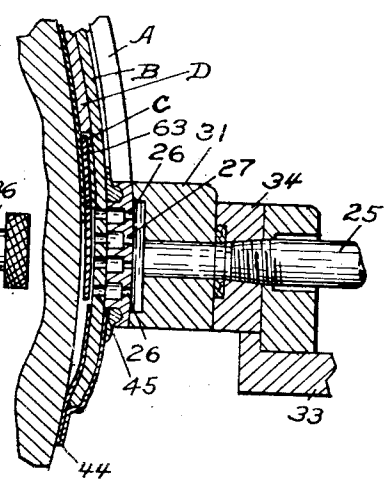


FIG. 10.

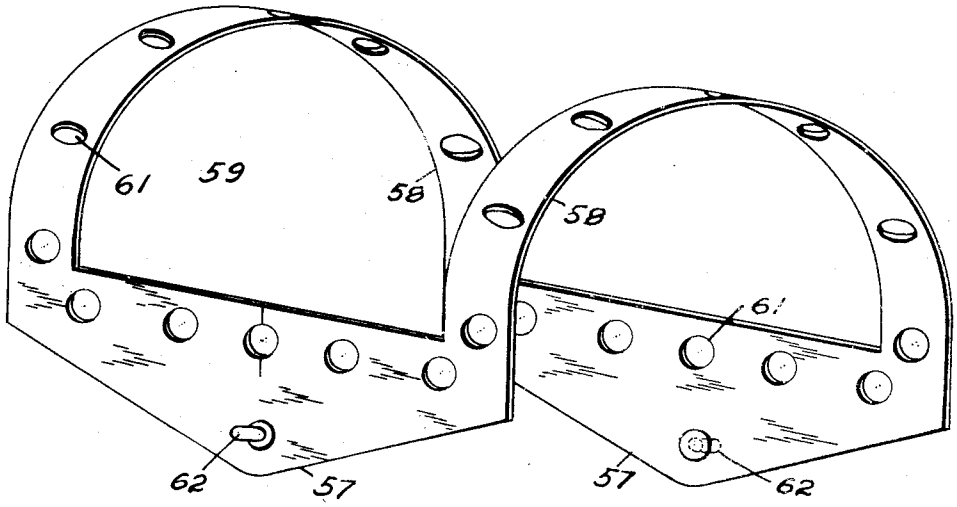


FIG. 12.

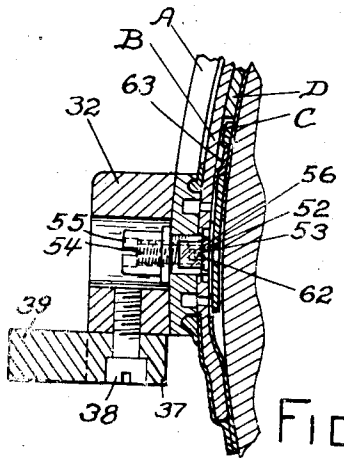


FIG. 11.

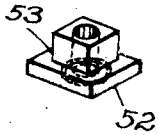


FIG. 13.

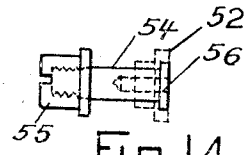


FIG. 14.

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Patented Oct. 3, 1939 2,174,882

UNITED STATES PATENT OFFICE

2,174,882

VACUUM HOLDER

William C. Huebner, New York, N. Y.

Application July 14, 1938, Serial No. 219,172

12 Claims. (Cl. 95—76)

This invention relates to improvements in vacuum holder and more particularly vacuum holders for negatives and positives used in making contact prints on the sensitized surfaces of printing cylinders.

One object of this invention is to provide a vacuum type holding means for negatives and positives used in the making of photographic contact prints on the sensitized surfaces of printing cylinders, which vacuum holding means combines both rigid and flexible features so arranged that, when the negative or positive for printing is mounted in the holding means, the negative or positive will contact the sensitized surface of the cylinder throughout the entire area of the negative or positive, free from any wrinkles or distortion so that, when the vacuum pressure is applied, undercutting of the sensitive coating of the printing cylinder by the light rays will positively be prevented.

Another object of the invention is to provide a vacuum holder of the type indicated in the preceding paragraph, the component parts of which are so constructed and coordinated that a film carrying an image may be held in the vacuum holder with the image in exact register as predetermined by a predetermined register device.

Still another object of the invention is to provide vacuum holding means of the type hereinbefore indicated which comprises, broadly, a curved main holder proper and a plurality of curved cooperable auxiliary or secondary holders such that the printing films may be individually registered, while in a curved condition in a separate predetermined registering device, one at a time and then secured in registered position while still in the curved condition, to individual auxiliary or secondary holders and the latter then inserted, successively as desired, in the main holder while maintaining register of the printing film whereby a number of films may be photographed onto the sensitized surface of the printing cylinder each in a predetermined and known position previously computed by a layout sheet.

More specifically, an object of this invention is to provide what may be termed a semi-flexible vacuum holder for printing films for use in cylinder photo composing machines which vacuum holder comprises, broadly, a main rigid frame conformed to the cylinder with which it is adapted to be used; a transparent semi-flexible support mounted on the inner curved side of the main frame, which support may readily conform itself precisely to the exact size and curvature of the printing cylinder circumferentially of the latter while at the same time restrained against any displacement in a direction parallel to the axis of the printing cylinder; and an auxiliary or secondary combined film-holding and register maintaining plate, which in turn is detachably mounted on the inner curved side of the transparent semi-flexible support in a predetermined registered position with respect to the latter and the main frame, said auxiliary plate being comprised of material of sufficient rigidity to normally retain its shape and curved formation, but at the same time of sufficient inherent springiness to permit its being sprung into place in attaching the same to the other parts of the vacuum holder. A transparent and flexible filler member is also preferably employed, the same being of such size and contour as to substantially occupy the opening of the register maintaining plate and of such thickness as to maintain circumferential contact between the image film and the semi-flexible transparent support to thereby prevent wrinkles or waves being produced in the image film. The improved vacuum holder is additionally provided with suitable mean to obtain an air seal between the main frame and semi-flexible support and between the latter and the sensitized surface of the printing cylinder.

Other objects of the invention will more clearly appear from the description and claims hereinafter following.

In the drawings forming a part of this specification, Figure 1 is a plan view of the inner side of the main rigid frame of the improved vacuum holder. Figure 2 is a similar view showing the transparent flexible support having the auxiliary film holder and film mounted thereon applied to the holder, parts of the auxiliary holder and film being broken away for clearness. In both Figures 1 and 2, the parts are illustrated as in a flat or planar condition in order that the construction may be better illustrated, it being understood, however, that in actual use, the frame will be curved to conform with the size of the cylinder with which it is to be used and as illustrated in Figure 5 hereinafter described. Similarly, the transparent support and auxiliary holder of Figure 2 will be curved as actually used and as illustrated in subsequent figures. Figure 3 is a detail sectional view, upon an enlarged scale, corresponding to the line 3—3 of Figure 2. Figure 4 is a view similar to Figure 3, but showing the semi-flexible transparent support de-

tached. Figure 5 is an end elevational view of the improved holder shown as mounted in a photographic cylinder composing machine and in engagement with the sensitized surface of a printing cylinder, the latter being partially indicated in section. Figure 6 is a front elevational view of the improved holder as the same appears looking from the right of Figure 5, a portion of the adapter bar of the composing machine being broken away in order to illustrate certain details of construction. Figure 7 is a view similar to Figure 6, but looking at the holder from the left of Figure 5, parts being broken away in Figure 7 to better accommodate the figure on the sheet. Figures 8, 9 and 10 are detail vertical sectional views, upon enlarged scales, corresponding to the section lines 8—8, 9—9 and 10—10, respectively, of Figure 6. Figure 11 is an enlarged vertical, detailed, sectional view corresponding to the section line 11—11 of Figure 7. Figure 12 is a perspective view of the auxiliary or secondary combined film-holding and register-maintaining plate or holder, detached. Figure 13 is a perspective of one of the register bushings and Figure 14 is a detail of a bush pin employed in the construction.

In the preferred embodiment of the invention as illustrated in the drawings, the improved vacuum holder comprises, broadly, a main frame A; a support B; a secondary or auxiliary combined film-holder and register-maintaining plate C and a filler member D.

Referring first to the main frame A, the same is comprised of any suitable material, such as metal, that will maintain its shape permanently. Said frame A, in general outline, is rectangular with a central opening 20 for the passage of light. Said frame A is provided around its outer and inner edges with grooves 21—21 in which are seated and secured air sealing strips 22—22 of rubber or other suitable material, said strips 22 being preferably of cross section as best illustrated in Figure 3, that is, with a rib fitting within the groove 21 and an outwardly extended gradually tapering flap 23, the flaps extending slightly beyond the extreme inner and outer edges of the metal frame, as shown.

Between the sealing gaskets 22, the frame A, on its inner curved side, is provided with a plurality of knobs or lugs 24—24 entirely around the frame, said knobs 24 having their surfaces flush and providing a backing for the flexible support B, hereinafter described. The spaces between the knobs 24 obviously provide air channels entirely around the frame A which are in communication with a vacuum pipe 25 by means of the openings 26 and chamber 27, best illustrated in Figure 10.

The main frame A is further provided with two registering devices at opposite ends thereof. The one at the right hand end, as viewed in Figure 1, comprises a dowel opening 28 formed in an enlarged square knob. On the opposite or left hand end of the frame A, as viewed in Figure 1, the register device comprises a horizontally extending slot or groove 29, defined by upstanding ribs 30—30 on opposite sides thereof. The two register devices 28 and 29 of the frame A, are exactly alined in what would correspond to a plane exactly perpendicular to the axis of the printing cylinder with which the improved vacuum holder is adapted to be employed.

On what may be termed the front end of the frame A, that is, the right hand end as viewed in Figure 1, the frame A has rigidly secured thereto on its outer side a bar 31, as shown in Figures 3, 8, 9 and 10, and is similarly provided on its opposite side or back with another bar 32, as shown in Figure 11, for the purpose hereinafter described. As hereinbefore indicated, the main frame A will be curved to conform to the particular size printing cylinder with which it is intended to be used in the cylinder composing machine and will permanently retain such curvature and be of rigid construction. As best illustrated in Figure 5, the length of the frame A as considered circumferentially of the cylinder, is approximately half the circumference of the cylinder with which it is intended to be used, but obviously it can be shortened and of any suitable size to meet particular requirements. In width, the frame A may vary as desired, dependent upon the particular class of work in which used.

The frame A of the improved holder is attached to the photographic cylinder composing machine in a predetermined position with reference thereto by means of the bar 31, hereinbefore referred to. The composing machine will, as customary, be provided with a saddle or equivalent, a portion of which is indicated at 33 in Figures 8, 9 and 10, which saddle, as will be understood by those skilled in the art, will be adjustable lengthwise of and parallel to the axis of the cylinder by suitable means. The bar 31 of the frame A is definitely registered with respect to the saddle of the composing machine through the intermediary of an adapter bar 34 having dowel pins 35—35 (see Figure 6) which engage in corresponding dowel holes of the holder bar 31. The holder is retained in place by the lug screws 36—36 entered through the saddle and adapter bar and threaded into the holder bar 31, as best shown in Figures 6 and 9.

The bar 32 at the back or rear end of the frame A, of the holder, as best illustrated in Figures 7 and 11, has secured thereto a plate 37 by means of screws 38, said plate 37 having an outstanding lug 39 adapted to be snugly received in a cooperable secondary saddle 40 of the cylinder composing machine, which saddle is indicated diagrammatically in Figure 5. The plate 37 as best illustrated in Figure 7 may be very accurately adjusted edgewise of the frame A by means of the end adjusting set screws 41—41, shown in Figure 7, so as to insure absolute alinement of the front and back ends of the holder frame A when in the cylinder composing machine.

The support B preferably consists of a rectangular sheet of relatively thick, semi-flexible and transparent, film. Said support B will conform in size and outline to that of the frame A, as shown in Figure 2, and is provided around its periphery with inner and outer air sealing strips 42 and 43 which are extended beyond the edge of the support B to form a double thickness flexible flap 44. The strip 43 is so positioned as to engage the outer sealing strip 22 of the frame A all around the latter and the other sealing strip 42 will engage the sensitized surface of the printing cylinder all around the vacuum holder, as will be evident. The double flap 44, which is extended beyond the edges of the support B provides an exceptionally flexible and efficient means for obtaining the initial air seal when the vacuum is first applied, between the vacuum holder and the sensitized surface of the cylinder.

The support B is also provided, around all sides thereof, with a series of relatively closely spaced perforations 45—45, all disposed within the area

defined by the two sealing strips 22 of the frame A and adapted to provide ready communication with the air channels of the frame A all around the latter so that, when the vacuum is applied, the air will be sucked out with exceding rapidity from within the entire area sealed off between the support B and the sensitized surface by the sealing means 42—44.

At the right hand end, as viewed in Figure 2, the transparent flexible support B has secured thereto a bush or dowel 46 which accurately fits the dowel hole 28 of the frame A and coacts therewith to provide a register device for the transparent support B. Said dowel 46 is flanged, as indicated at 47, and the support B is suitably recessed to accommodate said flange flush with the surface of the support, as shown in Figure 4. The inner end of the dowel 46 is threaded and adapted to receive a washer 48 and nut 49 for fixedly securing the front or right hand end of the transparent support B to the frame A, as clearly shown in Figures 2, 3 and 8. The bar 31 of the frame A, is suitably recessed, as indicated at 50, to accommodate the nut and washer and to permit access thereto, as shown. Said bush or dowel 46 is provided with a dowel hole 51 opening to the inner side of the support B, for the purpose hereinafter described.

At its back or left hand end, as viewed in Figure 2, the support B has secured thereto a lug 52 (see Figures 11 and 13), which has a square section 53 accurately machined to snugly slidably fit the slot 29 of the frame A so as to permit relative adjustment between the left hand or back ends of the frame A and support B in a direction circumferentially of the printing cylinder, but at the same time absolutely preventing by relative shift between the frame A and support B in a direction parallel to the axis of the cylinder. The lug 52 is secured to the holder B and slidable on the frame A, by means of the bush pin 54, shown in Figure 14 which is locked to said lug 52 by the nut 55. The bush pin 54 is provided with a dowel hole 56 similar to the dowel hole 51, hereinbefore referred to, and for a similar purpose, about to be described.

With the construction of main frame A and support B, as hereinbefore described, it is evident that, while the frame A is, in itself, rigid, nevertheless the vacuum holder proper may be considered semi-flexible by reason of the support B, since the latter may obviously readily accommodate itself, circumferentially of the printing cylinder, although restrained from any displacement lengthwise of the cylinder. It will further be observed, that such accommodation of the transparent support B to the cylinder surface, is always from the fixed or key register position determined by the dowel hole 28 of the frame A and bush pin 46 of the support B.

The auxiliary plate or holder C, best shown in detail in Figure 12, preferably consists of some thin sheet metal such as steel, brass or copper which will normally retain the shape to which it is formed. As shown, said plate or holder C comprises two end sections 57—57 integrally united by two relatively narrow edge sections 58—58, the latter being curved to conform to the curvature of the printing cylinder and main holder with which it is to be used. With such construction, it is evident that the auxiliary holder C has a large central opening 59 for the passage of light to permit of the necessary exposure of the printing film such as indicated at 60 in Figure 2. The auxiliary holder C is further provided entirely around the light opening 59 with a series of holes 61—61 for the purpose hereinafter described, and further, at each end thereof has a dowel register pin 62—62. The latter are of such size and so located as to be snugly received within the dowel openings 51 and 56 of the bush pins of the transparent support B, hereinbefore described.

The member C, as hereinbefore indicated, is a combined film-holder and register-maintaining plate and is utilized in the following manner. The film (negative or positive) having the image which is to be photographically reproduced on the sensitized surface of the printing cylinder, is first registered in a pre-registering device, not deemed necessary to be shown in ths application. In such pre-registering device, the film is registered while in a curved condition corresponding to the curvature of the cylinder onto which the image is to be photographed. While in such curved pre-registered condition, the auxiliary plate C is placed thereover likewise in registered position through the cooperation of the register dowel pins 62 and the pre-registering apparatus. With the plate C thus lying over the film in predetermined registered condition with respect thereto, strips of adhesive friction tape, as indicated at 63—63 in Figures 3, 6 and 7, are then applied all around the holder C over the holes 61 and pressed down within said holes all around so as to engage the film through said holes and thereby secure the film to the holder C in fixed and registered position. When the film has thus been secured to the holder C, the latter is then removed from the pre-registering device and the filler member D of proper size and thickness, then preferably placed within the light opening of the holder C. The holder C, upon being sprung slightly to decrease its radius, may then have its dowel pins 62 entered into the bush dowel openings 51 and 56 of the holder B whereupon, as evident, the holder C will be maintained in registered position. In this connection, while the holder C may be sprung circumferentially slightly, as described, nevertheless its construction is such that there will be no distortion of the holder C in any other manner and, when allowed to spring into place in the main vacuum holder proper, the image of the film will occupy the registered position which it had in the predetermined registering apparatus. With the film attached to the holder C in registered position and the holder in place within the main vacuum holder proper with the filler member D interposed between the film and the holder B, the film will then engage the sensitized surface of the printing cylinder and, when the vacuum is applied, the film will be engaged with the sensitized cylinder surface in perfect contact throughout its area and free from wrinkles or waves. As will be understood by those skilled in the art, the location of the image to be printed onto the cylinder surface will be determined by adjustments of the holder lengthwise of the cylinder and rotation of the cylinder all within the cylinder composing machine, it being obvious, however, that the position and location of the image on the film will be absolutely maintained with reference to the registering devices of the composing machine with which the registering devices of the holder directly cooperate.

As will be understood by those skilled in the art, a plurality of holders C may be employed so that such holders with the films secured and registered thereon, may be successively inserted

and removed from the main vacuum holder proper to thus speed up the work. It will further be understood that holders C may be employed having different area light openings 59 and that, when necessary, portions of the printing film may be masked out in the usual manner.

As will be apparent from the preceding description taken in connection with the drawings, the semi-flexible film support, particularly in conjunction with the filler member D, absolutely insures full and complete surface contact with the sensitized surface of the cylinder without danger of any wrinkles in the printing film, formation of air pockets or injury to the sensitized surface. At the same time, the rigid frame insures that there shall be no displacement of the support or the auxiliary holder and the printing film carried thereby, in a direction parallel to the axis of the cylinder. The semi-flexible film support obviously will accommodate itself to any slight variations that may be present in the diameters of cylinders, while at the same time, on account of the fixed attachment between the support and frame and the cooperable registering formations between the frame and the photo composing machine, the exact position and location of the image of any printing film mounted on the vacuum holder proper by means of the auxiliary holder, is always maintained.

Although there has herein been shown and described what is now considered the preferred manner of carrying out the invention, the same is merely illustrative and not by way of limitation, and various changes and modifications may be made without departing from the spirit of the invention, and all such changes and modifications are contemplated as come within the scope of the claims appended hereto.

What is claimed is:

1. Vacuum holding means for a printing element for making a photographic contact print on the sensitized surface of a printing cylinder comprising: a relatively rigid frame curved to conform to the printing cylinder and having an opening therein for the passage of light rays; a transparent, semi-flexible support substantially coextensive with and positioned on the inside curved face of said frame and extending over the light opening thereof; means providing an air sealed area between the support and frame around the light opening of the latter, said area being provided with an outlet adapted to be placed in communication with air exhausting means; means for securing one end of said support to the corresponding end of the frame in a fixed position; cooperable means on the opposite ends of said support and frame relatively adjustable in a direction circumferentially only of the cylinder; means around the periphery of the support to provide an air sealed area between the support and sensitized surface of the cylinder, said area being in communication with said air sealed area between the support and frame; an auxiliary printing element holder having a light opening therein, said auxiliary holder being also curved and positioned on the inside face of the support within said air sealed area between the support and cylinder surface; and means, at opposite ends of said support and auxiliary holder, for detachably securing the latter to the support and frame.

2. Vacuum holding means for a printing element for making a photographic contact print on the sensitized surface of a printing cylinder comprising: a relatively rigid frame curved to conform to the printing cylinder and having an opening therein for the passage of light rays, said frame having registering and retaining formations on one edge thereof arranged to cooperate with complementary registering and retaining formations of a cylinder photo composing machine; a transparent, semi-flexible support positioned on the inside curved face of said frame and extending over the light opening thereof; means providing an air sealed area between the support and frame around the light opening of the latter, said area being provided with an outlet adapted to be placed in communication with air exhausting means; means for securing said support to that end of the frame having said registering and retaining formations in a fixed position; cooperable means on the opposite ends of said support and frame relatively adjustable in a direction circumferentially only of the cylinder; means around the periphery of the support to provide an air sealed area between the support and sensitized surface of the cylinder, said support being perforated to provide free communication between said last named sealed area and the first named sealed area; an auxiliary printing element holder having a light opening therein, said holder being curved and positioned on the inside face of the support within said air sealed area between the support and cylinder surface; and cooperable detachable sets of means on said support and auxiliary holder, at said ends of the support attached to the frame, for detachably securing the auxiliary holder to the support and frame.

3. Vacuum holding means for a printing element for making photographic contact prints on sensitized surfaces of printing cylinders, comprising: a rigid frame curved to conform to the curvature of the printing cylinder surface and having a light opening therein; a transparent support on the inside curved face of said frame and extending over the light opening thereof; means providing an air sealed area between said support and frame around the light opening of the latter; means fixedly attaching said support to the frame substantially along only a line parallel to the axis of the cylinder whereby said support may adjustably accommodate itself to the exact size and curvature of the cylinder surface; means around the periphery of the support to provide an air sealed area between the support and sensitized cylinder surface; means providing air communication between said last named sealed area and the first named sealed area; an auxiliary printing element holder having a light opening therein, said holder being also curved and positioned on the inside face of the support within said air sealed area between the support and cylinder surface; and means for detachably securing the auxiliary holder to the inside of said support and frame.

4. Vacuum holding means for a printing element for making a photographic contact print on the sensitized surface of a printing cylinder comprising: a relatively rigid frame curve on its inner face to conform to the cylinder with which to be used and provided with a centrally disposed light opening; a transparent semi-flexible support disposed on the inside curved face of said frame and extending over the light opening of the latter; means providing an air sealed area between said support and frame around said light opening; registering and retaining formations on one end of said frame arranged to cooperate with complementary registering and re-

taining formations of a cylinder photo composing machine, said end of the frame extending parallel to the axis of the cylinder; means fixedly attaching said support to the frame along only substantially a line parallel to the axis of the cylinder, the unattached portions of said support being thereby adapted to accommodate themselves to the exact size and curvature of the cylinder surface; means to provide an air sealed area between said support and the sensitized surface of the cylinder when in contact with each other, said area being in communication with the first named air sealed area; an auxiliary printing element holder and registering member having a light opening therein, said member being normally curved to conform to the curvature of the cylinder and positionable on the inside face of the support within the air sealed area thereof formed between it and the cylinder surface; and cooperable registering and retaining formations on said support and auxiliary member for detachably retaining the latter in registered position with reference to the frame and the cylinder composer.

5. A vacuum holder of the character described, comprising: a frame of relatively rigid construction having a central opening for the passage of light therethrough and curved on its inner face to conform to a printing cylinder with which adapted to be used; a transparent support inherently flexible positioned on the inside curved face of said frame and extending over the light opening thereof; means providing an air sealed area between the support and frame around said light opening, said area being provided with a port adapted to be placed in communication with air exhausting means; means for fixedly securing said support substantially along only a line parallel to the axis of the cylinder to said frame whereby the remaining unattached portions of the flexible support may adjustably accommodate themselves circumferentially of the cylinder surface; means to provide an air sealed area between said support and the cylinder surface; and means on said support cooperable with corresponding complemental means of an auxiliary holder for detachably retaining an auxiliary holder on the inner curved side of said support.

6. A vacuum holder for use in the making of photographic contact prints on the sensitized surface of a printing cylinder comprising: a relatively rigid frame curved from one end to conform substantially to the printing cylinder and having a central light opening therein, said frame having registering and retaining formations on one of its ends arranged to cooperate with complementary registering and retaining formations of a cylinder photo composing machine; a transparent, semi-flexible support substantially coextensive with and positioned on the inside curved face of said frame and extending over the light opening thereof; means providing an air sealed area between the support and frame around the light opening; means, at said end of the support corresponding to that end of the frame having said registering and retaining formations, for fixedly securing said end of the support to the adjacent end of the frame; cooperable means on the opposite ends of said support and frame relatively adjustable in a direction circumferentially only of the cylinder, said support being provided also with register formations adjacent the ends thereof, for the detachable reception of complemental registering formations of an auxiliary film holder.

7. As an article of manufacture, an auxiliary film holder for vacuum holding means for use in making photographic contact prints on the sensitized surface of a printing cylinder, said auxiliary holder being normally curved to conform to the sensitized surface of the cylinder with which to be used and having a central light opening therein, said holder being comprised of material sufficiently rigid to normally maintain the curved form of the holder and at the same time sufficiently flexible to allow slight change of curvature, said holder being provided at opposite edges thereof with register formations cooperable with corresponding complemental formations of a vacuum holder proper.

8. As an article of manufacture, an auxiliary combined registering and holding member for a flexible film, said member being permanently curved in one direction to conform to the curvature of the printing surface of a printing cylinder with which adapted to be used, said member being comprised of material sufficiently flexible to allow of slight change of curvature and return to normal curvature, said member having a central light opening; registering dowel pins at opposite ends of said member on the outer curved side thereof; and means for securing a printing film to the inside curved face of said member.

9. A vacuum holding means of the character described, comprising: a generally, rectangular, relatively rigid frame having a central light opening therein and curved in one direction to conform to the curvature of a sensitized printing cylinder, said frame being provided around its outer and inner peripheries on the inside curved face thereof with air sealing gaskets and air channels in the area between said gaskets; a transparent, relatively heavy film-like support positioned on the inside face of said frame and substantially coextensive in area with the area of the frame and cooperable with the air sealing gaskets of the latter, said support being provided with perforations communicable with said air passages of the frame; means detachably but fixedly securing one end of said support to said frame; means, circumferentially opposite said attaching means, for slidably connecting the opposite end of said support to the adjacent end of the frame, said last named means permitting circumferential adjustment relatively between the support and frame while preventing displacement in a direction parallel to the axis of the cylinder; an air sealing gasket extending around the periphery of the support adapted to engage with the sensitized surface of the cylinder and form an air seal therewith; an auxiliary printing film holder and registering member also curved to conform to the cylinder and having a central light opening; and detachable cooperable dowel pin and dowel hole formations on said holder and support for detachably retaining the auxiliary holder.

10. Vacuum holding means for a printing film for making a photographic contact print on the sensitized surface of a printing cylinder, comprising: a rigid frame curved to conform to the cylinder with which to be used and having a central light opening; retaining and registering formations at one end of said frame cooperable with complemental registering and retaining formations of a cylinder photo composing machine; a transparent semi-flexible film support extending over the light opening on the inner side of said frame; means providing an air sealed area between said support and frame around the

light opening of the latter; means fixedly securing one end of the support to an end of the frame, the remainder of the support being freely adjustable relative to the frame in a direction circumferential of the cylinder; means to provide an air sealed area between said support and a cylinder surface; an auxiliary combined printing film-holding and registering member curved to conform to the cylinder and having a central light opening; and means for repeatedly detachably securing said member on the inner side of said support in a predetermined position and location with respect to said frame and registering formations of the latter.

11. A holder of the character described for making photographic vacuum contact exposures on a sensitized, cylindrical surface, said holder including a frame having a light opening therethrough and being of permanently curved formation to conform to the curvature of the cylindrical surface to be exposed; retaining and registering formations on said holder cooperable with complemental retaining and registering formations of a cylinder photo composing machine; detachable means for securing a transparent printing film to said holder in line with said light opening and on the inner side of said curved holder in a predetermined registered location correlated with said retaining and registering means of the holder; means for vacuum-sealing the area surrounding the printing film on the cylindrical surface-engaging side thereof; and means for placing said area in communication with air-exhausting means whereby to exhaust air from between the surface of the transparent printing film and the surface of the sensitized cylinder to thereby create a vacuum contact between said two surfaces.

12. A vacuum holder for the purpose described, comprising; a frame of relatively rigid construction having an opening therethrough for the passage of light, said frame being curved on its inner face to correspond to a sensitized cylindrical surface with which adapted to be used, said frame, on its inner curved face, having means circumferentially conformable to the cylindrical surface to compensate for any variations of curvature between the cylindrical surface and said frame; means for securing a transparent printing film to the inner side of the holder in predetermined registered position relative to the holder and in line with said light opening; means providing an air-sealed area around and inclusive of the film between the holder and cylindrical surface; and means for placing said area in communication with air-exhausting means whereby the film may be placed in vacuum contact with the cylindrical surface during an exposure.

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