

Oct. 16, 1951

A. E. BOWERS
PRINTING DEVICE

2,571,825

Filed Jan. 5, 1948

8 Sheets-Sheet 1

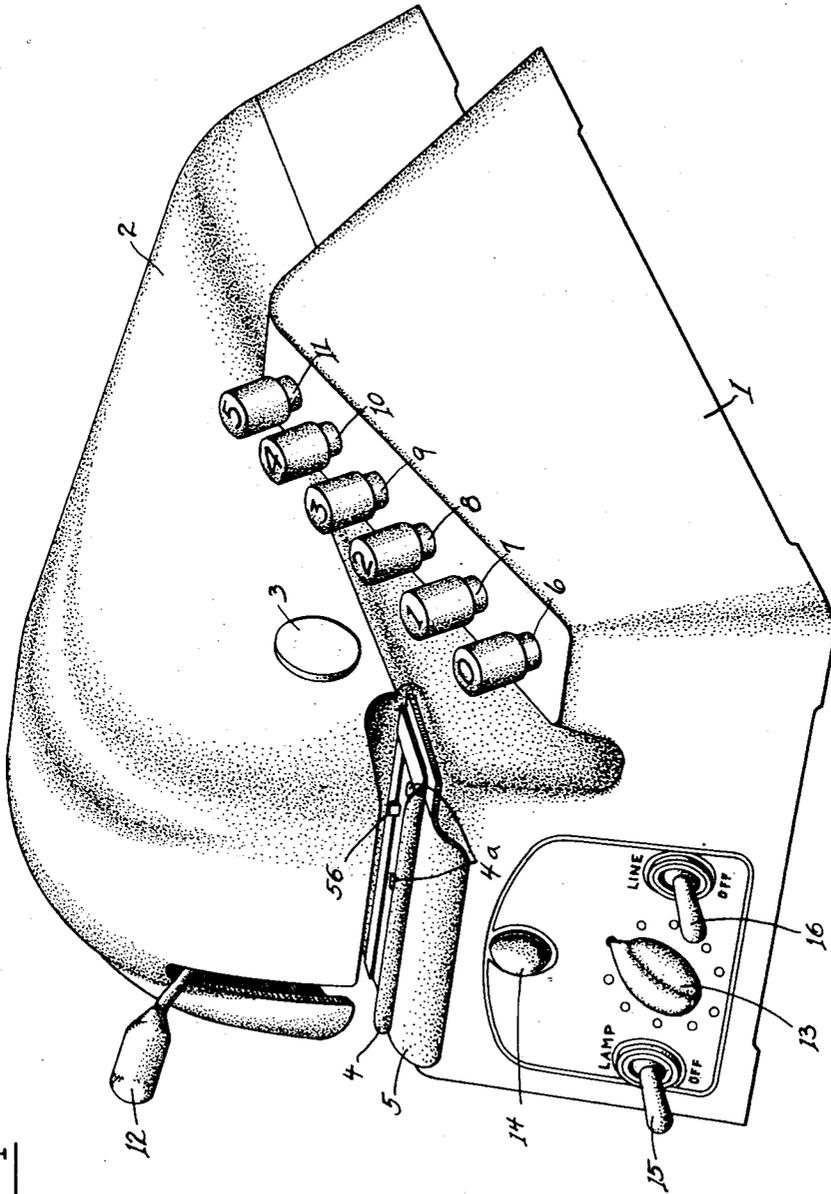


Fig. 1

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Oct. 16, 1951

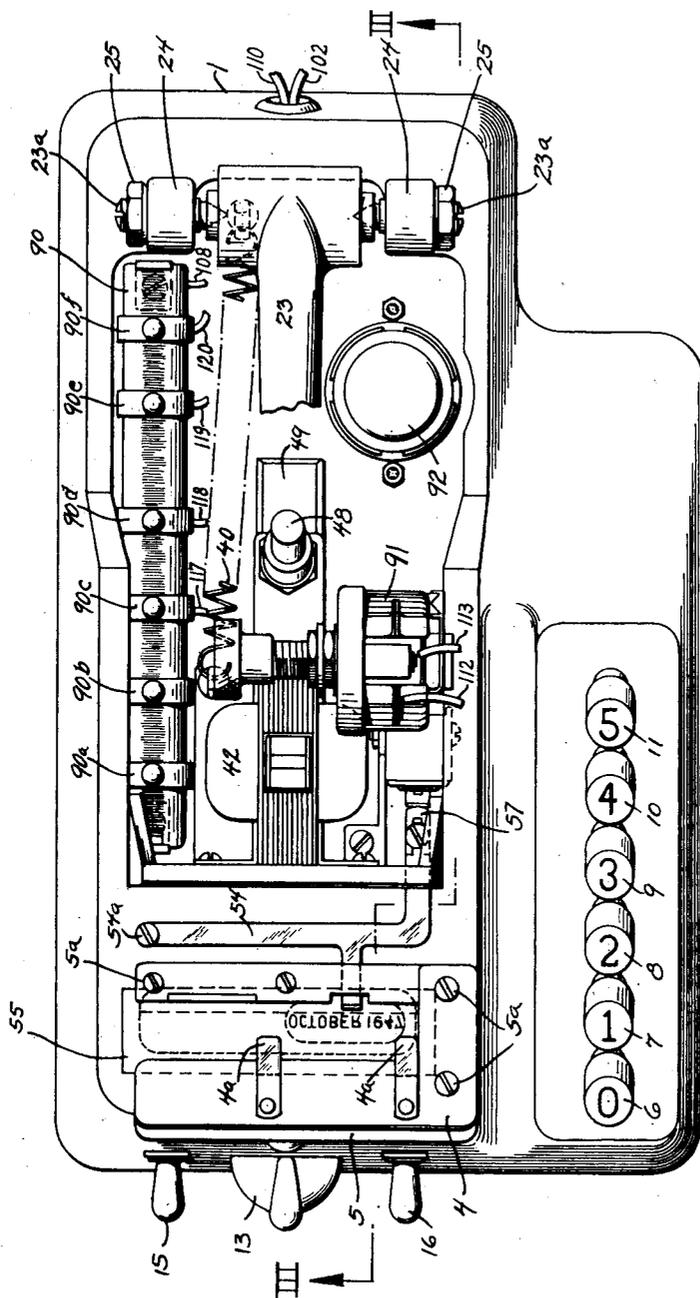
A. E. BOWERS
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8 Sheets-Sheet 2

Fig II



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8 Sheets-Sheet 3

Fig-III-A

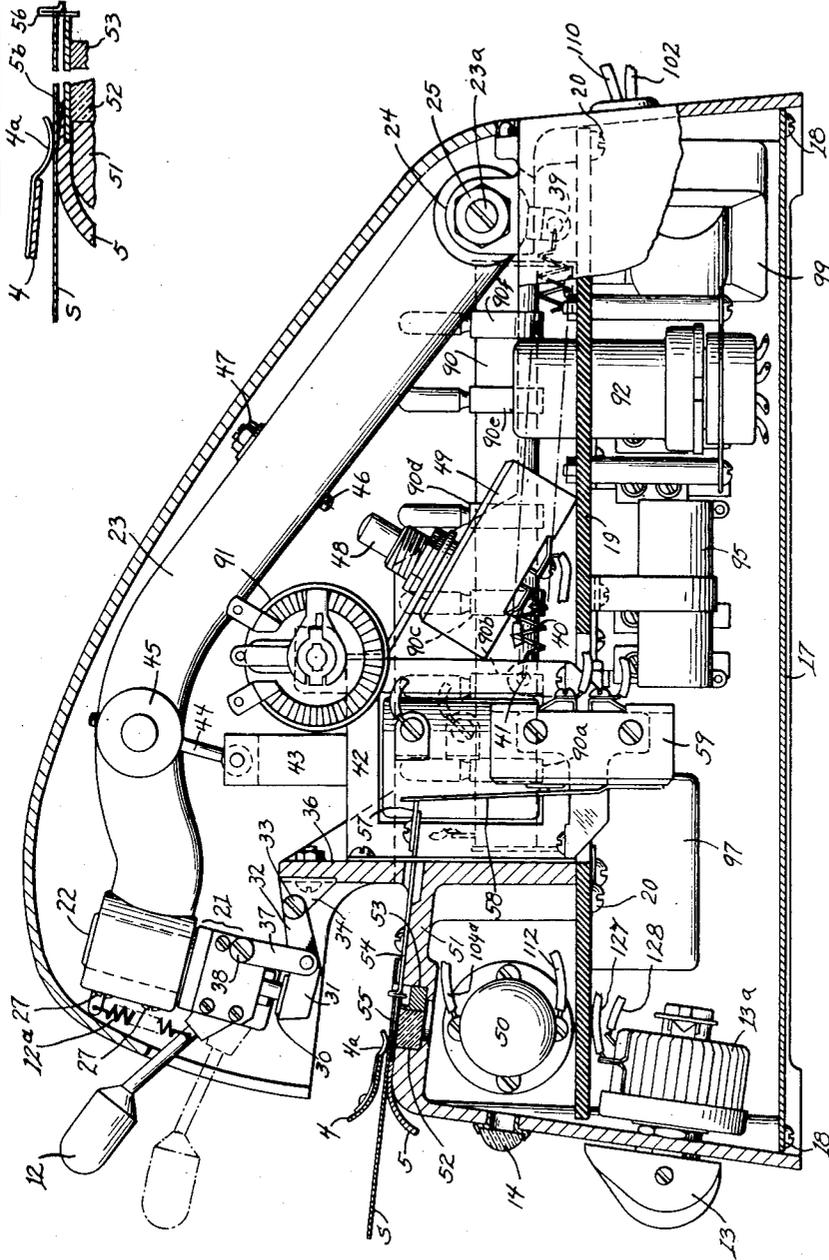


Fig-III

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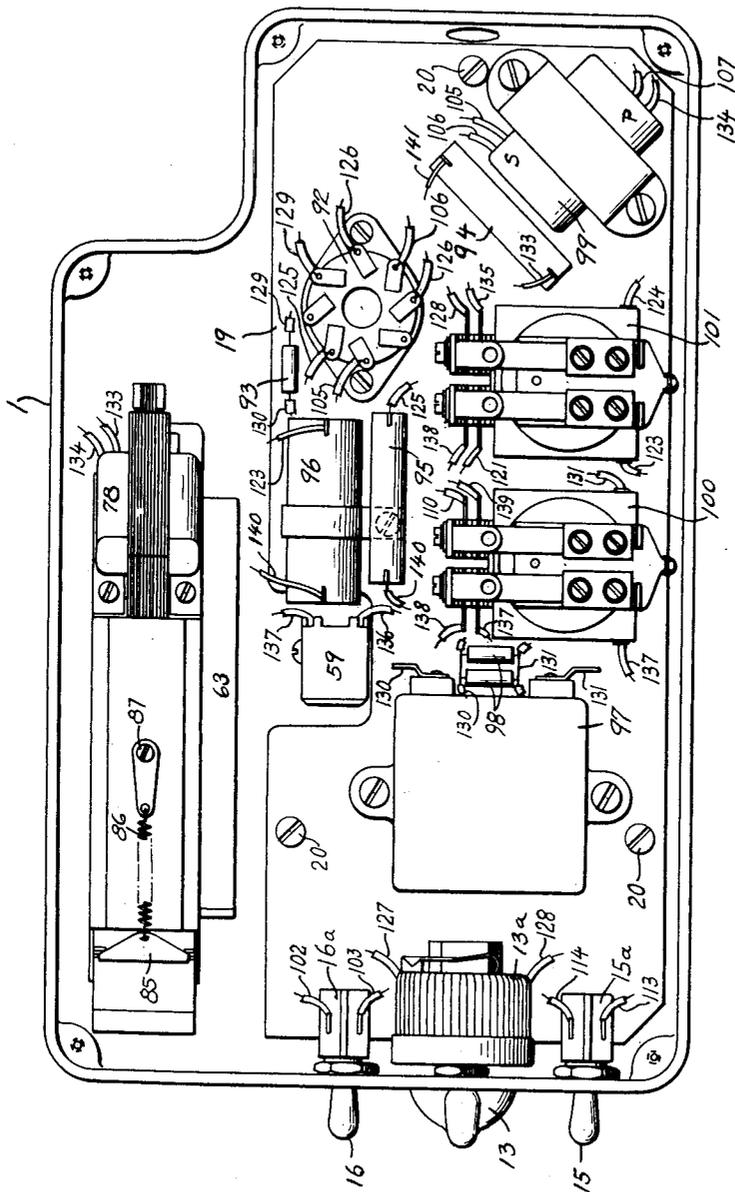
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8 Sheets-Sheet 4

Fig-IV



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Oct. 16, 1951

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2,571,825

Filed Jan. 5, 1948

8 Sheets-Sheet 5

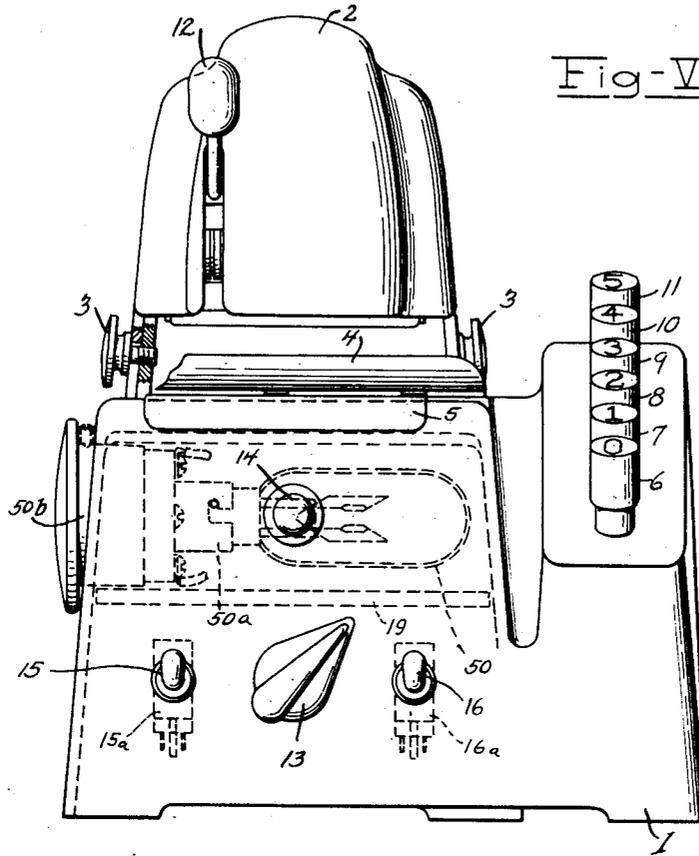


Fig-V

Fig-VI

Fig-VII

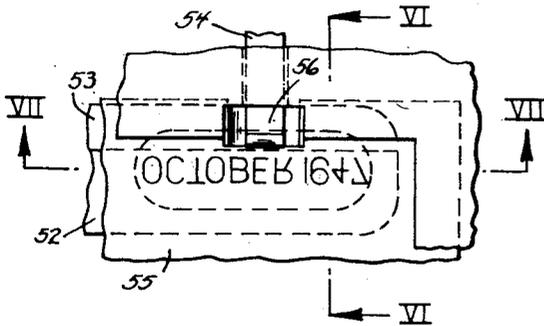
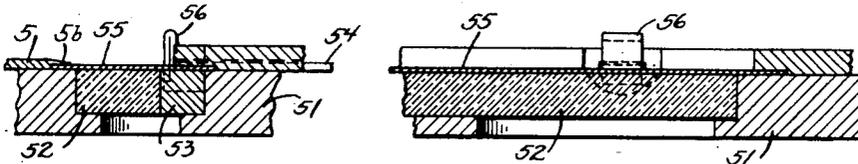


Fig-VIII

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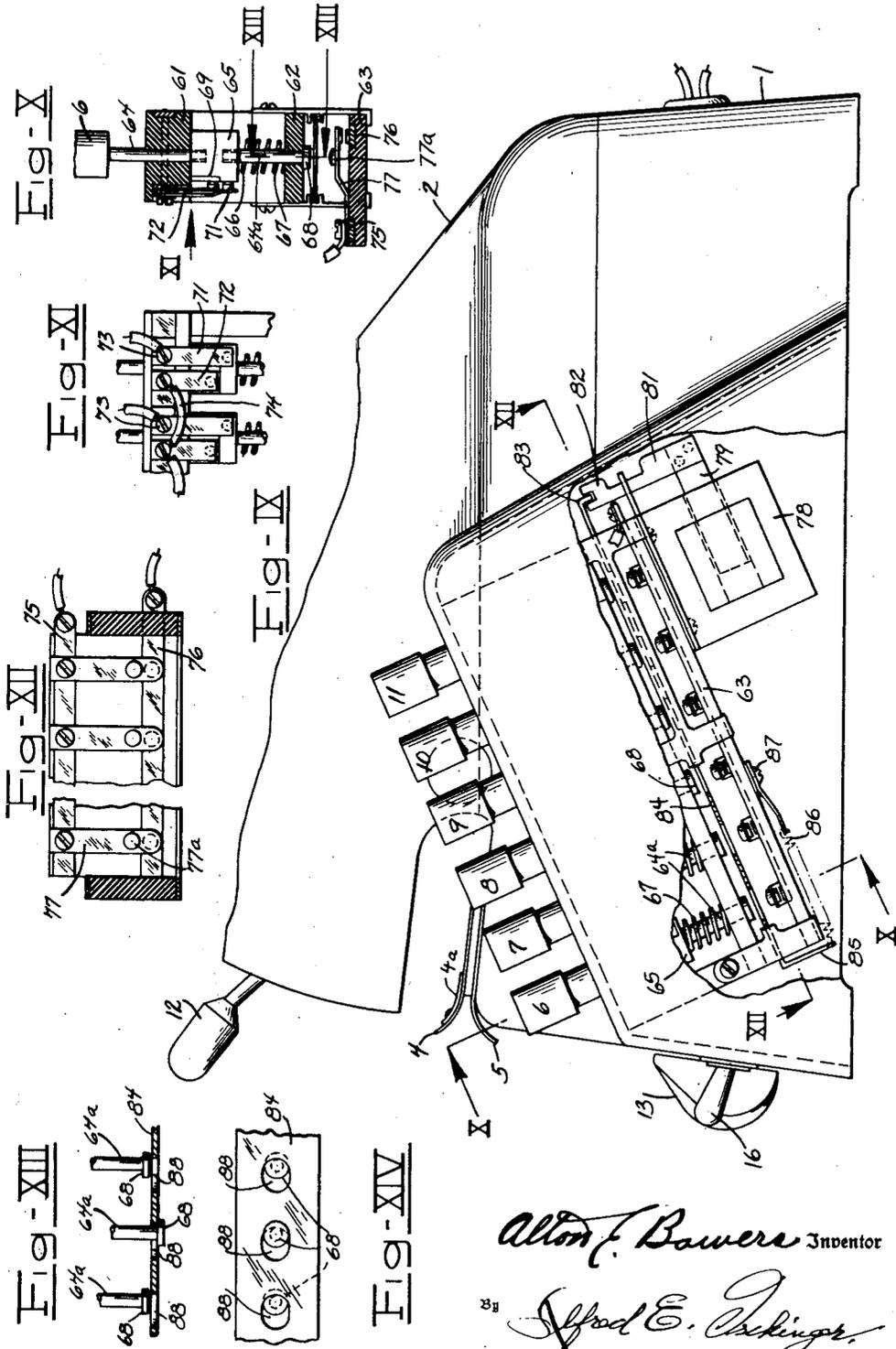
Oct. 16, 1951

A. E. BOWERS
PRINTING DEVICE

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Filed Jan. 5, 1948

8 Sheets-Sheet 6



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Oct. 16, 1951

A. E. BOWERS
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2,571,825

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8 Sheets-Sheet 7

Fig. XV

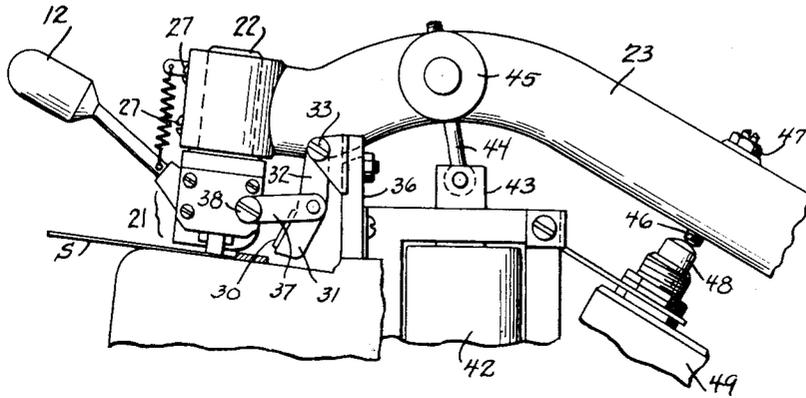


Fig. XVI

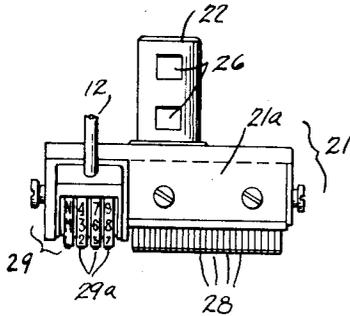


Fig. XVII

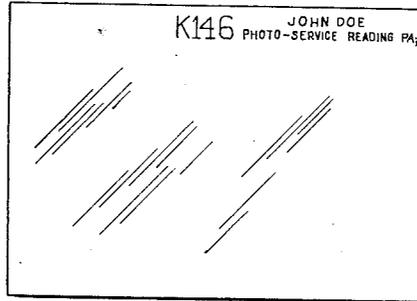


Fig. XVIII

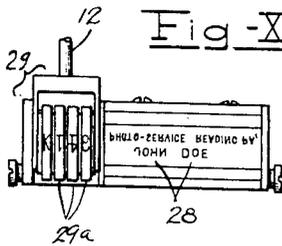
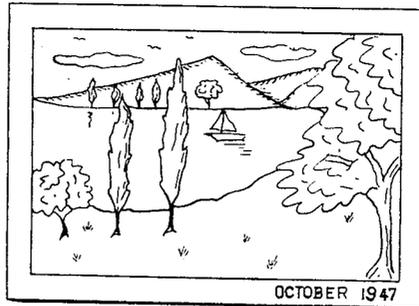


Fig. XIX



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A. E. BOWERS
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Filed Jan. 5, 1948

8 Sheets-Sheet 8

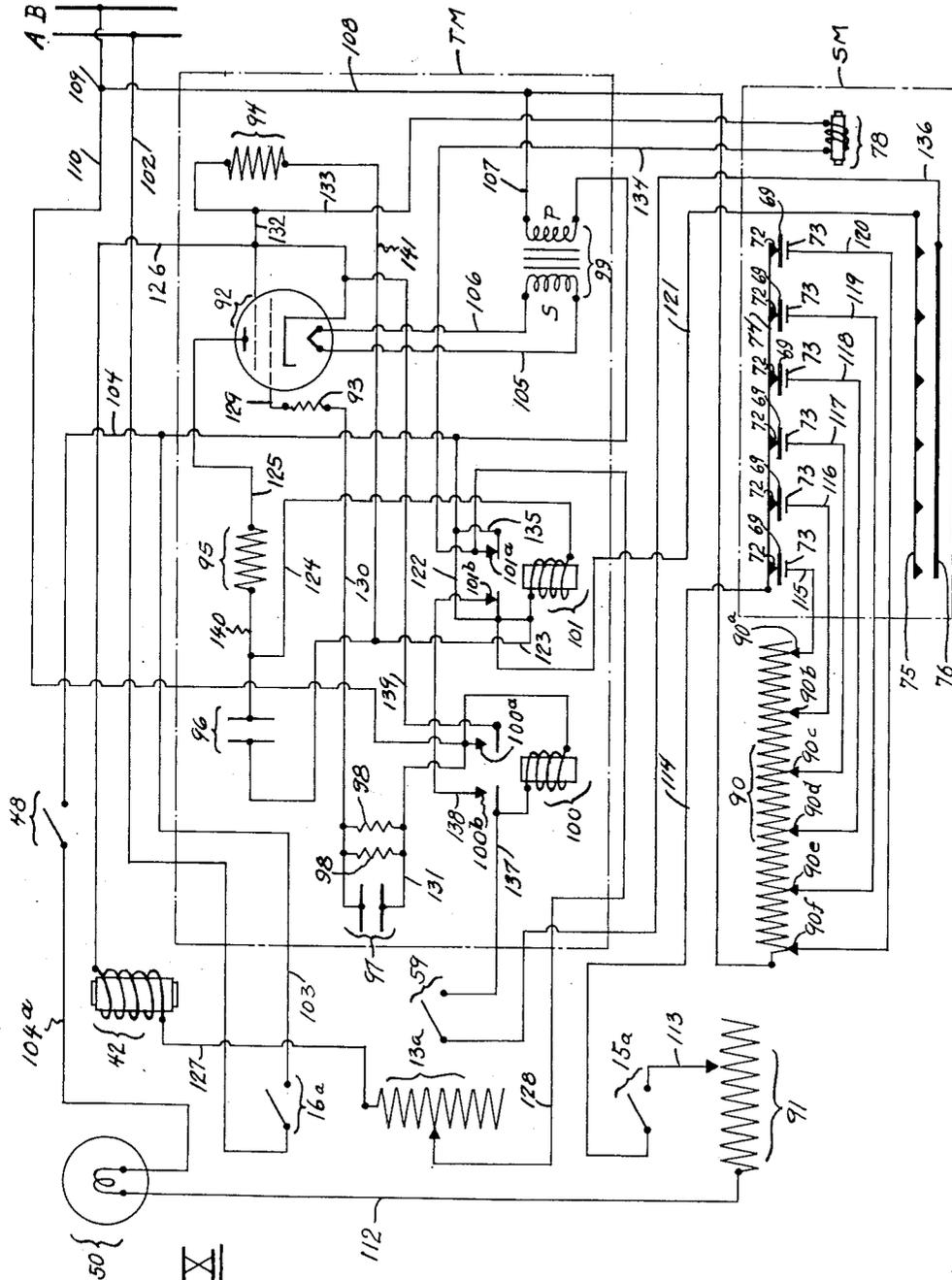


Fig-XX

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UNITED STATES PATENT OFFICE

2,571,825

PRINTING DEVICE

Alton E. Bowers, Reading, Pa.

Application January 5, 1948, Serial No. 602

16 Claims. (Cl. 95—1.1)

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This invention generally relates to the art of making photographic prints from negatives, and more particularly concerns an apparatus or device for simultaneously effecting a light-printed and an ink-printed mark or legend, on the opposite surfaces of the paper sheets from which such photographic prints are made; and to a new method of applying such dual markings simultaneously to said sheets.

Conventional photographic printing machines of the type utilized for making picture prints from negatives, are usually provided with rubber or metal stamps which are operated to apply an ink-printed identification or order number on the back of the sensitized print-forming paper sheet, during contact of the latter with a negative, and in conjunction with the exposure of the sensitized surface of the paper sheet to the picture printing light. Thereafter, the print-forming sheet is developed in a chemical solution, in accordance with the usual and well-known practice. A different identification, or order number, is applied to the prints made up for each customer, and such numbering of the prints is carried out to enable proper sorting when combining the corresponding negatives and prints in separate envelopes for delivery to the respective customers.

It has been found in practice, that this means and method of applying ink-printed numbers to the rear surfaces of the undeveloped print-forming sheets, is not very satisfactory, or practical, for various reasons. After being in use for a short time, rubber stamps provided for this purpose, wear out, or swell up, and in doing so gradually produce a more and more blurred, unsightly, or illegible impression. Such stamps must consequently be frequently replaced, and this involves considerable expense and loss of production time.

The substitution of metal stamps for the rubber stamps, in photographic printing machines, substantially eliminates the indicated difficulties. However, the use of either rubber or metal stamps in photographic printing machines, entails further detrimental results or consequences. When the sensitized surface of the paper is exposed to light and a rubber or a metal stamp strikes against the back of the paper, a physical change takes place in the condition of the sensitized surface at this location. The ink-printed number will subsequently show through the developed print and this will noticeably affect the appearance of the finished picture. Particularly so, when said number appears in an evenly shaded portion of the picture, such as in the sky of a landscape picture.

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The problems involved in overcoming these difficulties are additionally complicated by the location of the rubber or metal stamp devices in the photographic printing machines. These devices are usually located in a cut-out portion of the platen, or pad, which presses the print-forming paper sheet against the negative. The print-forming paper sheets and negatives are consequently not uniformly pressed together at said location. Furthermore, the stamp devices used, must necessarily be of an adjustable type, so as to permit the numbers thereof to be changed in consecutive order. Space limitations prohibit the mounting of a sturdy stamp device of this type at said location, and owing to said space limitations, the stamp devices used cannot be conveniently inked, or adjusted, to keep the adjacent digits of the numbers in proper printing surface alignment.

One object of my invention is to provide a novel device or apparatus which overcomes the mentioned and other difficulties of the stamping means heretofore associated with photographic printing machines for the purpose indicated.

Another object is to provide such a device in the form of a separate, small, compact, table-model unit, which can be readily used in conjunction with a photographic printing machine, to apply ink-printed numbers or other ink-printed matter, to the rear surfaces of the print-forming sheets, prior to the insertion of the sheets in the photographic picture printing machine, and in such manner as to eliminate the troublesome and detrimental conditions referred to above.

A further object is to provide such a device which will effect the simultaneous application to the print-forming sheet, of a photographically produced or light-printed date on the front sensitized surface thereof, and one or more ink-printed marks or legends on the rear surface thereof, such as an identification or order number, name, advertisement, etc.

An additional object is to provide such a device which will locate the said photographically and ink-printed markings on the front and rear surfaces of the print-forming sheet, beyond the confines of the picture, i. e., in the border area surrounding the latter.

It is also an object to provide such a device which embodies certain structural and functional features of advantage over the prior art devices which are designed to accomplish a similar result or purpose to a limited extent.

Another object is to provide such a device which embodies various novel mechanical and

electrical features and means, which are cooperatively combined and arranged in such manner that the device will effect the simultaneous application of said markings on the front and rear surfaces of the print-forming sheet in one operation, quickly, precisely and efficiently.

Another object is to provide such a device in which the type of the ink-printing means functions to press, or hold, a certain portion of the paper sheet in proper position to assure the application of a perfect light-printed marking on the sensitized surface of said sheet portion.

Another unique feature of my invention resides in the provision of novel electrical means for selectively determining the intensity of the light to which the print-forming sheet is preliminarily exposed when the device photographically effects the application of a date, or other marking, within the border area of the front sensitized surface of the sheet. This electrical means makes it possible to so relate the intensity of the light to which the print-forming sheet is preliminarily exposed, with the intensity of the exposure light to which the sensitized sheet is subsequently subjected during the picture printing process, that both the light and dark contrasting effect of the picture, and the contrasting effect of the marking with respect to the picture border, will appear to best advantage after the sensitized sheet has been developed in usual manner.

Another feature of the invention resides in the provision of a unique selectively operable multiple push-button switch arrangement that may be regulated, or adjusted, so that each of the individual push-button switches determines the proper intensity of the exposure light for the various standard grades of print-forming sheets selected for best results with different photographic negatives.

Other objects of the invention include, the provision in such a printing device of adjustable electromagnetic actuating means for operating the stamp unit which effects an ink-printed marking on the non-sensitized surface of the sheet; means for selectively determining the operating force exerted by the electro-magnetic actuating means; an element which is operated by the sheet and during final movement thereof to its determined location, for the purpose of enabling operation of the printing means only when the sheet is in proper printing position; light-printing means including a variable light source in conjunction with a plurality of selectively operable elements each arranged to adjust the light source to a different printing-light intensity and to concurrently effect therewith either operation of the light-printing means, or simultaneous operation of the light-printing and ink-printing means; timing means for determining the exposure time of the sensitized surface of the sheet to the light source when effecting the light-printed mark; locking means arranged to cooperate with each of said selectively operable elements in such manner that when a respective element is moved to active position it will be retained in said position during operation of the printing means and thereafter released for return movement to its inactive position; means arranged to automatically effect return movement of said elements from their active to their inactive positions; automatic means operative during active positioning of one of the elements to maintain all the other elements locked in inactive position; and an electrical switch unit

which embodies certain of said features and can be utilized in conjunction with a printing device as herein disclosed, or for a similar purpose in conjunction with another device.

It is also an object to simultaneously apply ink-printed and light-printed markings to a photographic print-forming sheet or the like, in accordance with a new method.

With these and other objects in view, which will become more apparent from the following detailed description of the illustrative and practical embodiment of my device, shown in the accompanying drawings, the invention comprises the novel elements, features of construction and arrangement of parts in cooperative relationship, as more particularly defined by the hereto appended claims.

In the drawings:

Figure I is a front perspective view of a device which embodies one form of my invention.

Fig. II is a top plan view of the device shown in Fig. I, with the upper portion of the casing thereof removed, and certain parts of the device broken away to more clearly disclose various structural elements and arrangements.

Fig. III is a side elevational sectional view of the device, taken substantially as indicated by the arrows III—III on Fig. II.

Fig. III-A is an enlarged detail sectional view of certain parts shown in Fig. III.

Fig. IV is a bottom plan view of the device with the electrical conductors mainly omitted so as not to obscure certain of the structural details of the device.

Fig. V is a front elevational view of the device.

Fig. VI is an enlarged, partial, elevational, sectional view, taken substantially as indicated by the arrows VI—VI on Fig. VIII.

Fig. VII is an enlarged, partial, elevational, sectional view, taken substantially as indicated by the arrows VII—VII on Fig. VIII.

Fig. VIII is an enlarged, fragmentary, plan view of certain details shown in Fig. II.

Fig. IX is a partial side elevational view of the device, as seen by looking at the latter from the right in Fig. V.

Fig. X is a detail, elevational, cross-sectional view of the electrical push-button switch device forming part of my invention, taken substantially as indicated by the arrows X—X on Fig. IX.

Fig. XI is a fragmentary, elevational detail view of certain parts shown in Fig. X, as seen by looking in the direction of the arrow XI in the latter.

Fig. XII is a partial plan sectional view of the said electrical push-button switch device, taken substantially as indicated by the arrows XII—XII on Fig. IX.

Fig. XIII is a fragmentary elevational sectional view of certain parts shown in Fig. X, taken substantially as indicated by the arrows XIII—XIII on the latter, however with one of the elements shown in another position.

Fig. XIV is a bottom plan view of the parts shown in Fig. XIII.

Fig. XV is a partial side elevational view of certain parts shown in Fig. III, and shows said parts in another position.

Figs. XVI and XVII are, respectively, front elevational and bottom plan views of the stamping or ink-printing unit embodied in my device.

Fig. XVIII is a rear view of a sensitized, photographic print-forming paper sheet, and shows one form of ink-printed mark or legend applied thereto, as carried out by the operation of my device.

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Fig. XIX is a front view of the sensitized, print-forming paper sheet shown in Fig. XVIII, and shows a photographically applied date thereon, as effected by the operation of my device, and as the date appears after the sensitized paper sheet has been developed, and

Fig. XX is a wiring diagram of the electrical means embodied in the device.

It will be helpful to an understanding of the printing device shown in the drawings, to first briefly consider the results which can be accomplished therewith, as exemplified by its use in the art of making photographic prints from negatives.

As previously indicated, the printing device of my invention is primarily designed to simultaneously effect the application of printed matter on both the front and rear surfaces of photographic sheets, such as the various standard grades of commercially used photographic print-forming paper sheets, or the like. The printing device consequently performs a dual printing operation on such sheets. That is to say, during a single operation of the printing device, it applies an ink-printed marking on the non-sensitized rear surface of such a print-forming sheet and a light-printed marking on the front sensitized surface of the same sheet. To my knowledge, no device has heretofore been provided to accomplish the said dual printing operation simultaneously, in the manner of my printing device.

In practice, the device is utilized to perform the said dual printing operation on a print-forming sheet, just before the latter is subjected to the operation of a conventional type picture-printing machine. The sheet is, therefore, first subjected to the operation of my printing device, then subjected to the operation of a conventional type picture-printing machine, and thereafter the sheet is developed in usual manner in a chemical solution. This usual print developing procedure will cause both the picture and the light-printed marking to appear on the front sensitized surface of the sheet, whereas the ink-printed matter on the rear non-sensitized surface of the sheet will not be affected by this print developing procedure.

At the present time, six different grades of print-forming paper sheets are ordinarily utilized in the commercial production of photographic prints from negatives. These grades are identified by the numerals 0-1-2-3-4-5. The paper identified by a zero, is commonly referred to as being the "softest," because it provides the least amount of contrast in the finished print. The contrast provided by the other grades of paper mentioned, increases substantially in the ascending order of their numerical identification. The grade of paper identified by a zero, is used with negatives in which the light and dark contrast is the greatest, and the other grades cover the light and dark contrast range of the remaining negatives from which picture-prints are ordinarily made. The printing device of my invention is so designed, that the light-printed marking which is applied thereby to the sensitized surface of a respective or selected print-forming sheet, may be made to correspond in contrasting effectiveness with the contrasting effectiveness produced by a picture negative on the sensitized surface of said selected sheet. The manner in which my device accomplishes this desirable result, will become apparent as the description proceeds.

Referring now to the drawings, Figs. XVIII and XIX illustrate, respectively, the back and

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front appearance of a finished, or developed, conventional type photographic picture-print, having applied thereto ink-printed and light-printed markings, as effected by my printing device in one operation.

The indicated exemplification of ink-printed matter applied by my device to the rear non-sensitized surface of the photographic sheet or print (Fig. XVIII) comprises, an identification or order mark, such as the letter and number shown, and the name and location of the photo-service concern that made the print. These items are ink-printed by means embodied in, and operated by, the printing device, as hereinafter explained.

The indicated exemplification of the light-printed marking applied by the device to the front sensitized surface of the photographic sheet or print (Fig. XIX) comprises the date when the print is made, as represented by the month and year shown. If desired, the date may also include a number designating the respective day of the month, arranged between the name of the month and the number designating the year, in usual order. These items are photographically applied, or light-printed on the front sensitized surface of the photographic sheet, as herein-after explained.

Referring next to Fig. I, which depicts the printing device as it appears in readiness for use, the parts there visible generally comprise a lower casing member 1, a cover or upper casing member 2, a cover fastening screw 3, another one of which fastening screws is located on the opposite side of the cover (see Fig. V). Centrally located at the front of the device is a guide arrangement for the photographic print-forming paper sheets to be inserted into the device, which arrangement comprises an upper paper sheet guide 4 which has secured thereto two flat spring paper depressing or tensioning fingers 4a, and a lower paper sheet guide 5. A series of similar push-button switch operating elements 6, 7, 8, 9, 10, 11, are alignedly mounted in an offset portion of the casing member 1, and these elements are manually and selectively operable to start the operation of the device after the paper sheet is in proper position. Other parts visible in Fig. I comprise a pull-down lever 12 for changing the identification number of the ink-printing means, a rotatively operable knob 13 which regulates the pressure of the ink-printing means on the paper sheet, a red glass window 14 through which is visible the light from the lamp of the light-printing means, a handle 15 for operating a toggle switch 15a (see Figs. IV, V and XX) that controls the lamp circuit of the light-printing means, and a handle 16 for operating a main toggle switch 16a (see Figs. IV, V and XX) that connects the entire electrical means of the device with the power line.

By referring to Figs. II and III, it will become clear how the mechanical and electrical parts of the device are generally located and arranged on the interior of the casing members 1 and 2.

At its bottom, the printing device is closed by a plate 17, which is secured against integral positioning lugs of the lower casing member 1 by screws 18. The interior of the casing member 1 has horizontally extending therethrough a partition member or plate 19, which is made of insulating material, serves as a support for various parts of the printing device, and is secured to the casing member 1 by screws 20.

The ink-printing means of the device is substantially located within the confines of the removable cover member 2, and generally comprises

a printing head or stamp member 21, which is provided with an upwardly extending stem 22, secured in a seating aperture provided therefor in the forward end of a stamp operating lever 23. The rear end of lever 23 is pivotally mounted between two pointed pivot screws 23a, in turn adjustably secured in a pair of lugs 24 by lock nuts 25. The lugs 24 in which the screws 23a are mounted are integrally united with the lower casing section 1.

The printing head stem 22 is provided at its front with two flat surfaces 26 (Fig. XVI) adapted to be engaged by the ends of two set screws 27 which pass through the front wall section of the lever 23 and lock the printing head 21 in determined position on the latter. The printing head 21 comprises a specially designed type holding frame or section 21a in which are mounted standard type elements 28 adapted to provide the ink-printed legend or marking formed of letters which it is desired to apply to the back of the photo sheet, and an adjacently mounted standard adjustable numbering device 29 operable by vertical reciprocation of the handle 12 to effect progressive and successive change of the number printed by number type elements 29a alignedly arranged at the bottom of the separate number printing wheels thereof. An inking pad 30 is contactingly mounted directly beneath the type elements 28 and 29a of the printing head 21, in such manner that the aligned lowermost type elements will be properly inked by the pad 30 whenever the printing head 21 is in its upper or inactive position as shown in Fig. III. The inking pad 30 is mounted in a holder 31 having a rearwardly extending arm 32 the free end of which is pivotly supported by a screw 33 on a small bracket element 34 in turn rigidly secured to a vertical extension 35 integrally formed with the lower casing member 1. Two separate links 37 have their outer ends pivotly secured respectively to the outer ends of the printing head 21 by screws 38, and to the outer ends of the inking-pad holder 31, in such manner that when the lever 23 moves the printing head 21 from its inactive position shown in Fig. III, to its active position shown in Fig. XV, the inking pad 30 will be moved from its position of contact with the lowermost type elements 28 and 29a, to the position shown in Fig. XV. In other words, when the printing head 21 is in its upper or inactive position, the inking pad 30 rests against the surface of the type elements to be printed on a photo sheet during the next operation of the printing head, and as the printing head 21 is lowered, so as to effect a printing operation, the inking pad 30 is withdrawn rearwardly to its inactive position shown in Fig. XV.

Extending downwardly from the lever 23, below the point where the latter is pivotly mounted, is an integral extension 39 to which is connected one end of a helical tension spring 40, the other end of which is fixedly anchored at 41 to the frame of an electrical solenoid device 42. The latter is provided with a plunger 43, the upper end of which has pivotally connected thereto a link 44 adjustably secured for lengthwise extension in a rotatively mounted member 45 on the lever 23. The tension spring 40 functions to urge the lever 23 to its upper or inactive position shown in Fig. III, and will normally maintain the lever 23 in said position until such time as the solenoid device 42 is operated. The solenoid device 42 is powerful enough to overcome the action of spring 40, so that operation of the device

42 will effect instantaneous downward pull of the lever 23 and cause the printing head 21 to move to its printing position shown in Fig. XV.

A rheostat 13a is mounted on the inside of the casing member 1, so as to be operable by the knob 13, and the said rheostat is connected in circuit with the solenoid device to control the operating force thereof, as hereinafter explained.

Extending through the lever 23, and threadedly engaged therein, is a screw 46, which is adjustably locked in position by a lock nut 47, so that the lower projecting end of the screw 46 makes contact with, and depresses an operating element 48 of a microswitch 49, when the lever 23 moves downwardly to bring the printing head 21 from its inactive position shown in Fig. III to its active position shown in Fig. XV. The lower end of the screw 46 is so positioned that when the lever 23 has been moved to its lowermost position, the element 48 will be depressed by the screw 46 to the extent necessary to effect closing of the micro switch 49. As hereinafter more fully explained, the micro switch 49 is arranged in circuit with a lamp 50, which forms part of the light-printing means, so that when said switch 49 is closed, the lamp 50 will light up and effect a light-printing operation simultaneously with the ink-printing operation. The lamp 50 is mounted in a socket 50a on the end of a base holder 50b which is removably secured in the casing member 1, as shown in Fig. V.

Directly above the lamp 50, the lower casing member 1 is provided with a slightly horizontally inclined flat casing extension 51 (see Fig. III), the top surface of which is arranged in a plane that passes through the center of the pivot point of the lever 23. The said casing extension 51 supports certain elements such as the upper paper sheet guide 4, the lower paper sheet guide 5, a transparent printing bed section 52 formed of glass or the like, an opaque printing bed section 53 of metal or the like, a flat sheet metal lever element 54 (see Fig. II), which is pivotally secured to the casing extension 51 by a screw 54a. A date film or negative 55 is positioned directly against the upper surface of the transparent and non-transparent parts 52 and 53 of the printing bed in such manner that the light from the lamp 50 will pass through the transparent portion 52 of the printing bed and the transparent portion of the film to be light-printed on the sensitized surface of a print-forming paper sheet S placed thereagainst when the latter is in proper printing position as illustrated in Fig. III. The rear portion of the lower paper sheet guide 5 is in the form of a three-sided frame which rests against and overlaps the front, rear and right side edge sections of the date film 55, and holds the latter firmly in place. The lower paper sheet guide 5 is secured against the upper surface of casing extension 51 by screws 5a, two of which also pass through apertures in the upper paper sheet guide 4 and hold the latter firmly in place against the lower paper sheet guide 5, however, only along the right side of the latter. The forward edge 5b of the three-sided frame forming the rear portion of paper sheet guide 5, is tapered toward the date film as shown in Fig. III-A.

It is to be noted that this arrangement of the parts just described brings the printing bed surface into alignment with the upper surface of casing extension 51, and therefore into said plane which passes through the center of the pivot point of lever 23, thereby to assure perfect printing contact of the ink-printing type with the sheet S.

The lever element 54 is provided at its forward end with a vertically arranged section 56 adapted to be contactingly engaged by the edge of the paper sheet S when inserted between the paper sheet guides 4 and 5, and thereby pushed rearwardly, so that the rear end of the element 54, which has mounted thereon an adjustable extension element 57, may contact with a micro-switch lever 58 of a microswitch 59. As hereinafter more fully explained, the microswitch 59, when closed, closes a certain electrical circuit arranged to establish certain contacts which must be made before the next step in the operation of the printing device can be carried out, namely, the operation of one of the push-button switch operating elements 6, 7, 8, 9, 10 or 11. Unless the microswitch 59 has first been closed, operation of a selected one of the push-button switch operating elements will not effect operation of the printing device. However, after the microswitch 59 has been closed, then operation of a selected one of the push-button switch operating elements will result in immediate functioning of first the ink-printing means, and then the light-printing means while the type of the ink-printing means is still pressing the paper sheet S against the printing bed.

The lever element 54 is arranged to be operated by the paper sheet S, in connection with the insertion of the latter between the guides 4 and 5, and unless the sheet S is moved to its proper printing position, determined when the element 54 has reached its ultimate movement rearwardly and effected closing of the micro-switch 59, the ink-printing and light-printing means will not operate when one of the push-button elements 6, 7, 8, 9, 10 and 11 is depressed. The inclusion in the printing device of the paper sheet operated microswitch 59, therefore prevents the printed matter from being improperly applied to the sheet S.

The construction of one of the push-button operated switch units is illustrated in Fig. X. Since all the other push-button operated switch units are substantially the same in construction, and some of the parts shown in Fig. X are common with the other similar switch units, a description of the switch unit parts shown in Fig. X, will suffice to an understanding of all the other similar units.

In Fig. X, reference numerals 61, 62 and 63 designate three relatively spaced elongated strips or plates, which are made of insulating material and serve to similarly support and guide various parts of the individual switch units, as shown. Certain of the parts of the switch unit shown in Fig. X, are duplicated for each of the other switch units. Such parts generally comprise, two axially aligned metallic stems or rods 64 and 64a. The upper end of the rod 64 is threaded and has threadedly engaged therewith the push-button element 6 which is made of insulating material. The lower end of rod 64 is also threaded and is threadedly secured in a flat-sided collar 65 which is made of insulating material. The upper end of rod 64a is likewise threaded and threadedly secured in the lower portion of the collar 65, in spaced relation to the lower end of the rod 64. The lower end of the rod 64a has integrally formed thereon a flat circular member or head 68. A helical compression spring 67 is positioned about the rod 64a, between the lower surface of the collar 65 and the upper surface of the insulating strip 62. Suitable apertures are provided in the guide strips 61 and 62, through which the

rods 64 and 64a extend, as shown, for free vertical sliding action in said apertures. The compression spring 67 is located between the lower surface of the collar 65 and the insulating strip 62 and serves to normally yieldingly maintain the rods 64 and 64a and the therewith associated parts in their upper or inactive position. The collar 65 is provided with a metallic flat insert piece 69 at one side thereof. Two spring-type contact members 71 and 72 are vertically secured to the insulating strip 61 in such manner that the contact point at the lower end of the member 71 normally rests against the insulating collar 65, and the contact point at the lower end of the member 72 normally rests against the metallic plate 69. The members 71 and 72 are made of resilient material, such as spring brass, so that when in the position shown in Fig. X the contact points at the lower ends of these members will have good rubbing contact with the insert plate 69 as the collar 65 moves downwardly when the push-button 6 is depressed. The member 71 is provided with a terminal 73 to which a separate conductor may be connected, and the member 72 is connected to a conductor or wire 74 which extends lengthwise along the plate 61 and has similarly connected thereto all the members of the other switch units that are like the member 72.

The lowermost insulating plate 63 has secured to its upper surface two flat lengthwise extending metallic conductor elements 75 and 76. A metallic spring-type contact member 77 has one end thereof secured to the element 75 and transversely extends over the top of the element 76 so that the contact point at its free end is normally spaced from the element 76. A piece of insulating material 77a is secured to the top of the contact member 77. The two conductor elements 75 and 76 extend lengthwise of the insulating plate 63 and with the similar contact members 77 which form part of the other switch units, combinedly make up a multiple switch arrangement for operating a solenoid device 78.

The solenoid device 78 is fixedly suspended from the insulating plate 63 and is provided with a plunger 79, the outer end of which has fixedly secured thereto an element 81, provided with a forked free end 82, into which extends the downwardly bent end 83 of a lengthwise reciprocable slide or locking plate 84 that is freely reciprocable lengthwise in fixed edge guides 80. The other end of the locking plate 84 has a depending section 85 to the lower extremity of which is connected a tension spring 86 that is anchored at 87 to the plate 63, as more particularly shown in Fig. IX. As shown in Figs. XIII and XIV, the locking plate 84 is provided with spaced apertures 88, each of which permits passage therethrough of one of the heads 68 of the rods 64a of the push-button operated switch units.

The operation of each of the individual push-button switch units is the same, so that a description of the operation of the unit shown in Fig. X will suffice to make clear the operation of all these similar units.

When the push-button 6 is depressed, the rods 64 and 64a move downwardly, the element 71 makes contact with the plate 69 on which the element 72 rests, and the head 68 at the lower end of rod 64a will pass through one of the apertures 88 of the slide plate 84, then come into contact with the insulation piece 77a of the element 77 and push the latter down until the con-

tact point at its free end makes contact with the conductor 76. As hereinafter more fully explained, the conductors 75 and 76 are connected in circuit with the solenoid device 78, so that as soon as the element 77 effects an electrical current flow in the members 75 and 76, the solenoid 78 will be energized. The plunger 79 will then be moved a short distance to the left as seen in Fig. 9, and this will result in correspondingly moving the locking bar 84 to the left, thereby bringing the same in contact with the respective rod 64a which has been lowered, as shown in Fig. XIII. When pressure on the push-button 6 is released, the rods 64 and 64a move upwardly under the influence of spring 67, and the upper edge surface of the head 68 will abut against the lower surface of the locking bar 84, adjacent the aperture 88 through which the rod 64a extends. The bar 84 consequently locks the rod 64a and the therewith united parts in this position while the solenoid device 78 is energized. While the rod 64a is in said locked position, the members 72 and 73 remain in contact with the metallic plate 69 causing an electrical current to flow through these parts. The parts 72, 73 and 69 form a switch that is connected in circuit with the lamp 50 and an adjustable resistance clamp 90a which is adjustably mounted on an elongated tubular resistance member 90 of usual type having a bare helically wound resistance wire on its outer surface. Additional resistance clamps 90b, 90c, 90d, 90e and 90f are spacedly mounted on the member 90 in determined order, and each of these is connected with the switch parts 72, 73 and 69 of the other push-button switch units and the lamp 50, so that each respective push-button unit, when operated, will connect a different resistance value in circuit with the lamp 50 and thereby determine the glow intensity of the said lamp, as hereinafter explained. Also connected in the circuit which establishes the glow intensity of the lamp 50, is a rheostat 91, which is arranged to effect course adjustment of said circuit when desired.

During the time that the locking bar 84 remains in its shifted position to the left, as effected by the solenoid device 78 (see Figs. IX, XIII and XIV), the heads 68 on the lower ends of the rods 64a of all the non-operated push-button switch units are prevented from being moved downwardly, since the said heads 68 are above the locking bar 84 out of alignment with their respective apertures 88. Accordingly, it will be clear that the locking bar 84 not only serves to maintain the parts of a particular push-button switch in active position as above explained, but also prevents the other push-button switches from being operated during the time that the bar 84 is held in its locking position by the solenoid device 78.

The solenoid device 78 is kept energized by electronic timing means, until the printing device has completely carried out its light-printing and ink-printing operation. After the light-printing and ink-printing operations have been completed, the current flow of the solenoid device 78 is interrupted by the action of said electronic timing means, with the result that the locking bar 84 will be moved to the right (Fig. IX) by the spring 86, until it reaches its inactive position. At such time the part 84 abuts against the end of the plate 63. The head 68 of the operated push-button switch unit will then be released to permit return movement of the switch parts to inactive position, and the aper-

tures 88 of the locking bar will again be brought into alignment with all the heads 68 of the entire set of push-button switch units, so as to permit operation of any one of them in the manner described.

The electronic timing means of the printing device comprises well-known electrical elements that are combined, arranged and connected in accordance with the generally available information concerning the construction and operation of such timing means for various purposes. In the practice of providing such timing means to accomplish a certain result, the various cooperatively connected electrical elements, such as the condensers, resistances, transformers, etc., must be of the proper value in order that the timing means will carry out its intended purpose and function in connection with the particular apparatus or device with which the timing means is cooperatively associated. Accordingly, the construction and operation of the timing means here involved, will be understood when the parts thereof are identified on the electrical wiring diagram of Fig. XX, and the values of these parts given. Reference to the other drawings in which these parts are shown will make clear how these parts are mounted and arranged in the printing device. The function performed by the timing means and its mode of operation in conjunction with the printing device will thereafter become apparent from a consideration of the later herein presented general description of the wiring diagram and the general description of the operation of the printing device.

In the electrical wiring diagram of Fig. XX, the electrical elements which are combined and cooperatively connected to form the said timing means, are shown within the dot-and-dash rectangle identified by the letters TM. The reference numerals which identify the said electrical elements, together with a description thereof, is presented as follows:

Element	Description
92	2050 Electron Tube.
93	1000 ohm ½ watt Resistor.
94	5000 ohm 10 watt Resistor.
95	300 ohm 10 watt Resistor.
96	20 mfd. 250 watt Electrolytic Condenser.
97	2 mfd. 600 volt D. C. Oil Condenser.
98	100,000 ohm ½ watt Resistors.
99	110 volt A. C. to 6.3 V. A. C. Transformer.
100	110 volt A. C. D. P. S. T. Relay—Normally Open.
101	50 volt D. C. D. P. S. T. Relay—Normally Closed.

¹ Two.

On the wiring diagram of Fig. XX, the previously described electrical elements which do not form part of the timing means, are identified by their respective reference numerals. The following additional information concerning these previously described elements, is presented for clarification purposes:

Element	Description
13a	25 watt 10 ohm Variable Resistance.
16	Toggle Switch (main line).
20	Toggle Switch (for lamp 50).
42	110 volt A. C. .95 a. Int. Solenoid 15.6 ohm.
49	Microswitch (operated by lever 23).
50	120 volt 75 watt B. B. Lamp.
59	Microswitch (operated by paper sheet S).
78	110 volt A. C. 0.22 a. 110 ohm Int. Solenoid.
90	75 watt 100 ohm Variable Resistance.
91	25 watt 100 ohm Variable Resistance.

*General Description of the Wiring
Diagram—Fig. XX*

In the wiring diagram, the letters A and B identify the main line wires of a 110 volt A. C. 60 cycle power circuit to which the printing device is connected for operation. The electrical connections made with the power lines A and B and between the various electrical elements of the printing device, are as follows:

A conductor 102 connects the line A with one terminal of the main toggle switch 16a, and the other terminal of the latter is connected by a wire 103 to a conductor 104, one end of which is connected to a terminal of microswitch 48, the other terminal of which is connected to the filament of lamp 50 by a wire 104a. The other end of wire 104 contacts the primary winding of transformer 99. The other terminal of the said primary winding of transformer 99 is connected by a conductor 107 with a wire 108 which in turn is connected at 109 with a conductor 110 in connection with the main line B and a fixed switch element 100a of relay 100. The conductor 108 is also attached to the end of the spirally wound wire of the variable resistance 98.

The filament of electron tube 92 has its ends connected to the secondary winding of transformer 99 by wires 105 and 106.

A conductor 112 is attached to the filament of lamp 50 and to one end of the spirally wound wire of rheostat 91, the regulator of which latter is connected by a wire 113 to one terminal of the lamp toggle switch 15a. The other terminal of the latter has a wire 114 attached thereto which makes contact with the conductor strip 74 from which connection is established to the resistance clamps 90a, 90b, 90c, 90d, 90e and 90f, by conductors numbered, respectively, 115, 116, 117, 118, 119 and 120, which conductors are in turn connected with the individual terminals 73 (see Fig. XI) of each of the separate push-button switch units. The previously described parts of the push-button switch structure comprise the elements within the dot-and-dash rectangle designated SM.

The conductor element 75 is connected by a wire 121 with a movable switch element of the relay 101 and a conductor 122, which in turn is connected with the conductor 104 and with a conductor 123 having connection with the coil of relay 101 and one terminal of electrolytic condenser 96. The other terminal of the latter is connected with the resistor 95 by a conductor 140, to which is also connected a wire 124 leading to one end of the coil of relay 101. A wire 125 connects the resistor 95 with the plate element of electron tube 92. The cathode of electron tube 92 is connected by a wire 126 with one end of the coil of solenoid 42 and the other end of said coil is connected by a conductor 127 to the helical winding of the rheostat 13a. The regulator of the rheostat 13a is connected by a wire 128 to a stationary switch element 101a of relay 101.

The control grid of electron tube 92 is connected by a wire 129 with one terminal of resistor 93, and the other terminal of the latter is connected by a wire 130 with the two corresponding terminals of the two similar resistors 98 and a terminal of oil condenser 97. The second terminal of oil condenser 97 is connected by a wire 131 with the other corresponding terminals of the two resistors 98, with the stationary switch element 100a of the relay 100, and with one end of the coil of the latter relay.

The screen grid of the electron tube 92 is connected by a conductor 132 with wire 126 and a conductor 133, the upper end of which latter contacts a terminal of resistor 94, the lower terminal of which is connected by a wire 141 to the conductor 123. The other end of conductor 133 is connected to one terminal of solenoid 78. The other terminal of solenoid 78 is connected by a wire 134 with stationary switch element 101a of relay 101 and with the wire 128. The cooperating movable switch element of the relay 101 just referred to, is connected by a conductor 135 with the wire 122.

Conductor element 76 is connected by a wire 136 to one terminal of microswitch 59 and the other terminal of the latter is connected by a wire 137 with the coil of relay 100 and with a movable element of one of the switch elements of the latter. A wire 138 connects the stationary element 100b of the switch of relay 100 just referred to, with a stationary element 101b of one of the switches of relay 101. A wire 139 connects the movable element which cooperates with the stationary element 100a of one of the switches of relay 100, with the conductor 126.

Operation of the printing device

The printing device is connected to a power line as explained in the description of the wiring diagram of Fig. XX.

The main toggle switch 16a and the lamp toggle switch 15a are turned on, or closed, and the printing device will then be in readiness to carry out its dual printing operation.

A selected photographic print-forming paper sheet S, with its sensitized surface turned down, is next inserted between the guides 4 and 5 so that the right side edge of the sheet (see Fig. VII) travels along the guiding edge provided therefor on the lower guide member 5. Movement of the sheet S is continued until the forward inserted edge of the sheet rides under the two paper depressing or tensioning fingers 4a and abuts against the lever element 54 and the latter has pushed the lever 58 to the position which effects closing of the microswitch 59. The sheet S will then have reached the end of its movement and will be in the proper position to have ink-printed and light-printed markings or legends applied thereto, such as indicated in Figs. XVIII and XIX. When the sheet S is so positioned, the spring paper sheet depressing fingers 4a will maintain the portion of the sheet contacted thereby against the lower paper sheet guide 5. However, the portion of the sheet S on which the ink-printing and light-printing operations will be performed, will be slightly spaced from the date film 55 as indicated in Fig. III-A.

Assuming that the selected photographic print-forming paper sheet S is of the "0" grade type, the proper push-button to be selected and manually depressed for operation of the printing device, is the one having a "0" at its top, identified in the drawings by the reference numeral 6. Depressing the push-button 6 to the fullest extent will effect the following developments:

The head 68 at the bottom end of the rod 64a will pass through one of the apertures 88 in the locking bar 84, then contact the insulating piece 77a on the member 77 and push the latter down so that the contact point on its free end will contact the conductor element 76. This will cause the solenoid device 78 to become energized, thereby causing movement of the bar 84 to its locking position so that when the push-button 6

is released it will be held in its partly lowered position, as indicated in Fig. XIII. During downward movement of the push-button 6, the contact members 71 and 72 will both be positioned on the plate 69, and this will connect the spirally wound wire of the variable resistance coil 90 into circuit with the lamp 50 to the resistance clamp 90a, thereby establishing the proper glow-intensity of the lamp 50, when the latter is illuminated. Certain of the other electrical circuits will also be established by this time, as will be clear by reference to the wiring diagram of Fig. XX. As a consequence, the timing means of the printing device will begin to function, the solenoid 42 will also be energized and will pull down the printing lever 23 thereby effecting an ink-printed impression on the back non-sensitized surface of the sheet S. During this ink-printing operation, the printing type at the bottom of the printing head 21 will press the portion of the paper sheet contacted thereby into intimate contact with the date negative 55. As the lever 23 moves down, it will operate micro-switch 48, thereby completing the circuit which includes the lamp 50 so that the latter will be illuminated to the proper intensity and will effect light-printing of the transparent date on the date negative 55 onto the front sensitized surface of the portion of the sheet S which is being pressed against the date negative by the ink-printing type. It is to be particularly noted that the type of the printing head 21 will be pressed against the sheet S just prior to the time that the lamp 50 is illuminated, so that the sheet S will be firmly pressed and held by the ink-printing type against the date negative 55, during the light-printing operation, thereby to assure perfect light-printing of the date on the sensitized surface of the sheet S. In other words, the ink-printing type moves the portion of the sheet S to which a light-printed marking is to be applied, so that the sensitized surface of said portion is placed exactly in the light-printing plane required for best light-printing results, and the ink-printing type maintains the sheet portion in said plane during the light-printing operation.

The timing means of the printing device is so set that when the ink-printing and light-printing operations have been simultaneously effected, as indicated, the timing means will automatically operate the relay switches 100 and 101 in such manner as to open all the circuits which were previously established by movement of the push-button 6 to its lower position, as explained. This will cause the solenoid 42 to be deenergized and immediately permit the lever 23 to be moved to its inactive position by the spring 40. The solenoid 78 will also become deenergized so that the locking bar 84 will be moved to its inactive position by the spring 86, and this will release the head 68 so that the push-button 6 will be returned to its former upper, or inactive position, by the action of spring 67. The other elements which have been active, will also return to their inactive positions.

The sheet S is then withdrawn from the printing device and subjected to a picture printing operation and developed, as previously explained. After the sheet S has been withdrawn from the printing device, the latter is in readiness to receive the next such sheet, and the operation of the device may be repeated, as explained.

If it is found that the operating force exerted by the solenoid 42 on the lever 23 is not of the

proper magnitude to effect an ink-printed impression as desired, the operating force of the solenoid 78 may be increased or decreased, by adjusting the rheostat 13a, one way or the other, and this will effect an increase or decrease in the resistance included in the solenoid circuit.

The rheostat 91 is provided to effect course adjustment of the resistance value in the circuit containing the lamp 50. By first properly setting the rheostat 91, the resistance values added by respectively, or separately, connecting the resistance clamps 90b, 90c, 90d, 90e and 90f in the same circuit, a vernier-type resistance adjustment will be effected.

When the lamp 50 is illuminated, the operator of the printing device will notice this through the red glass window 14, at the front end of the printing device, and this will indicate that the light-printing operation is being carried out.

After the paper sheets S which belong to one order, have been operated upon by the printing device, as described, and it is desired to change the number to be ink-printed on the rear surfaces of the next group of sheets S, this can be accomplished by simply pulling down the handle of lever 12 of the numbering device which forms part of the ink-printing means at the front end of lever 23, and then releasing the lever 12. The latter will then be retracted by a spring 12a, and the next consecutive number will then have been brought into ink-printing position by this lever action.

Of course, the printing device improvements specifically shown and described, can be changed and modified in various ways without departing from the invention herein disclosed, the scope of which is more particularly indicated by the hereto appended claims.

I claim:

1. A device for applying an ink-printed mark to the rear non-sensitized surface of a photographic print-forming sheet or the like and a light-printed mark to a front sensitized portion thereof, comprising means provided with a transparent platen arranged to support the sheet in determined location on the transparent platen so that a non-sensitized surface section of the sheet is in overlying printing position adjacent the printing surface of said platen for application thereto of an ink-printed mark, a stamping member, means arranged to apply ink to said member, means movably mounting the stamping member for actuation into and out of printing contact with said non-sensitized surface section supported on and overlying said platen, selectively adjustable magnetic actuating means arranged to effect movement of the stamping member into printing contact with said non-sensitized surface section and means for effecting light printed marking through said transparent platen substantially in unison with the operation of said stamping member.

2. A device for applying an ink-printed mark to the rear non-sensitized surface of a photographic print-forming sheet or the like and a light-printed mark to a front sensitized portion thereof, comprising means provided with a transparent platen arranged to support the sheet in determined location on the transparent platen so that a non-sensitized surface section of the sheet is in overlying printing position adjacent the printing surface of said platen for application thereto of an ink-printed mark, a stamping member, means arranged to apply ink to said member, means movably mounting the stamping member

for actuation into and out of printing contact with said non-sensitized surface section supported on and overlying said platen, a magnetic actuator arranged to effect movement of the stamping member into printing contact with said non-sensitized surface section, selectively adjustable means arranged to determine the operating force exerted by said magnetic actuator and means for effecting light printed marking through said transparent platen substantially in unison with the operation of said stamping member.

3. A device for simultaneously applying ink-printed and light-printed marks to the opposite surfaces of a photographic print-forming sheet or the like, comprising means provided with a transparent platen arranged to support the sheet in determined location on the transparent platen so that a front sensitized surface section of the sheet is in overlying printing position adjacent the printing surface of said platen for application thereto of a light-printed marking, a stamping member, means arranged to apply ink to said member, means movably mounting the stamping member for actuation into and out of printing contact with the rear non-sensitized surface section of the sheet which is supported on said platen directly opposite to said sensitized surface section, a solenoid actuator for said member arranged to effect movement of the latter into printing contact with said non-sensitized surface section, selectively adjustable means arranged to determine the operating force exerted by said actuator and means for effecting light printed marking through said transparent platen substantially in unison with the operation of said stamping member.

4. A device for simultaneously applying ink-printed and light-printed marks to the opposite surfaces of a photographic print-forming sheet or the like, comprising means provided with a transparent platen arranged to support the sheet in determined location on the transparent platen so that a marginal section of the front sensitized surface of the sheet is in overlying printing position adjacent the printing surface of said platen for application thereto of a light-printed mark, a stamping member, means arranged to apply ink to said member, means movably mounting the stamping member for actuation into and out of printing contact with the rear non-sensitized marginal section of the sheet which is supported on said platen directly opposite to said sensitized marginal section, a solenoid actuator for said member arranged to effect movement of the latter into printing contact with said non-sensitized marginal section, a rheostat connected in circuit with the solenoid actuator for effecting selective regulation of the operating force exerted by the solenoid actuator and means for effecting light printed marking through said transparent platen substantially in unison with the operation of said stamping member.

5. A device for simultaneously applying markings to the opposite surfaces of a photographic print-forming paper sheet or the like, comprising electrically operated light printing means, electrically operated ink printing means, means provided with a transparent platen arranged to support a sheet portion in determined printing location on the device, an electrical switch for effecting electrical connection between said electrically operated light printing means and said electrically operated ink printing means, an element arranged to be operated by the sheet so as

to close the switch during final movement of the sheet portion to its printing location, and means manually operable after said switch is closed which means is adapted to simultaneously effect an ink-printed marking on the non-sensitized sheet portion and a light-printed marking on the sensitized sheet portion by said light printing means and said ink printing means.

6. A device for simultaneously applying markings to the opposite surfaces of a photographic print-forming paper sheet or the like, comprising means provided with a transparent platen arranged to support a sheet portion in determined printing location on the device, ink printing means on one side of said platen, light printing means on the other side of said platen, and means operative to simultaneously effect an ink-printed marking on the non-sensitized surface of said sheet portion and a light-printed marking on the sensitized surface of said sheet portion in such manner that the markings are located in superimposed relation with respect to each other on the opposite surfaces of said sheet portion.

7. A device for simultaneously applying markings to the opposite surfaces of a photographic print-forming paper sheet or the like, comprising means provided with a transparent platen arranged to support a marginal section of the sheet in determined printing location on the device, ink printing means on one side of said platen, light printing means on the other side of said platen, and means operative to simultaneously effect an ink-printed marking on the non-sensitized surface of said marginal sheet section and a light-printed marking on the sensitized surface of said marginal sheet section in such manner that the markings are located in superimposed relation with respect to each other on the opposite surfaces of said marginal sheet section.

8. A device for simultaneously applying markings to the opposite surfaces of a photographic print-forming paper sheet or the like, comprising means provided with a transparent platen arranged to support a marginal section of the sheet in determined printing location on the device, ink printing means on one side of said platen, light printing means on the other side of said platen, and means operative to simultaneously effect an ink-printed marking on the non-sensitized surface of said marginal sheet section and a light-printed marking on the sensitized surface of said marginal sheet section in such manner that the markings are located in superimposed inverted relation with respect to each other on the opposite surfaces of said marginal sheet section.

9. A device for simultaneously applying markings to the opposite surfaces of a photographic print-forming paper sheet or the like having a light sensitized surface on one side and a non-sensitized surface on the other side, comprising means arranged to support the sheet in determined fixed location on the device, mechanical means operative to effect an ink-printed marking on the non-sensitized surface of said sheet, electrical means substantially opposing said mechanical means and operative to effect a light-printed marking on the sensitized surface of said sheet, and means effecting simultaneous operation of said mechanical and electrical means for simultaneous marking of the opposing sensitized and non-sensitized surfaces of the sheet.

10. A device for simultaneously applying mark-

ings to the opposite surfaces of a photographic print-forming paper sheet or the like having a light sensitized surface on one side and a non-sensitized surface on the other side, comprising means arranged to support a marginal section of the sheet in determined printing location on the device, mechanical means operative to effect an ink-printed marking on the non-sensitized surface of said marginal sheet section, electrical means substantially opposing said mechanical means and operative to effect a light-printed marking on the sensitized surface of said marginal sheet section, and means arranged to effect simultaneous operation of said mechanical and said electrical means for simultaneous marking of the opposing sensitized and non-sensitized surfaces of the sheet.

11. A device for simultaneously applying markings to the opposite surfaces of a photographic print-forming paper sheet or the like, comprising means provided with a transparent platen arranged to support a sheet portion in determined printing location on the device, means operative to effect an ink-printed marking on the non-sensitized surface of the sheet portion, means including a variable intensity light source operative to effect a light-printed marking on the sensitized surface of the sheet portion, and means including a plurality of selectively operable elements each arranged to adjust the light source to a different printing-light intensity and to concurrently effect therewith simultaneous operation of said ink-printing and light-printing means.

12. A device for simultaneously applying markings to the opposite surfaces of a photographic print-forming paper sheet or the like, comprising means provided with a transparent platen arranged to support a sheet portion in determined printing location on the device, means operative to effect an ink-printed marking on the non-sensitized surface of the sheet portion, means including a variable intensity light source operative to effect a light-printed marking on the sensitized surface of the sheet portion, and means including at least six selectively operable elements each arranged to adjust the light source to a different printing-light intensity and to concurrently effect therewith simultaneous operation of said ink-printing and light-printing means.

13. A device for simultaneously applying markings to the opposite marginal surfaces of a photographic print-forming sheet or the like, comprising means provided with a transparent platen arranged to support a marginal section of the sheet in determined printing position on the device, a self-inking stamp unit operative to effect an ink-printed marking adjacent to the edge of the non-sensitized surface of the supported marginal sheet section, means including a variable intensity light source operative to effect a light-printed marking adjacent to the edge of the sensitized surface of the supported marginal sheet section, and means including a plurality of selectively operable push-button elements each arranged to adjust the light source to a different printing-light intensity and to concurrently effect therewith simultaneous operation of said ink-printing and light-printing means.

14. A device for applying a light-printed mark to a front sensitized surface portion of a photographic print-forming sheet or the like and an ink-printed mark to a rear non-sensitized sur-

face portion thereof, comprising means provided with a transparent platen arranged to support the sheet on the device so that a front sensitized surface portion thereof is in overlying printing position adjacent the printing surface of said platen for application thereto of a light-printed mark while an opposed rear surface portion thereof is in said overlying position for application thereto of an ink-printed mark, means including a variable intensity light source operative to effect a light-printed marking on the sensitized surface of the sheet, means for applying an ink printed mark on the opposing non-sensitized surface portion, and means for effecting simultaneous operation of both of said printing means.

15. A device for simultaneously applying markings to the opposing light sensitized and non-sensitized surfaces of a photographic print-forming paper sheet or the like, comprising means provided with a transparent platen arranged to support a sheet portion in determined printing location on the device, ink printed marking means operative against the non-sensitized surface of the sheet portion, light printed marking means operative against the sensitized surface of the sheet portion, means operative to simultaneously effect operation of the ink-printed marking means on the non-sensitized surface of the sheet portion on one side and the light-printed marking means on the sensitized surface on the other side of the sheet portion, and timing means jointly operative with said light printing means to determine the printing time of the light-printed marking means.

16. A device for simultaneously applying markings to the opposing light sensitized and non-sensitized marginal surfaces of a photographic print-forming sheet or the like, comprising means arranged to support a marginal section of the sheet in determined printing position on the device, a self-inking adjustable stamp unit operative to effect an ink-printed marking adjacent to the edge of the non-sensitized surface of the supported marginal sheet section, light marking means including a variable intensity light source operative to effect a light-printed marking adjacent to the edge of the sensitized surface of the supported marginal sheet section, means including a plurality of selectively operable push-button elements each arranged to adjust the light source to a different printing-light intensity, each selected one of said push button elements being adapted to effect simultaneous operation of said ink-printing and light-printing means, and timing means arranged to determine the printing time of the light-printed marking.

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