

Aug. 9, 1955

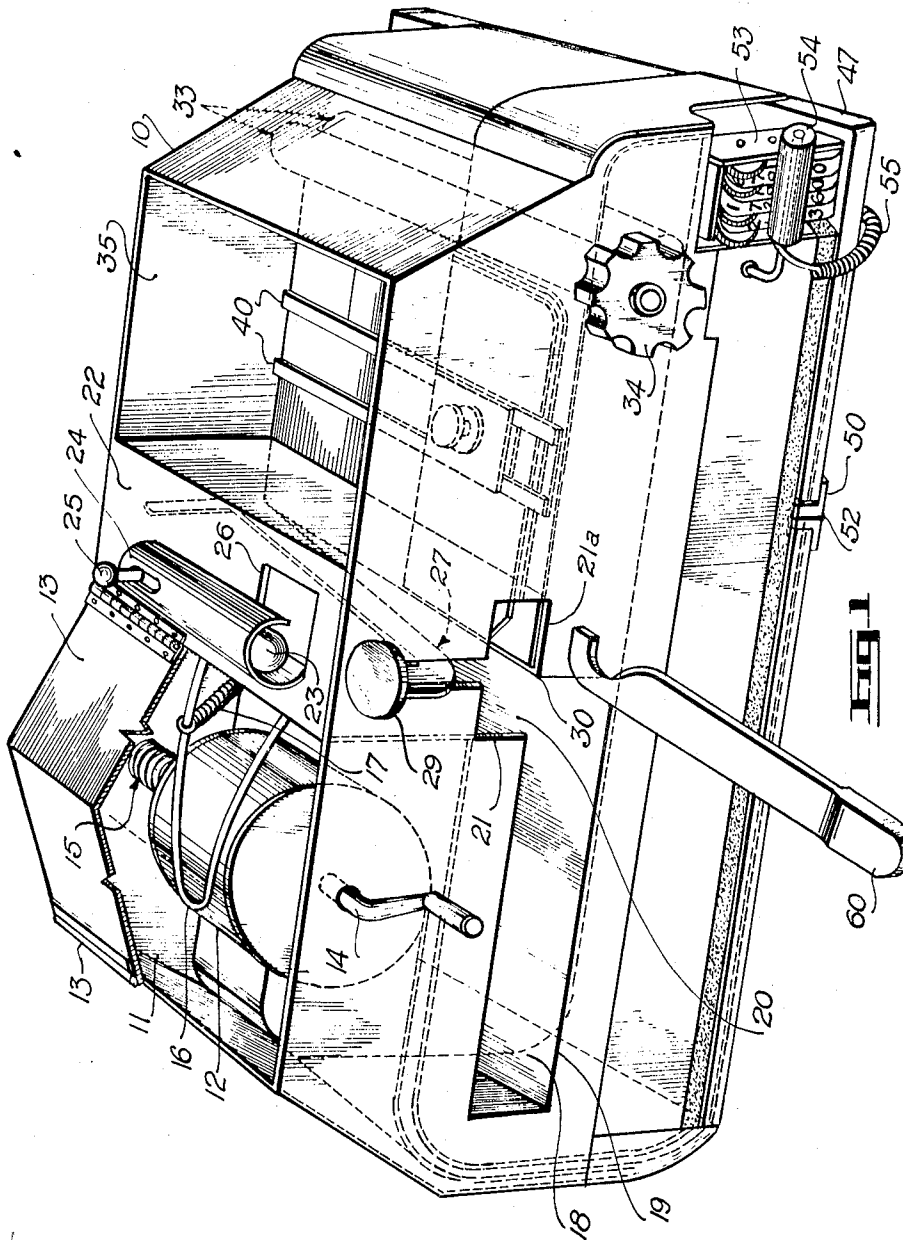
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PHOTOGRAPHIC ROLL PAPER CUTTER AND CONTACT PRINTER

Filed Feb. 3, 1953

5 Sheets-Sheet 1



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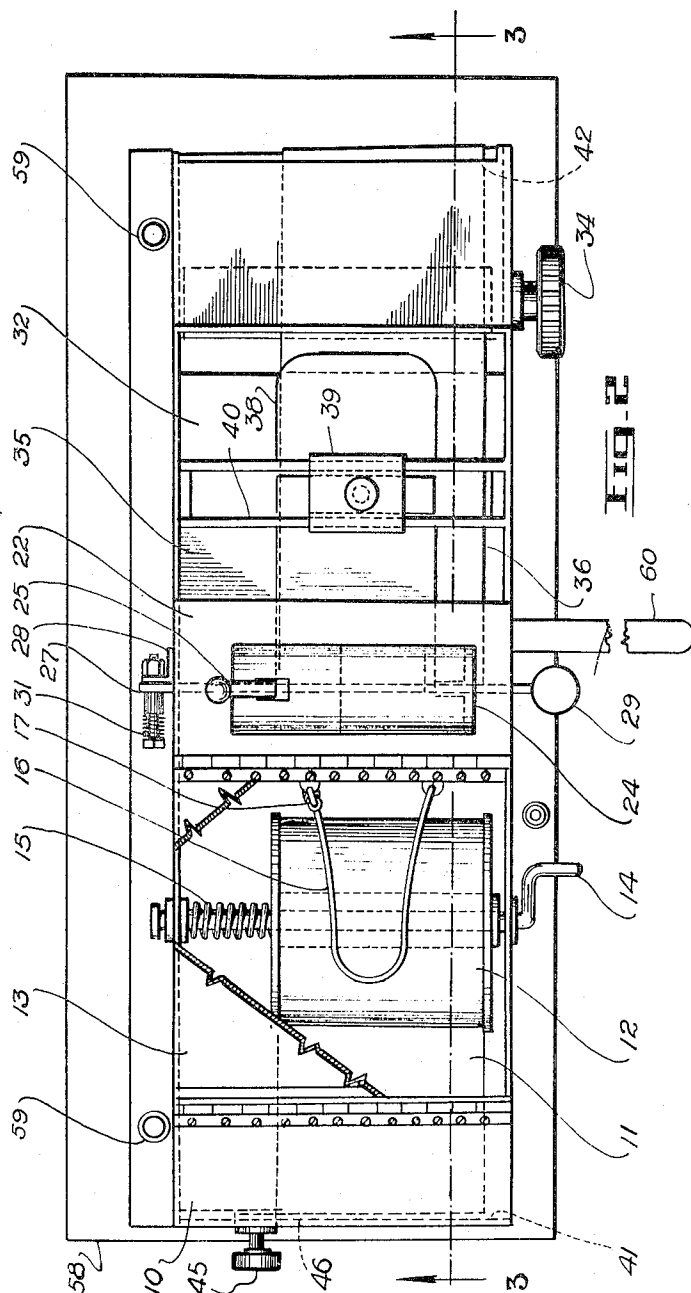
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PHOTOGRAPHIC ROLL PAPER CUTTER AND CONTACT PRINTER

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5 Sheets-Sheet 3

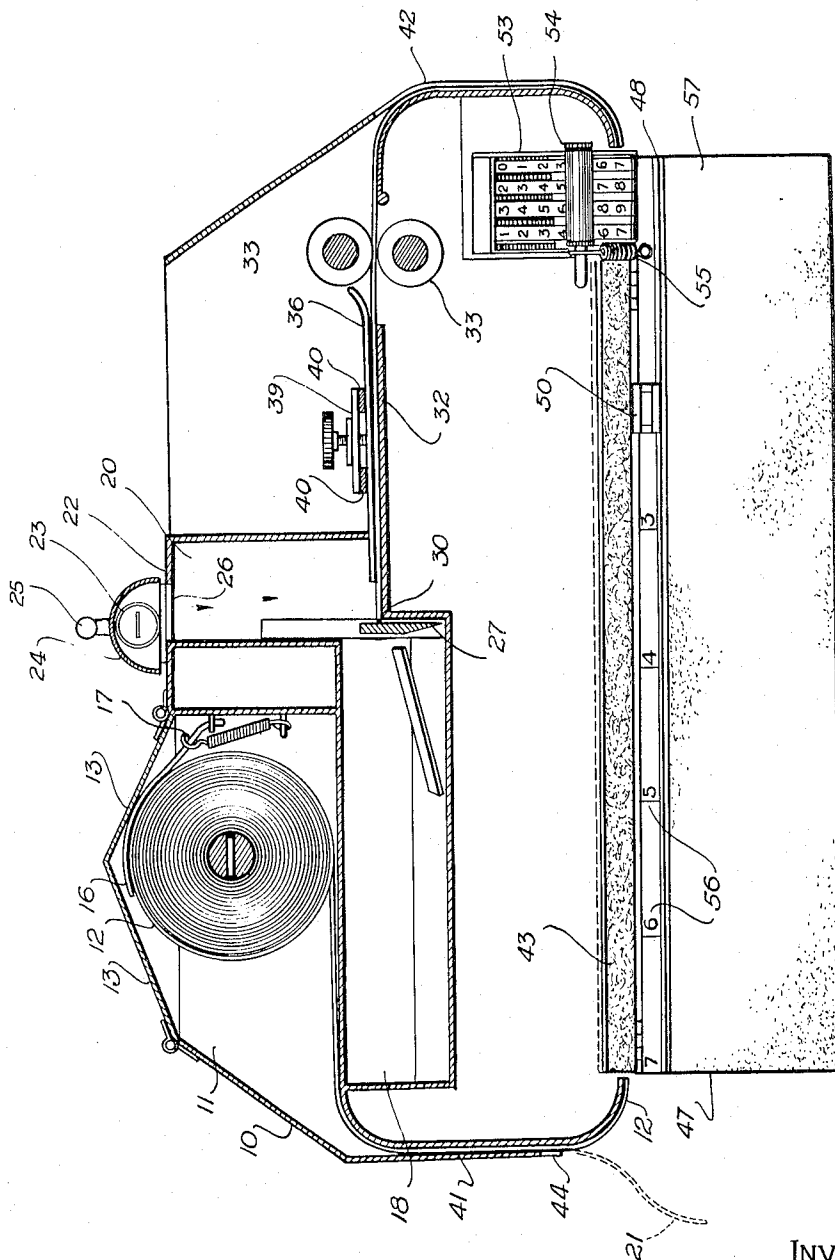


FIG. 3

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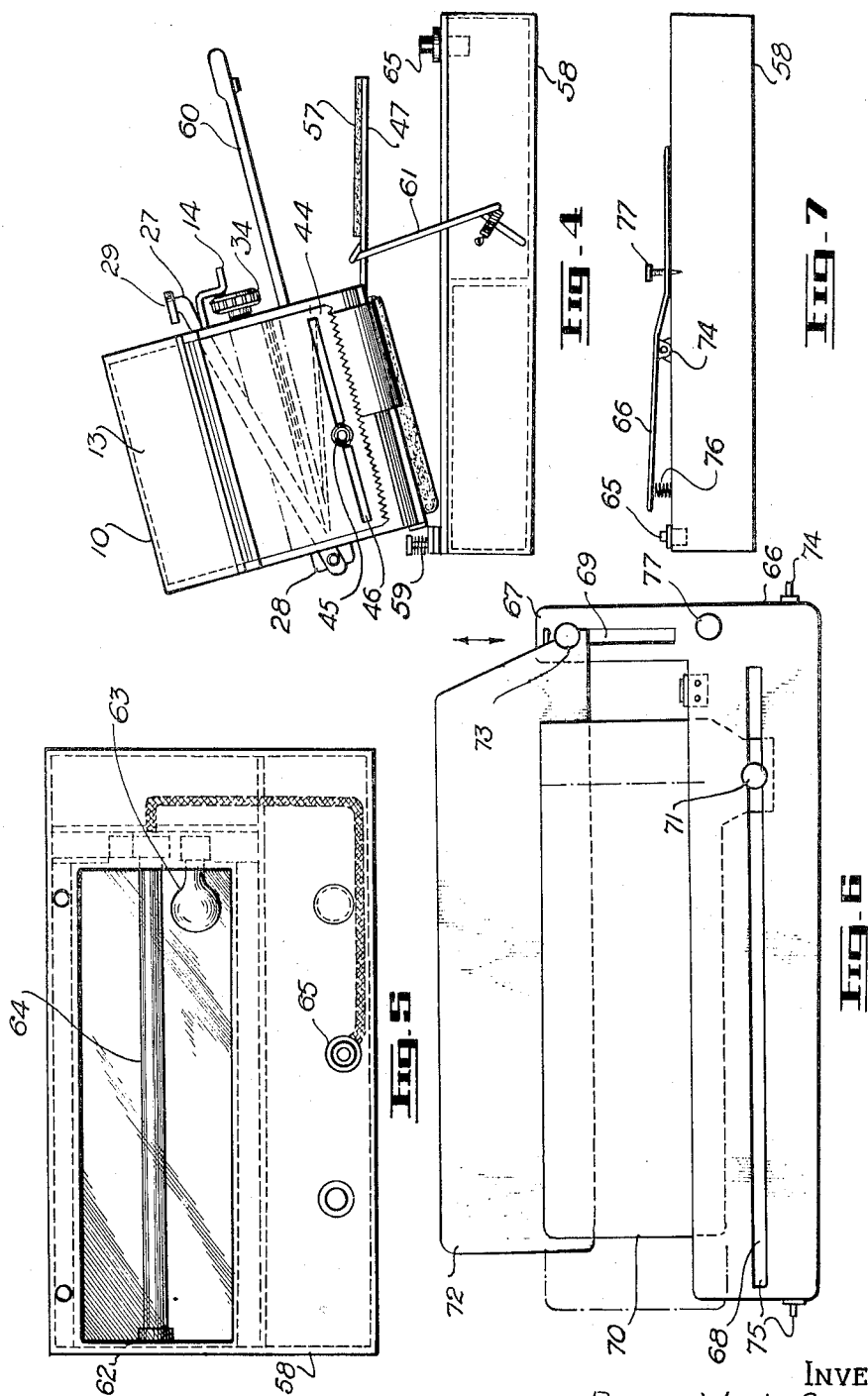
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5 Sheets-Sheet 4



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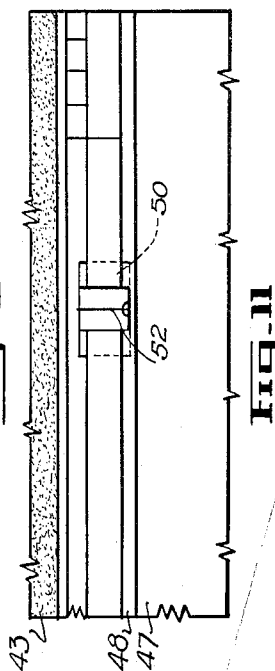
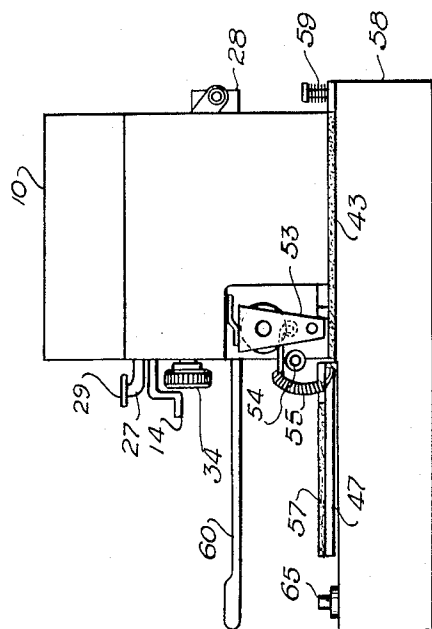
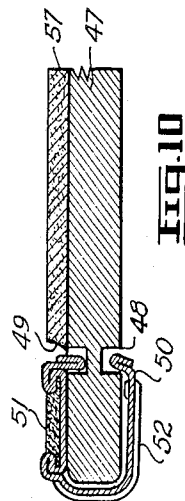
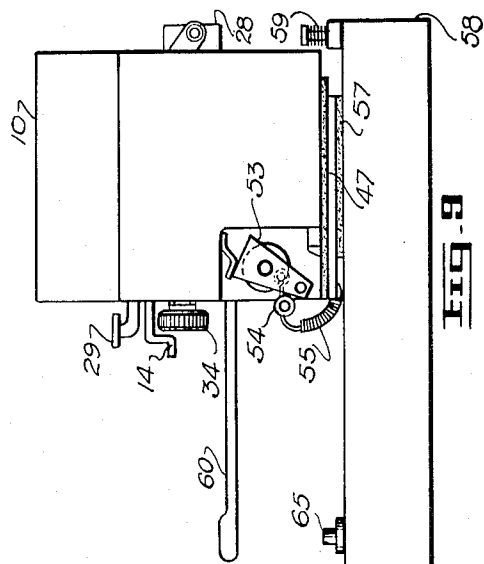
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PHOTOGRAPHIC ROLL PAPER CUTTER AND CONTACT PRINTER

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5 Sheets-Sheet 5



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PHOTOGRAPHIC ROLL PAPER CUTTER AND CONTACT PRINTER

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Application February 3, 1953, Serial No. 334,871

2 Claims. (Cl. 95—75)

This invention relates to photographic accessories and in particular has reference to a printing and cutting device useable with photographic paper of the type normally marketed in rolls.

Among the objects of the invention are (1) that of adapting rolls of photographic paper for use by amateur or professional photographers; (2) to provide means for separately exposing predetermined portions of a roll of such paper whereby single or multiple prints may be made without exposing the balance of the roll; (3) to provide adjustable means for producing prints of predetermined size; (4) to provide adjustable means for marking the paper for cutting; (5) to provide light-proof storage facilities for sensitized roll paper; (6) to provide means for tearing off test strips of paper; (7) to provide means for identifying each said predetermined portions of the roll; and lastly, to provide means for parting off predetermined portions of the said roll of photographic paper.

With these and other objects in view which may appear while the description proceeds the invention consists in the novel arrangement of cooperating parts shown in the accompanying drawings forming part of this application and in which;

Figure 1 is an isometric view of a portion of one embodiment of the invention;

Figure 2 is a partially cut away plan view of this portion mounted on a contact printer, and showing means for storing roll paper, paper cutting means, and a plurality of rollers for advancing the paper towards and beneath the cutting means;

Figure 3 is a sectional view taken on the line 3—3 of Fig. 2;

Figure 4 is a partly diagrammatic end view of this embodiment;

Figure 5 is a plan view of the contact printer;

Figure 6 is a plan view of an adjustable combined negative holder and paper mask;

Figure 7 is an elevational view showing the combined negative holder and paper mask pivotally detachably secured to the printing surface of the contact printer;

Figure 8 is an end view of this embodiment showing numbering means for identifying predetermined portions of the roll of paper;

Figure 9 is a view similar to Fig. 8 showing the said numbering means raised for inking;

Figure 10 is an enlarged sectional view showing paper marking means adjustably mounted on the hinged edge of a light shield for the paper, and

Figure 11 is an enlarged partial elevational view of the said paper marking means.

The accompanying drawings, which illustrate the invention, and wherein like reference characters designate the same parts throughout, are designed to show its principles so that all persons skilled in the art to which it pertains may put it into effect, using standard equipment which is available in the market. The novelty of the invention resides mainly in certain combinations of elements which individually are old and well known.

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In its fundamentals the invention comprises a contact printer base, a container in which roll paper may be stored and cut, and around the periphery of which the said paper is drawn for printing, means operable to feed the paper around the periphery of the container, guides for the paper, a combined adjustable negative holder and paper mask, adjustable means for marking predetermined portions of the roll of paper for cutting, and means for identifying the said predetermined portions of the roll of paper. In addition, a protective light shield for the exposed sensitized paper is hingedly secured to the container and is adapted to swing under the container whenever the latter is raised sufficiently far about its hinges.

In particular, in Figures 1, 2, 3, and 4 of the drawings, the container is designated at 10. It may be of any suitable cross section, but, in the form shown, is a compartmented elongated more or less rectangular box of suitable material having a flat base and lower rounded vertical ends. It is formed with a light-proof storage compartment 11 for sensitized roll paper 12, to which compartment entrance may be had through hingedly secured like trap doors 13. The paper 12 is secured to a crankshaft 14 revolvably mounted in the compartment 11 and is held over against the face of the container 10 by a compressed member such as a coil spring as at 15. Means are provided for tensing the paper 12 and, as shown, comprise a frictional clamping member 16 and a tensed member such as a coil spring as at 17.

Beneath the storage compartment 11 is a chamber 18 for receiving portions cut from the roll of paper 12, and which chamber is apertured as at 19 such that the cut paper may be withdrawn therefrom. Portions cut from the roll of paper 12 enter the chamber 18 from a cutting compartment 20 which is arranged more or less medially of the container 10 and adjacent the compartment 11. The aperture 19 is extended at 21 and 21A so that reference marks predeterminedly printed on the paper may be observed.

The cutting compartment is provided with a cover 22 upon which is mounted a suitable "safe" light 23 having a shield 24 and activating switch 25. Illumination from the light 23 is permitted entrance into the cutting compartment 20 through a suitable aperture 26 formed in the cover 22 and illuminates the compartment and the paper.

A suitable knife 27 is disposed within the compartment 22 and extends through the opposite sides of the container 10, its rearmost end being pivotally secured to a bracket 28 secured to the container 10. Its opposite end is provided with a termination 29 for the finger or, preferably, the thumb of the operator of the device. It is further provided with means whereby it may be maintained in close cooperative engagement with an anvil 30 disposed within the cutting compartment, one such means comprising a coil spring 31.

Extending away from the anvil 30 towards the opposite end of the container 10 is a platform 32 over which the paper 12 is drawn by suitable rollers 33, one of which is provided with a suitable terminal knob 34. The platform 32 serves as the floor of a compartment 35 which is left uncovered so as to provide access to adjustable guide means operable to prevent curling of the paper 12 and to direct the paper towards and beneath the knife 27. As shown, the said guide means comprises a thin metallic sheet 36 having one corner 37 cut away for the observation of markings predeterminedly stamped on the paper 12 as hereinafter described in greater detail. It, further, is formed with one folded edge 38 which is engaged by the paper 12. The metallic sheet 36 is secured to a carriage 39 which is slidably mounted on parallelly disposed like ways 40 extending transversely of the compartment

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35, whereby different widths of sensitized paper may be accommodated.

Transverse vertical passages 41 and 42 are formed at the opposite vertical ends of the container 10 whereby the paper 12 may be drawn from the storage compartment 11, thence around and under the bottom of the said container, which bottom preferably is covered with yieldable material designated at 43, and thence between the rollers 33 and the metallic sheet 35 and platform 32, and towards the knife 27.

A serrulated member 44 is suitably secured to the container 10 adjacent and parallel to the lower end of the vertical passage 41 such that test strips of paper 12 may be torn from the roll. A lateral stop 45 is provided for the sensitized paper and it is adjustably mounted on a bar 46 attached to the end of the container 10.

A more or less rectangular plate 47 is hingedly secured to the lower forward edge of the container 10 for purposes which will become clearer as the description proceeds. Slidably mounted in grooves 48 and 49 formed near the hinged edge of the plate 47 is a carriage 50 which is adapted for marking the edge of the sensitized side of the paper 12. As shown in Fig. 10 of the drawings, the carriage 50 is formed with a marking fluid reservoir 51 from which a wick 52 extends outwardly and around the edge of the plate 47, from whence it is operable to mark the paper 12 whenever the said plate is caused to assume a disposition beneath the container 10.

Means for numbering exposed portions of the paper are disposed in the lower right hand corner of the container 10 and, as shown, comprise a suitable adjustable stamp 53, an inked roller 54 for inking the stamp 53, and elastic means such as the tensed spring 55. The said stamp is raised for inking whenever the plate 47 is caused to move to a position beneath the container 10, and is lowered onto the back of the sensitized paper whenever the plate 47 is swung outwardly from the said container.

Referring now to Fig. 3 of the drawing, it will be seen that the plate 47 is provided with indicia designated generally at 56 whereby predetermined portions of the paper 12 may be selected and marked for printing and cutting, and is further provided on one surface with suitable yieldable material 57 such as felt, which yieldable material serves as a platen whenever an associated contact printer 58 is used for printing regular grades of cut photographic paper.

The container 10 is adjustably hingedly secured by suitable fastening means as at 59 to the top of the contact printer 58 and is provided with a laterally outwardly extending handle 60 whereby it may be swung clear of the printing surface of the said contact printer.

As shown in Fig. 4 of the drawings, the plate 47 is secured to the printer 58 by a tensed toggle action linkage denoted at 61 whereby the plate 47 is caused to swing beneath the container 10 to shield the exposed sensitized paper 12 against undesirable light whenever the said container is raised upwardly by means of the handle 60.

The contact printer 58 may be of any suitable cross section, but, in the form shown, is a closed more or less rectangular box of suitable material having a light transparent window 62 disposed along one side of its top surface at a region immediately beneath the container 10, all as according to usual construction.

A continuously activated safe light 63 is disposed within the printer 58 and beneath the window 62 as is a printing lamp 64 which preferably is of the tubular type. The tubular lamp 64 is electrically connected to a suitable actuating switch 65 which is disposed in the near edge of the said contact printer 58. Means (not shown) are, of course, provided for connecting the safe light 63 and tubular lamp 64 to a suitable source of electric energy.

In order that the paper 12 may be printed in predetermined portions, I have provided a combined adjustable negative holder and paper mask designated generally at 66. From Fig. 6 of the drawings, it will be seen that the

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negative holder and mask 66 comprises an L-shaped plate 67 of suitable material having longitudinally and laterally disposed slots 68 and 69 respectively formed therein, a more or less rectangular thin metallic plate 70 secured to the plate 67 for sliding movement longitudinally thereof by suitable locking means such as the thumbscrew 71, and a somewhat similar thin metallic plate 72 secured for sliding movement laterally of the plate 67 by suitable locking means, e. g.—a thumbscrew as at 73.

The said adjustable combined negative holder and paper mask 66 is detachably pivotally secured to the top of the contact printer 58 and over the window 62 thereof, by suitable pins as at 74 and 75, in a manner such that the negative to be exposed may be brought into intimate contact with the paper 12 to be printed by manual downward pressure on the plate 67. A loading spring 76 is provided for holding the said negative to the top of the printer 58 when the downward manual pressure is removed from the plate 67. A suitable knob 77 is provided for raising the plate 67 against the force of the spring 76.

In use, the plate 47 is swung outwardly from the base of the container 10 and the paper 12 is threaded downwardly through the passage 41 and around the base of the said container. The paper 12 thence is drawn up through the passage 42, from whence it is advanced by the rollers 33 and guide 36 towards the anvil 30 and its cooperating knife 27. The paper is drawn around the base of the container 10, with its sensitized surface facing outwardly.

A negative is placed in the adjusted negative holder and paper mask 66 and is held therein by masking plates proper so as to permit the paper 12 to be brought thereagainst by a downward movement of the container 10, as hereinbefore described.

With the container 10 now resting on the printer 58 the switch 65 may be actuated to activate the tubular lamp 64 for a predetermined period of time to expose the selected portion of the said paper. The paper 12 is then advanced beneath the knife 27 by the rollers 33 and is cut.

In order that a reference mark may be provided as an aid in parting off the selected portions of the paper, the carriage 50 is moved along the plate 47 to a position corresponding to the end of the section to be parted, whereupon the container 10 is swung upwardly by its handle 60 causing the plate 47 to swing inwardly beneath the said container to force the wick 52 against the outer surface of the paper 12, thereby leaving a reference mark printed thereon in a predetermined position.

Simultaneously the stamp 53 is pressed against the inked roller 54 and is returned against the said paper when the plate 47 is caused to swing outwardly from the container 10, thereby suitably stamping the predetermined portion of the paper 12.

Whenever a reference mark appears in the aperture 21 and 21A the knife 27 is operated by the operator grasping the handle 60 by his forefinger and simultaneously exerting a downward pressure on the termination 29 by the thumb of his same hand.

It is apparent that the printer 58 may be used independently of the container 10, for work on the regular cut paper.

It is believed that the construction and advantages of the structure shown may be apparent from the foregoing paragraphs taken in conjunction with the accompanying drawings without further detailed description.

While the preferred embodiment of the invention has been disclosed it is understood that minor changes in the construction, combination and arrangement of cooperating parts may be resorted to within the scope of what is claimed without departing from the spirit of the invention.

I claim:

1. A photographic printing machine comprising a contact printer, a container mounted over the light opening

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of said printer, a roll of photographic paper rotatably mounted in said container adapted to move across the bottom of said container, a platform mounted in said container above the bottom, guide passages at the ends of said container for guiding said paper across the bottom and onto said platform, means for advancing said paper, an anvil at the end of said platform, a knife blade pivotally mounted for co-action with said anvil for severing sections of the paper, a paper guide adjustably mounted on said platform and a negative holder and paper mask mounted over the light opening of said contact printer composed of members adjustable at right angles to each other.

2. A photographic printing machine comprising a contact printed, a container hingedly mounted on the top of said contact printer, vertical guide passages at the ends of said container, a roll of photographic paper rotatably mounted in said container, said paper being threaded through said guide passages to extend across the bottom of said container, means for moving said paper, a platform in said container to support the free end of said

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paper, an anvil at the end of said platform, an adjustable guide plate mounted on said platform to guide the paper in its movement towards said anvil, a knife blade pivotally mounted for co-action with said anvil to sever said paper, a negative holder and paper mask mounted over the light opening of said contact printer, a cover for the bottom of said container hingedly mounted for outward swinging movement, means for moving said cover to covering position when said container is raised upwardly, and a marker carried by said cover for engagement with said paper when the cover is closed.

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