G. R. OLSON.

GAGE FOR PRINT HOLDING FRAMES.

APPLICATION FILED NOV. 28, 1910.

1,005,869.

Patented Oct. 17, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

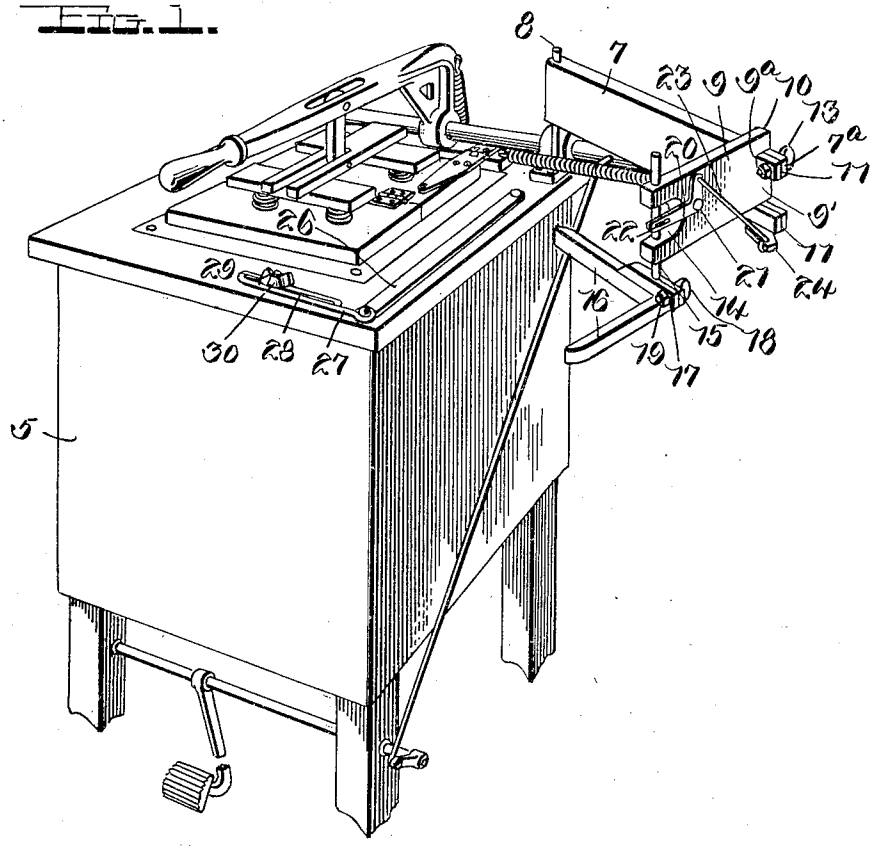
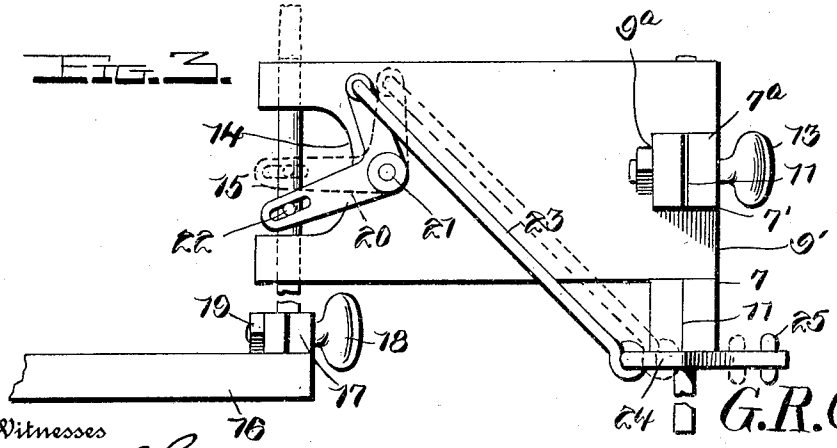


Fig. 2.



Witnesses

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FIG. 2.

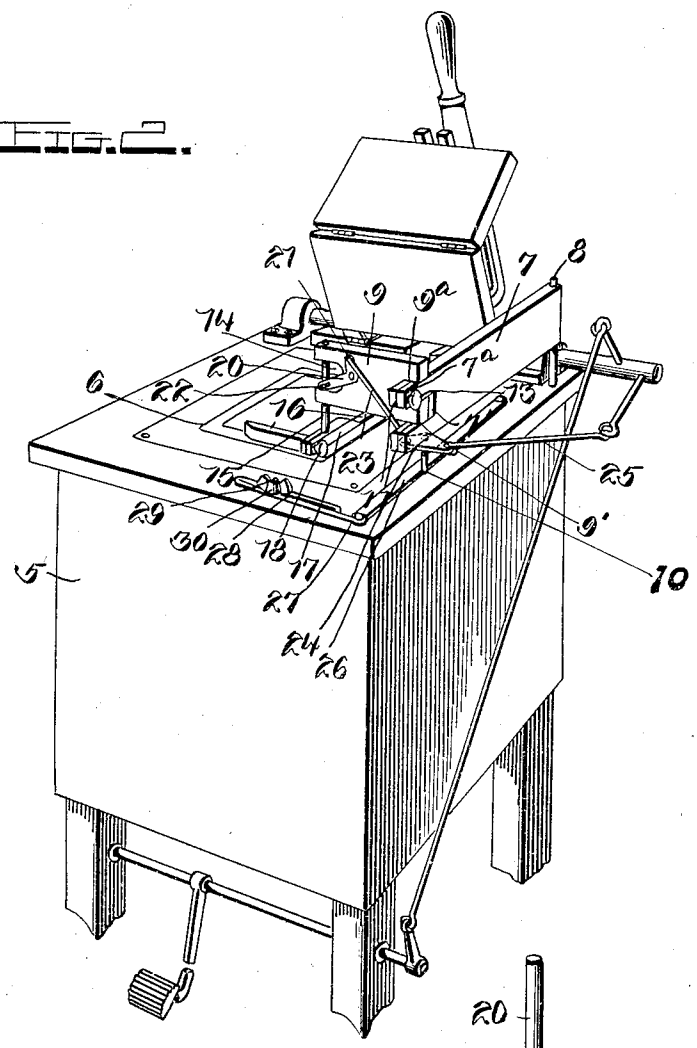
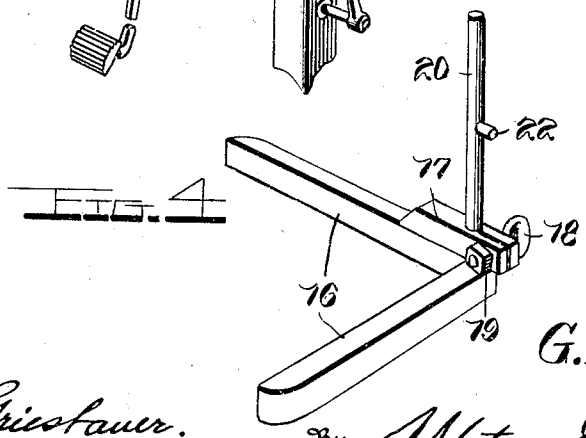


FIG. 4.



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GAGE FOR PRINT-HOLDING FRAMES.

1,005,869. Specification of Letters Patent. Patented Oct. 17, 1911.

Application filed November 28, 1910. Serial No. 594,525.

To all whom it may concern:

Be it known that I, GUSTAVE R. OLSON, a citizen of the United States, residing at Plattsmouth, in the county of Cass and State of Nebraska, have invented certain new and useful Improvements in Gages for Print-Holding Frames, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to a gage for positioning a sensitized sheet of paper upon a photographic plate.

The invention has for its primary object the provision of a very simple device of the above character which will quickly and properly position the sensitized print paper on the negative to be engaged and held in position by suitable holding means.

Another object of my invention resides in the provision of a gage having adjustable print engaging arms and means for raising and lowering said arms to engage the same upon a photographic plate and to remove said arms therefrom without disturbing the position of the printing sheet.

A still further object of the invention is to provide a device for the purpose specified consisting of a body member and a bar adjustable with relation thereto, and right angularly extending gage arms mounted on said bar and adjustable independently of the same.

Another object of the invention is to provide a positioning gage for photographic printing sheets which is extremely simple in construction, highly efficient in practical use, and one which may be manufactured at a comparatively low cost.

With the above and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a gage embodying my improvements illustrating its arrangement with relation to the print sheet and negative holder; Fig. 2 is a similar view showing the gage in operative position; Fig. 3 is an elevation partly in section showing the two positions of the gage arms in the operation of the device; and Fig. 4 is a detail perspective view of the print sheet positioning arms.

Referring in detail to the drawings 5 designates the body of a photographic printing machine upon which the print paper and negative holding device 6 are arranged. Both the printing machine and the holding device are specifically described and shown in separate co-pending applications for patent which are filed coincident herewith. The same will not therefore be described in detail in the present specification.

The gage or positioning device which I have devised for positioning the sensitized printing sheet upon the photographic negative plate, embodies in its construction a body member 7, which is pivotally mounted upon the frame or body of the printing machine as designated at 8. The gage may, however, be entirely separate and distinct from the printing machine and mounted for movement upon a portable base, and arranged in the proper position with relation to the holder 6 in the use of the device. The free end of the member 7 is bifurcated as shown at 7′ to receive the end portion 9′ of the adjustable carrier bar 9. The end of this bar is also slotted or bifurcated as indicated at 9^a to receive a portion 7^a of the member 7 which is provided by the provision of the slot or bifurcation 7′ in the end thereof. Thus it will be seen that the ends of the member 7 and bar 9 are provided with co-engaging mortises and tenons. A connecting rod 10 extends through these co-engaged end portions of the bar 9 and member 7 to connect the same for relative pivotal movement whereby the bar 9 may be disposed at various angles with relation to the member 7. The bifurcated end of the member 7 through which the rod 10 extends is split as shown at 11, and one of these split end portions has disposed therethrough a clamping screw 12 upon the end of which a nut 13 is threaded. By adjusting this nut upon the screw, the split end portion of the member 7 is securely clamped upon the rod 10 to rigidly secure the bar 9 in its adjusted position with respect to said member. It will be observed that the rod 10 extends a

considerable distance below the lower edge of the member 7. The purpose of this extended portion of the connecting rod will more fully hereinafter appear. The other or free end of the bar 9 is also bifurcated as indicated at 14 and through this bifurcated end the rod 15 is vertically movable.

Upon the lower end of the rod 15 below the bar 9, the right angularly disposed print sheet positioning arms 16 are arranged. These arms are rigidly secured together and a clamp 17 is carried by the same for engagement with the rod 15. This clamp is fixed upon the rod by means of the clamping screw 18 on the end of which a nut 19 is threaded. It will thus be apparent that the arms 16 may be easily and quickly adjusted to position the same with respect to the bar 9.

The print sheet positioning arms 16 are adapted to be vertically adjusted to permit of the bodily movement of the gage over the negative, for positioning the arms upon the same and for removing the gage after the print sheet has been positioned. This adjusting means includes a bell crank lever 20 which is pivoted upon one side of the bar 9 as at 21. One arm of this lever extends into the bifurcated end 14 of the bar and is pivoted to the vertically movable rod 15 as indicated at 22. To the other end of the bell crank lever 20, one end of a rod 23 is connected, the other end of said rod being disposed through an opening in the substantially triangular plate 24 which is fixed at one of its vertices upon the lower end portion of the rod 10, beneath the body member 7. The rod 23 is connected to one of the other vertices of the plate and to the remaining vertex, one end of an operating rod 25 is connected. This rod may be connected to the print sheet and negative holding device to automatically raise and lower the arms 16, or it may be operated by hand. It will be obvious that when the rod 25 is pulled or moved away from the bar 9, the rod 15 will be elevated in the end of said bar to raise the print sheet adjusting arms 16 to the position shown in dotted lines in Fig. 3. Upon reversing the movement of the rod 25, the bell crank lever 20 will be moved through the rod 15 downwardly and lower the arms 16 into contact with the negative as shown by the dotted lines in Fig. 3. This lowering movement of the arms takes place at the end of the swinging pivotal movement of the gage, and when the arms are positioned over the negative. Thus scraping or sliding movement on the arms on the negative is prevented. The sensitized printing sheet is placed in position with its edges engaging said arms, thus insuring the proper arrangement of the sheet upon the negative plate. In removing the gage to engage the holding device upon the print sheet and negative, the arms 16 are first raised vertically and the gage then bodily swung upon its pivot outwardly as shown in Fig. 1.

Upon the printing machine case or other stationary support, a link 26 is pivoted at one end, and to the other end thereof the end of a rod 27 is pivotally connected. The rod 27 is bent upon itself as indicated at 28 to provide the parallel portions which are disposed upon opposite sides of a belt 29 fixed in the machine case or support. Upon the end of the bolt 29 a wing nut 30 is threaded for clamping engagement upon the parallel portions of the rod 27. By sliding the rod 27 upon the bolt 29, the link 26 may be swung upon its pivot to position the same for engagement by the lower end of the rod 10 which connects the member 7 and arm 9 of the gage, whereby the swinging movement of said gage to position the arms 16 over the negative is limited. By adjusting the link 26 and securing the same rigidly in its adjusted position by clamping the nut 30 upon the rod 27, the arms 16 may be properly disposed over the negative to centrally arrange the printing sheet thereon or to position the same upon any other portion of the plate surface.

From the foregoing it is thought that the construction and operation of my improved gage will be readily understood.

The device is very efficient and reliable in its operation and will accurately arrange the printing sheet in the desired position on the photographic plate, thus eliminating the care and attention heretofore necessary in making photographic prints, and also saving considerable time. By adjusting the bar 9 the printing sheet may be properly positioned longitudinally upon the negative plate, the arms 16 insuring the proper parallel relation of the edges of the plate to the print sheet. The adjustable stop link 26 provides for the transverse disposition of the printing sheet upon the negative.

Owing to the comparatively few elements employed in the construction of the gage, it will be obvious that the same will be very durable in practical use and that it can also be manufactured at a low cost.

While I have shown and described the preferred construction and arrangement of the various elements, it will be obvious that the device is susceptible of considerable modification without departing from the essential feature or sacrificing any of the advantages of the invention.

Having thus described the invention what is claimed is:—

1. In a device of the character described, a support for a photographic plate, a body member mounted for swinging movement in a plane parallel to the photographic plate, and means carried by said body member to

engage and position a sensitized printing sheet upon said plate.

2. In a device of the character described, a support for a photographic plate, a body member mounted for swinging movement in a plane parallel to the plate, means carried by said body member to engage and position a sensitized printing sheet upon the plate, and means for adjusting said last named means to vary the location of the printing sheet on the plate.

3. In a device of the character described, a support for a photographic plate, a body member mounted for swinging movement in a plane parallel to the plate, means carried by the body member and adjustable with relation thereto to vary the location of a printing sheet upon said plate, and additional means carried by said last named means to engage and properly position the printing sheet on the plate.

4. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, and means carried by said member vertically and angularly adjustable with relation thereto to position a sensitized printing sheet upon the photographic plate.

5. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar arranged on the body member and angularly adjustable with relation thereto to vary the location of a sensitized printing sheet on the plate, and additional means mounted upon said bar to engage and position the printing sheet on the plate.

6. In a device of the character described, a support for a photographic plate, a body member mounted to swing in a plane parallel to said plate, a bar mounted upon said member, means for angularly positioning the bar with relation to said member to vary the location of the sensitized printing sheet on the plate, means carried by said bar to engage and position the printing sheet on the plate, and means for automatically moving said last named means vertically with relation to said bar to engage and disengage the same with the surface of the plate.

7. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar pivotally engaged with the free end of said member, means for adjusting said bar to vary the location of a sensitized printing sheet on the photographic plate, arms extending at right angles to each other mounted upon said bar, and means for vertically moving said arms to permit of their movement over the photographic plate and to cause them to engage upon said plate to properly position the sensitized printing sheet on said plate.

8. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar pivoted to said body member and angularly adjustable with relation thereto to vary the location of a sensitized printing sheet on said plate, arms extending at right angles to each other mounted upon said bar, said bar and arms being movable over the photographic plate in the pivotal movement of the body member, means for angularly adjusting said arms with relation to the edges of the photographic plate to position the printing sheet thereon, and means for moving said arms vertically to engage and disengage the same with the surface of the plate.

9. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar pivoted on said body member and angularly adjustable with relation thereto to vary the location of a sensitized printing sheet on said plate, a vertically movable rod mounted in said bar, arms extending at right angles to each other adjustably secured on said rod to angularly position the same with relation to the edges of the photographic plate, and means for vertically moving said rod to engage and disengage the arms carried thereby with the surface of the photographic plate.

10. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar arranged upon said body member and adjustable with relation thereto to vary the location of a sensitized printing sheet on said plate, a rod mounted on said bar, and arms extending at right angles to each other adjustably secured upon the rod for disposition with relation to the edges of the photographic plate, said arms and bar being movable over the plate in the pivotal movement of the body member to engage the arms with the printing sheet to position the same on the plate.

11. In a device of the character described, a support for a photographic plate, a movable body member, a bar movable with said body member and angularly adjustable with relation thereto to vary the location of a sensitized printing sheet on said plate, sheet positioning means carried by said bar, means for adjusting said sheet positioning means with relation to the edges of the photographic plate, and means for automatically engaging and disengaging said positioning means with the surface of the plate.

12. In a device of the character described, a support for a photographic plate, a movable body member, a bar angularly adjustable with relation to said body member to vary the location of a sensitized printing sheet upon the plate, print engaging arms angularly adjustable upon said bar with relation to the edges of the plate to properly position the printing sheet thereon, said bar

and arms being movable over the plate in the movement of the body member to engage the arms with the printing sheet, and adjustable stop means to limit the movement of said body member and vary the point of engagement of said arms with the photographic plate.

13. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar carried by said body member and angularly disposed with relation thereto, arms extending at right angles to each other carried by said bar, said bar and arms being movable over the photographic plate in the pivotal movement of the body member, means for raising and lowering the arms to engage and disengage the same with the surface of the plate at the end of the pivotal movement of said body member in one direction, and stop means adjustable upon the support to limit the pivotal movement of said body member and vary the disposition of said arms transversely upon the surface of the plate.

14. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar carried by said member and angularly disposed with relation thereto, a rod vertically movable in said bar, arms arranged on said rod extending at right angles to each other, means for adjusting said arms upon the rod to position the same with relation to the edges of the photographic plate, said bar and arms being movable over the plate in the pivotal movement of the body member, means mounted upon the bar connected to said rod for vertically moving the same to raise and lower said arms and engage and disengage the same with the surface of the plate at the end of the swinging movement of the body member in one direction, and means for automatically actuating said last named means.

15. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar carried by said member and angularly disposed with relation thereto, a rod vertically movable in said bar, arms on said rod extending at right angles to each other, means for adjusting said arms with relation to the edges of the photographic plate to properly position a sensitized printing sheet thereon, means mounted upon said bar connected to the rod for vertically moving the same to raise and lower said arms and engage and disengage the same with the surface of the plate, means for automatically actuating said last named means at the end of the pivotal movement of the body member in one direction, and stop means adjustable upon the support to limit the pivotal movement of the body member and vary the transverse location of the arms upon the photographic plate.

16. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar angularly adjustable upon said body member to vary the location of the printing sheet upon the plate, a rod vertically movable in said bar, arms extending at right angles to each other and secured upon said rod, a bell crank lever mounted on said bar and pivotally connected at one end to the vertically movable rod, an operating rod, and movable connections between said rod and the other end of the bell crank lever to raise and lower the arms into and out of engagement with the surface of the photographic plate at the end of the pivotal movement of the body member in one direction.

17. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar carried by said body member and extending at an angle thereto, a vertically movable rod carried by said bar, print engaging arms arranged on the rod, means mounted on the bar and connected to said rod to move the same and raise and lower the arms, said bar and arms being movable over the photographic plate in the pivotal movement of the body member, a pivotally mounted substantially triangular plate, a link rod connecting said plate and the rod actuating means, and an operating rod connected to said plate to move the same upon its pivot and engage and disengage the arms with the surface of the photographic plate.

18. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar carried by the body member and extending at an angle thereto, print engaging arms carried by said bar and vertically movable with relation thereto, means mounted on said bar for raising and lowering the arms to engage and disengage the same with the photographic plate, and means for varying the extent of pivotal movement of the body member in one direction to alter the location of said arms transversely upon the photographic plate.

19. In a device of the character described, a support for a photographic plate, a pivotally mounted body member, a bar angularly disposed with relation to the body member, a rod extending through the end of said bar and the body member to connect the same, said bar being movable over the photographic plate in the pivotal movement of the body member, means carried by said bar to engage the sensitized printing sheet and position the same upon said plate, a stop element pivotally mounted upon the support to be engaged by the lower end of said rod

to limit the pivotal movement of the body member in one direction, a slidably mounted rod connected to said stop element to adjust the same and vary the extent of such pivotal movement of the body member to alter the location of the print sheet engaging arms transversely upon the photographic plate, and means for rigidly securing the slidable rod against movement to hold said stop element in its adjusted position.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

GUSTAVE REUBEN OLSON.

Witnesses:
E. W. Cook,
Muriel M. Mullis.