Oct. 26, 1937. E. E. COOPER ET AL 2,097,209

NEGATIVE REGISTER MEANS FOR PHOTOCOMPOSING MACHINES

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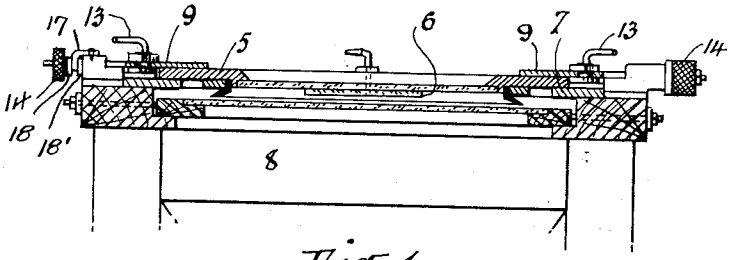


Fig. 1

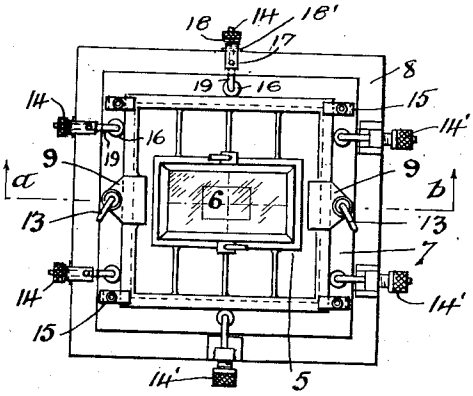


Fig. 2

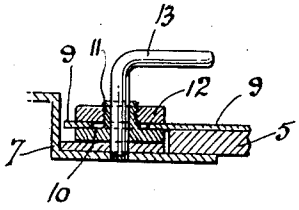


Fig. 4

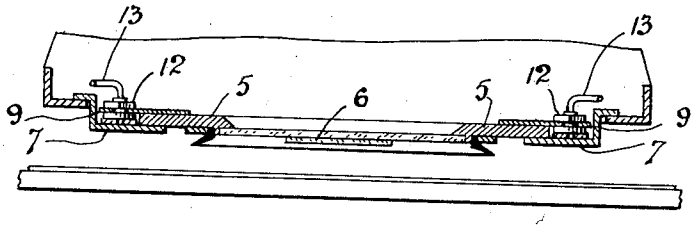
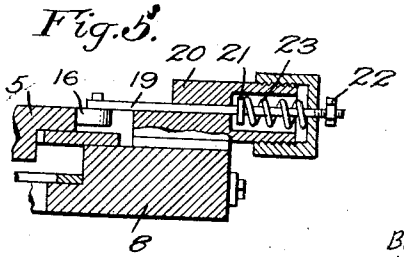


Fig. 3

Fig. 5.



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NEGATIVE REGISTER MEANS FOR PHOTO-COMPOSING MACHINES

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2 Claims. (Cl. 33—184.5)

This invention relates to the setting of a negative in its holder dead centre in photo-composing machines of the step-by-step type wherein photographic prints are made upon sensitized plates which are then developed and used in a printing press.

An objective of the invention is to provide a support for the negative holder wherein is locking means for the holder that is flexible and is opened while the setting or adjustment process is being effected and which locking means can then be closed. It is illustrated in the accompanying drawing, in which—

Fig. 1 is a sectional elevation of a register table on which is a negative holder for setting, same being on line *a*—*b*, Fig. 2.

Fig. 2 is a plan view of the holder and the locking means, while

Fig. 3 shows the holder in section with negative and air seal in place over a table bearing a plate for printing, and

Fig. 4 is an enlarged detail in section of the locking means.

Fig. 5 is a sectional view showing the form of the screw 14'.

The holder 5 containing the negative 6 is supported in its chase 7 in a register table 8 in which is the glass bearing the cross lines or the graticules with which the negative must register. The parts constructed arranged and combined with which our invention is concerned, are the lug plates 9 one being on each side of the negative holder 5 each of which is provided with an ample bore 10. A hollow and flanged boss 11 is within each said bore or opening 10 with its flange below the lug and a nut 12 is on each boss over said lug. A dowel 13 passes downwards through the hollow boss into the chase 7.

The negative holder 5 is oscillated in its mounting to adjust the negative to dead centre by placing the holder and its chase in the register table or frame 8. A convenient mode of operation is through adjustable screws 14 on the upper and left hand sides of the frame 8 that are adapted to bear on the edges of the negative holder support while on the lower side is an adjustable screw 14 and on the right hand side (Fig. 2) are two adjustable screws 14'. These and the screw on the lower side also bear on the edges of the said support and are provided each with a buffer spring while the first mentioned screws are not so provided with springs. This mode has been described in a prior patent granted to the present applicants, No. 1,999,831.

In machines of the kind indicated, it is of great importance to set and mount the negative correctly in its support, that is to say, at dead centre with the keys or dowels. To this end, the negative before being placed in the negative carrier 5 is put in the register frame 8 which contains the chase member 7 to which the negative in its mount can be secured, when set to register, by the hasps 15 in the usual manner. But in order to set the negative quickly and accurately to the artist's marks, the usual screws 14 are upon the register frame 8 together with the screws 14'. All are provided with rollers of metal or other suitable material on the tips in contact with the negative frame 5 and the screws 14' are provided with spring buffers as shown in Fig. 5, against which will be borne the pressure of the screws 14 by which the negative holder can be moved in a gyratory way to bring the negative to register dead centre, the negative holder and frame or mounting 5 meanwhile moving easily on the rollers 16 of the screws 14.

Fig. 5 shows in detail a rod 19 passing through the bearing 20 on the table 8 and carrying the roller 16 on its inner end bearing against the negative frame 5. The rod 19 has two stops 21 and 22 and the buffer spring 23 is coiled around the rod in a bore in the bearing and bears against the inner stop 21 and against the inner surface of a screw threaded cap adjustable on the bearing.

The mounting of the screws 14 is shown in Figs. 1 and 2. A forked bracket 17 holds the screw head in a groove between 18 and 18' from longitudinal movement and the rod 19 is threaded through a part of its length. Hence, rotation of the screw head moves the rod 19 longitudinally.

With the nuts 12 loosened and the dowels 13 inserted through the hollow bosses 11 and into the chase 7, the lower and right hand screws 14' may be manipulated to oscillate the negative holder with its support in bearing contact with the first mentioned and rigid but adjustable screws on the top and left hand sides to set the negative dead centre.

When the setting of the negative has been completed the nuts are tightened and the holder and the chase are transferred to a step-by-step photo composing machine in which the negative will be over a sensitized plate for the transfer thereto of the photographic image on the negative. Hasps 15 on said chase engage each corner of the negative holder after the setting has been completed.

Thus, by means of the hollow bosses and the

ample clearance allowed in the bored lugs, the negative holder is free, with the nuts loosened, to be manipulated and properly set. This being effected, the nuts are tightened up to secure the holder on its chase.

Having now described our invention, what we claim as new and desire to secure by Letters Patent is:—

1. In setting means of the kind indicated, a negative holder supporting a photographic negative and a chase supporting the holder, a bored lug permanently fixed on each side the holder and extending over the chase, a hollow flanged boss passing through the bore of the lug with ample clearance, a nut to each boss, a dowel that passes through each boss into the chase adjusting rollers bearing against opposite sides of said negative frame and means for adjusting said rollers inwardly and outwardly, the rollers on two adjacent sides being yieldingly supported whereby said frame may be moved in a gyratory manner.

2. In setting means of the kind indicated, a register frame, a negative holder and a chase supporting said holder in the frame, a bored lug permanently fixed on each side of the holder and extending over the chase, a hollow flanged boss passing through the bore of the lug with ample clearance, a nut to each boss, a dowel that passes through each boss into the chase and means on said frame for imparting to said holder oscillatory movements when the nuts are loosened.

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