July 13, 1926. 1,592,439

E. J. BRASSEUR

STENCIL STUB CLAMP

Filed Nov. 19, 1924 2 Sheets-Sheet 1

Fig. 2.

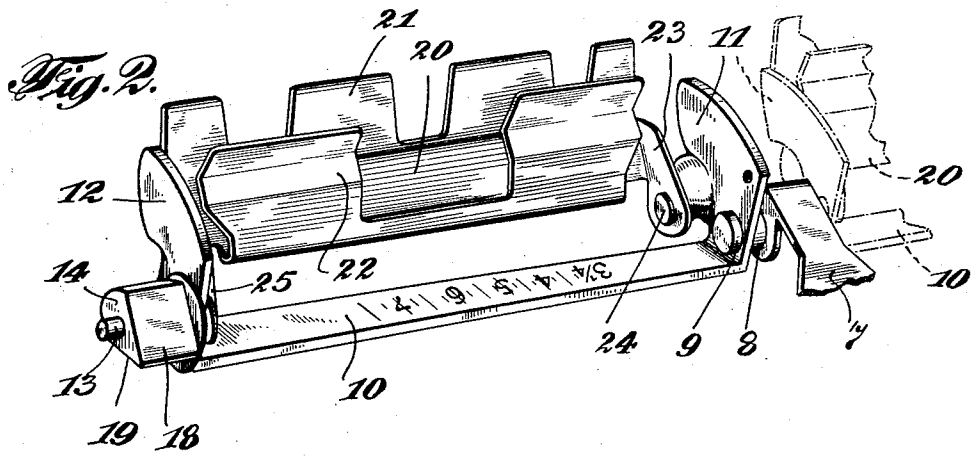
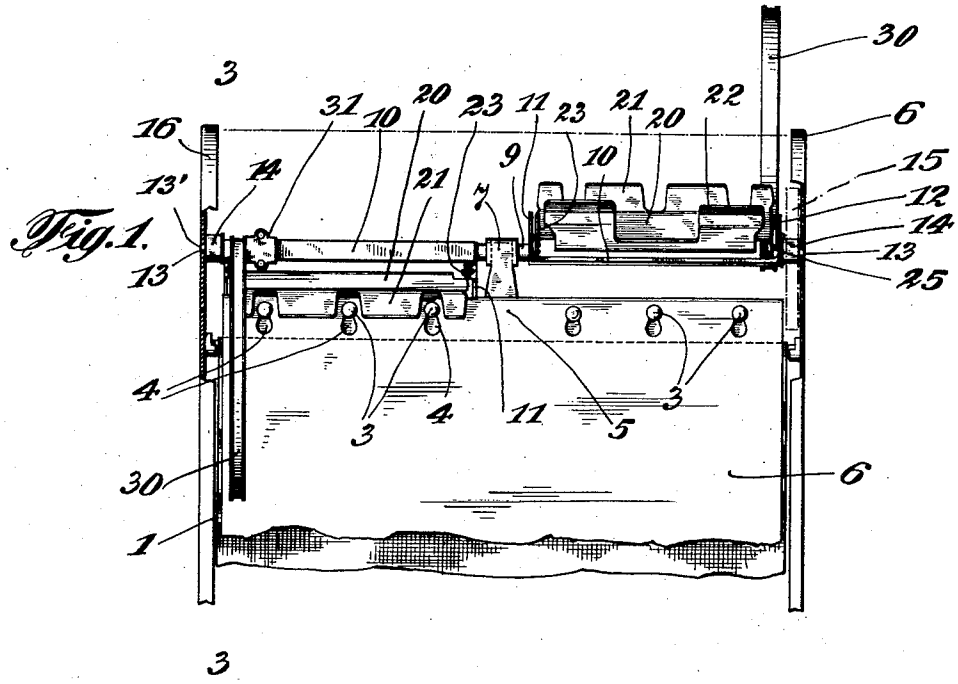


Fig. 1.



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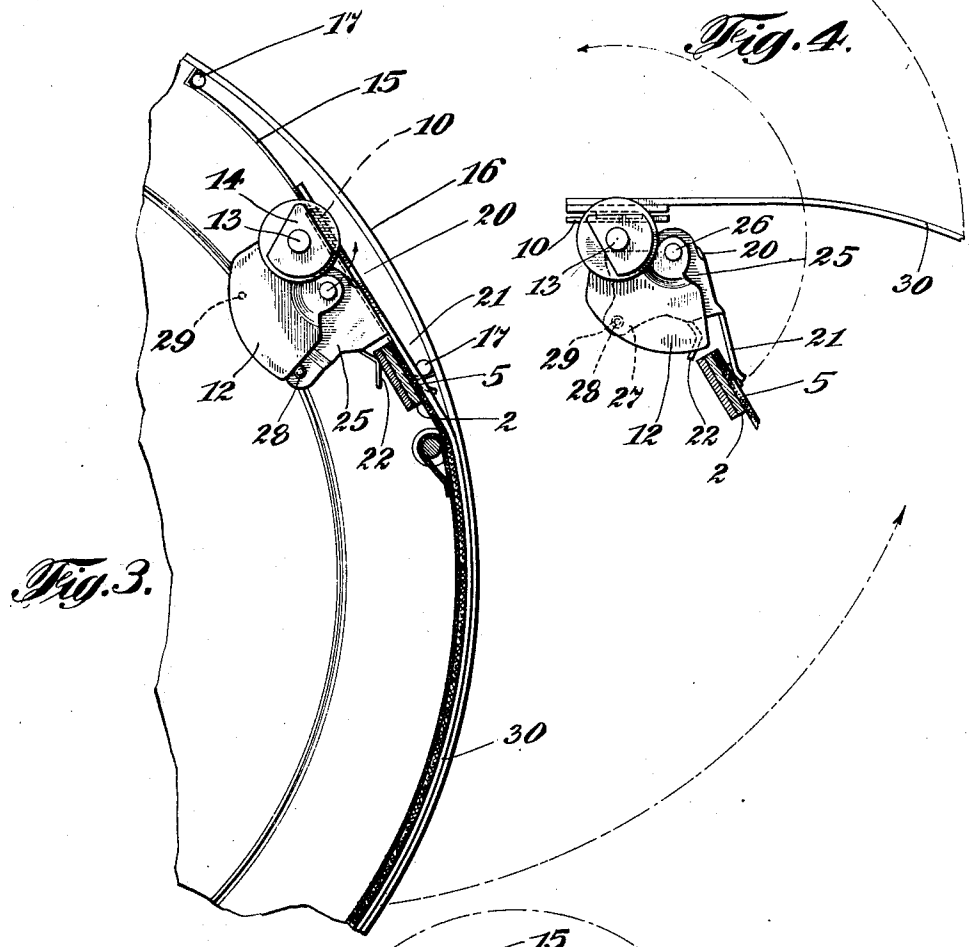


Fig. 3.

Fig. 4.

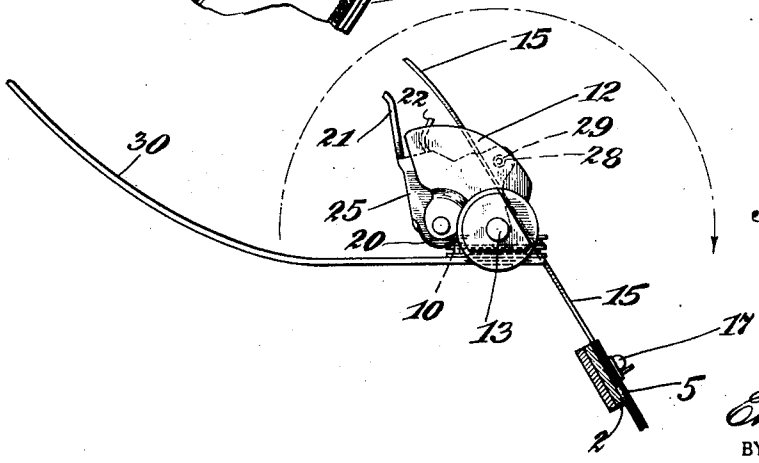


Fig. 5.

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UNITED STATES PATENT OFFICE.

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STENCIL-STUB CLAMP.

Application filed November 19, 1924. Serial No. 750,728.

This invention relates to a stencil stub clamp, and more particularly relates to an adjustable clamp for detachably clamping the stubs of stencil sheets in place on rotary duplicating machines.

Heretofore it has been customary to provide rotary stencil duplicating machines with button bars and to rely solely upon the engagement of the buttons in button holes in the stub of a stencil sheet and to hold the stub of the sheet on the machine. With certain kinds of stencil sheets so much tension has been created at the buttons when the machine operates that the stub tears away from the buttons and the sheet becomes displaced.

The principal aim of my invention is to provide auxiliary clamping means for clamping the stub of a stencil sheet to the button bar to supplement the bar buttons in holding the sheet in place and to prevent stencil sheets of delicate material from tearing away or from becoming displaced from the button bar when the machine is operated. Another object of my invention is to provide a clamp of the character described, and one which may be readily and easily adjusted into and out of clamping position. A further object of my invention is to provide clamping means of the character described which are simple, durable and inexpensive in construction. Other objects of my invention will be in part obvious and in part pointed out hereinafter.

In accordance with my invention, as supplementary attachment means to the usual button bar on rotary duplicating machines I mount adjacent to the button bar one or more resilient clamps, and so design and mount these clamps that by a simple manual operation the operator may move these clamps over the button bar so as to clamp the stencil stub tightly against the button bar, and by reversing the operation remove the clamp from the button bar and stub.

In order that a clearer understanding of my invention may be had, attention is hereby directed to the accompanying drawings forming a part of this application and illustrating one possible embodiment of my invention. Referring to the drawings, Fig. 1 is a front view, partly in section, of a portion of a stencil duplicating cylinder showing a pair of clamps embodying my invention associated therewith, the clamp on the left being shown in clamping position and the clamp on the right being shown in disengaged position; Fig. 2 is a perspective view of one of the clamps; Fig. 3 is a sectional view through a portion of the printing cylinder, showing one of the clamps in end view, the view being taken on the line 3—3 of Fig. 1; Fig. 4 is an end view of the clamping means showing an intermediate position of a clamp and its relation to the button bar and end of the stencil stub, these parts being shown in section; and Fig. 5 is a view similar to Fig. 4, but shows the clamping means in fully open position. Similar reference characters refer to similar parts throughout the several views of the drawings.

Referring to the drawings, there is shown a conventional cylinder 1 of a rotary duplicating machine, the cylinder carrying a conventional button bar 2 provided with buttons 3 which are adapted to be removably engaged in the usual perforations 4 in the stub 5 of a stencil sheet 6. The button bar at its center has a rearwardly projecting hub 7 which is perforated, as at 8, to permit a bolt 9 to be extended therethrough.

Between each side of hub 7 and a side of the cylinder 1 is pivoted a clamping device. Each clamping device consists of a U-shaped frame 10, one side wall, 11, of which is pivoted on an end of bolt 9 and the other side wall, 12, of which carries a pin 13 which rotatably engages in a perforation 13′ in the side wall of the cylinder. Preferably, a cam 14 is provided on the frame 10 adjacent the pin 13 and a coacting spring 15 is mounted over the cam 14 against the underside of the flange 16 of the cylinder. Preferably, the ends of the spring 15 are engaged over pins 17 carried on the cylinder, whereby the spring is held in place. Cam 14 is provided with two flat faces 18 and 19, one of which, 18, is positioned to be flat against the spring 15 when the clamp is fully open and the other face, 19, of the cam is adapted to be flat against the spring when the clamp is engaged with the button bar and stencil stub. In this way the spring tends to hold the clamp in either extreme position.

From the above it is apparent that each frame 10 is pivoted on the cylinder at the bolt 9 and at a pin 13. A resilient clamp 20 is pivoted between the side walls 11 and 12 of each frame 10 at points removed from the

pivot points of the frame 10. Each clamp 20 consists of an elongated piece of resilient material, channel shaped in cross section, the opposite walls 21 and 22 of the channel consituting resilient opposed clamping flanges. At one end of member 20 is an ear 23 which is pivoted to the wall 11 of the member 10 on a pin 24. The opposite end of member 20 has a flange 25 which is pivoted to the wall 12 at a pin 26, flange 25 also having an offset resilient finger portion 27 which resiliently presses against the wall 12. This finger portion has a small raised point 28 which is adapted to snap into a depression 29 in the wall 12 when the clamp is fully open to prevent the clamp from falling out of place on the frame 10 when the clamp is fully open.

As shown, there are two clamps 1 on each side of the hub 7. These clamps are exactly similar to each other except that the arrangement at their ends is reversed in order to adapt one for the right hand side of the machine and the other for the left hand side of the machine. Each clamp at the side adjacent the side of the cylinder is provided with a spring clip 30 which may be secured to the frame member 10 by means of a suitable clamp 31.

In attaching a stencil stub 2 to the cylinder, the stub is first engaged with the buttons 3 in the usual way. The clamping device being fully open, each clamp may be engaged with the button bar and stencil stub by grasping the spring clip 30 and pivoting it toward the stencil sheet. During this movement the frame 10 and clamp 20 pivot together toward the button bar until the fingers 21 of the clamp strike the top of the button bar or stencil stub thereon. The clamp will now be in the position shown in Figure 4. Upon completion of the movement of clip 30 into engagement with the stencil sheet the frame 10 continues to pivot and the clamp 20 pivots on the frame. This movement forces the clamp 20 into engagement with the button bar and presses the stencil stub 5 firmly againt the button bar 2. To release the clamp the clip 30 is grasped and moved upwardly. This pivots the frame 10 in the reverse position, first withdrawing the clamp 20 from engagement with the button bar and stencil stub and then swinging the clamp with the frame 10 into fully open position. To aid in releasing the clamp from the button bar pressure of the operator's finger may be placed on the forward end of the wall 11 of the frame 10, which wall is at the opposite side of the clamp from the clip 30. In the construction shown, each clamp must be adjusted independently of the other.

As many changes could be made in the above construction and as many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings be interpreted as illustrative and not in a limiting sense.

What I claim is:—

1. As an article of manufacture, a clamp of the character described, comprising an elongated piece of resilient material, channel-shaped in cross-section, the opposite walls of the channel constituting resilient opposed clamping flanges.

2. The combination with an impression cylinder having a stencil stub bar and a stencil sheet on the cylinder, of a pivotally mounted clamp having opposed resilient jaws engageable with opposite sides of said bar to clamp said stencil sheet thereto, substantially as described.

3. The combination with an impression cylinder having a stencil stub bar, of a pivotally mounted frame and a clamp pivotally mounted on the frame and swingable into and out of clamping engagement about said bar, substantially as described.

4. The combination with an impression cylinder having a stencil stub bar, a pivotally mounted frame, a clamp movable with the frame into position adjacent the bar, said clamp being pivotally mounted on said frame whereby further movement of the frame forces the clamp into clamping engagement with the bar, substantially as described.

5. The combination with an impression cylinder having a stencil stub bar, a pivotally mounted frame, a clamp movable with the frame into position adjacent the bar, said clamp being pivotally mounted on said frame whereby further movement of the frame forces the clamp into clamping engagement with the bar, and means for yieldingly holding the clamp against pivoting on the frame when the clamp is disengaged from the bar, substantially as described.

6. The combination with an impression cylinder having a stencil stub bar, a pivotally mounted frame, a clamp movable with the frame into position adjacent the bar, said clamp being pivotally mounted on said frame whereby further movement of the frame forces the clamp into clamping engagement with the bar, and means for pivoting the frame, substantially as described.

7. The combination with an impression cylinder having a stencil stub bar, a pivotally mounted frame, a clamp movable with the frame into position adjacent the bar, said clamp being pivotally mounted on said frame whereby further movement of the frame forces the clamp into clamping engagement with the bar, and a spring clip mounted on said bar and constituting means

whereby the frame may be pivoted manually, substantially as described.

8. The combination with an impression cylinder having a stencil stub bar, a pivotally mounted frame, a clamp movable with the frame into position adjacent the bar, said clamp being pivotally mounted on said frame whereby further movement of the frame forces the clamp into clamping engagement with the bar, a flat spring engaging the cylinder, and a cam on said frame engaging said spring, said cam having flat faces, whereby the frame is held yieldingly in either of two positions with respect to the cylinder, substantially as described.

This specification signed this 15th day of November, 1924.

ERNEST J. BRASSEUR.