June 20, 1933. T. R. G. PARKER ET AL 1,914,456

SHEET GRIPPING DEVICE OF PRINTING MACHINES

Filed June 10, 1931

Fig. 2.

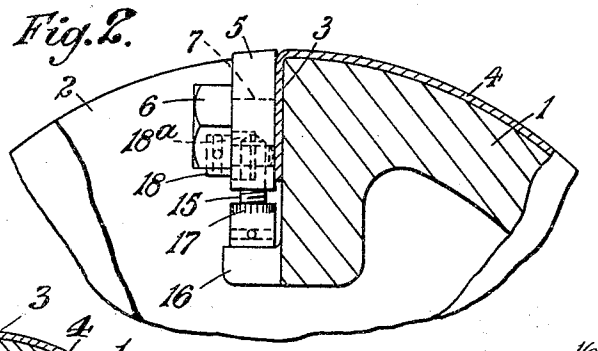


Fig. 1.

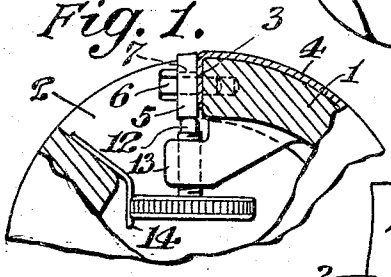
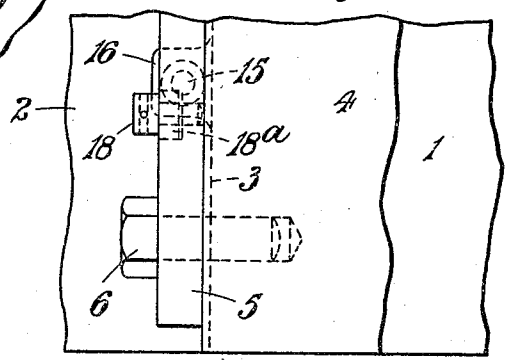


Fig. 3.



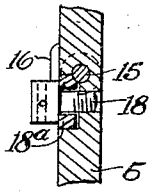


Fig. 4.

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UNITED STATES PATENT OFFICE

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SHEET GRIPPING DEVICE OF PRINTING MACHINES

Application filed June 10, 1931, Serial No. 543,476, and in Great Britain June 10, 1930.

This invention relates to the sheet gripping devices of printing machines and particularly to such devices as those in which the gripper bars (between which and the grippers, the sheets are gripped) fulfil also the function of clamping bars for securing to the respective edge of an impression cylinder, one end of the impression blanket wrapped around said cylinder.

As is well known, when at different times, a printing machine is called upon to print on material of different thicknesses, such as paper and card, it is necessary to correspondingly displace the outer surface of the impression blanket, that is to say, bring that surface slightly nearer to, or farther from, the axis of the cylinder, so as to ensure that the diameter of said cylinder measured over the blanket and the material to be printed, shall be the same whatever be the thickness of that material. For that purpose the thickness of the packing on the cylinder or of any substituted blanket is varied inversely as the thickness of the material to be printed.

If the outer or gripping surface of the gripper bar be at a fixed and invariable radial distance from the axis of the cylinder, suitable for one given thickness of printing material, the said gripping surface would project beyond the blanket surface when thicker material is to be printed on, and be below the blanket surface when thinner material is to be printed upon, so that in both these cases the material would be defaced or possibly cut.

In cases in which the clamping bar also fulfils the function of a gripper bar, any arcual displacement of said bar due to it being adjusted for clamping blankets of different thicknesses as has heretofore generally been involved results in a material disturbance of the angle which the gripping faces of this bar present both to the blanket and to the gripper.

The object of the invention is to provide an arrangement wherein the parallelism of the blanket-engaging faces of the cylinder and clamping bar shall remain undisturbed whatever be the thickness of the blanket employed, and wherein, moreover, under the same circumstances, the outer or sheet-gripping face of the bar shall always maintain its angular relationship to the just-named face of the cylinder, and wherein, further the bar is adjustable in a direction parallel with the blanket-engaging face of the cylinder to bring the said outer face of the bar to any desired position appropriate to the thickness of the material to be printed upon.

The invention will be hereinafter described with reference to the accompanying drawing, which illustrates different constructional forms thereof.

In the said drawing:—

Figure 1 is an end elevation, partly in section, of a portion of an impression cylinder fitted with one constructional form of the invention;

Figure 2 is a view similar to Figure 1, with parts omitted, and Figure 3 a plan of a further constructional form, and Figure 4 is a sectional view showing a detail of the adjusting and locking device represented in Figures 2 and 3.

Throughout the several figures of the drawing like reference numerals are used to indicate like or corresponding parts.

Referring first to the constructional form of the invention illustrated in Figure 1, the impression cylinder 1 is formed with a gap 2 having a surface 3 against which is clamped one end of a blanket 4 surrounding the cylinder, the clamping being effected by a gripper bar 5 held by bolts 6 threaded into the cylinder and penetrating slots 7 in the bar 5.

According to this constructional form of the invention, the bar 5 is adjusted in a direction parallel with the cylinder surface 3 by means of adjusting screws 12 which are threaded through lugs 13 integral with the cylinder. The outer ends of the screws 12 bear against the inner edge of the bar 5, and resilient detents 14 are provided to engage the heads of the screws 12, which latter conveniently may be inscribed with suitable scale markings corresponding to the adjustments of the bar required for various thicknesses of blankets.

A modified form of adjusting screws for setting the bar 5 is illustrated in Figures 2

and 3. These screws 15, instead of being threaded through lugs on the cylinder, are threaded into the bar 5 and their heads are arranged to bear on lugs 16 integral with the cylinder. An indicating scale 17 on the heads of the screws facilitates the setting of the bar 5 whenever a change of blanket thickness calls for such setting. Locking screws 18 and washers 18*a* are preferably provided to guard against unintentional disturbance of the adjusting screws. The washers 18*a* as shown in Figure 4, are formed with chamfered edges adapted to be forced by the screws 18, hard against the crowns of the threads of the screws 15 so as to exert sufficient frictional pressure on these screws to prevent them from being accidentally disturbed after adjustment.

Having described our invention, we declare that what we claim and desire to secure by Letters Patent is:—

1. In a printing machine, the combination with an impression cylinder having a gap presenting a surface against which is clamped one end of an impression blanket wrapped around the cylinder, a gripper bar and means for securing the gripper bar to the cylinder to clamp the blanket between the gripper bar and said surface, of lugs on the cylinder beneath the bar and adjusting screws acting between said lugs and the gripper bar to move said bar in a direction parallel with said surface.

2. In a printing machine, the combination with an impression cylinder having a gap presenting a surface against which is clamped one end of an impression blanket wrapped around the cylinder, a gripper bar and means for securing the gripper bar to the cylinder to clamp the blanket between the gripper bar and said surface, of lugs on the cylinder beneath the bar and adjusting screws threaded through said lugs and bearing at their outer ends against the inner edge of the bar adapted to move said bar in a direction parallel with said surface.

3. In a printing machine, the combination with an impression cylinder having a gap presenting a surface against which is clamped one end of an impression blanket wrapped around the cylinder, a gripper bar and means for securing the gripper bar to the cylinder to clamp the blanket between the gripper bar and said surface, of lugs on the cylinder beneath the bar, adjusting screws, resilient detents adapted to engage the heads of said screws and scale markings on said heads corresponding to the adjustment of the bar required for various thicknesses of blankets.

4. In a printing machine, the combination with an impression cylinder having a gap presenting a surface against which is clamped one end of an impression blanket wrapped around the cylinder, a gripper bar and means for securing the gripper bar to the cylinder to clamp the blanket between the gripper bar and said surface, of lugs on the cylinder beneath the bar and adjusting screws threaded into the bar and having their heads bearing on the said lugs adapted to move said bar in a direction parallel with said surface.

In testimony whereof we have affixed our signatures hereto.

MARGARET PARKER,
Administratrix of the Estate of Thomas Robert Gillett Parker, Deceased.
FRED SPENCE.
GEORGE HUBERT WHITE.