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C. G. HARRIS.

MEANS FOR SECURING SHEETS OR BLANKETS TO PRINTING PRESS CYLINDERS.

APPLICATION FILED DEC. 22, 1906.

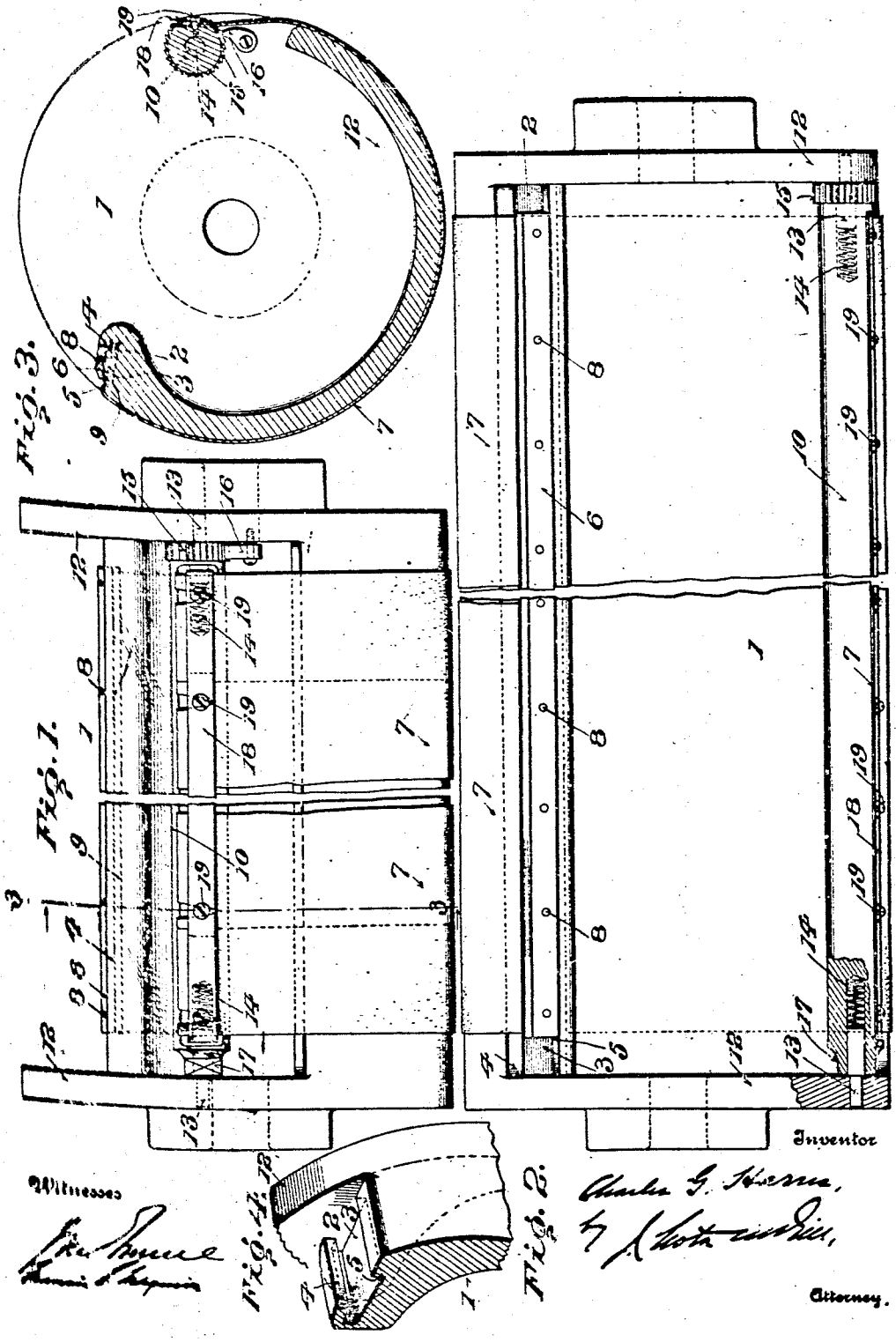


Fig. 3.

Fig. 1.

Fig. 4.

Fig. 2.

Witnesses

Inventor

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UNITED STATES PATENT OFFICE.

CHARLES GRANT HARRIS, OF NILES, OHIO, ASSIGNOR TO THE HARRIS AUTOMATIC PRESS COMPANY, OF NILES, OHIO, A CORPORATION, OF OHIO.

MEANS FOR SECURING SHEETS OR BLANKETS TO PRINTING-PRESS CYLINDERS.

No. 880,523. Specification of Letters Patent. Patented March 3, 1908.

Application filed December 22, 1906. Serial No. 349,141.

To all whom it may concern:

Be it known that I, CHARLES GRANT HARRIS, of Niles, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Means for Securing Sheets or Blankets to Printing-Press Cylinders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide simple and highly efficient means for securing a sheet or blanket to a printing press cylinder, and although primarily designed for attaching the blanket to a transfer cylinder of an off-set or planographic-press, is equally applicable for securing sheets to presses of various styles.

A further object is to enable the sheet or blanket to be readily removed from the cylinder, at one or both ends, while attached to its retaining means. This is of special advantage in underlaying.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figures 1 and 2 are face views of a cylinder embodying my invention, portions of the cylinder in each figure being broken away. Fig. 3 is a cross sectional view on line 3—3, Fig. 1. Fig. 4 is a fragmentary detail view, in perspective.

Referring to the drawings, 1 designates a printing press cylinder formed with a recess 2 running longitudinally thereof, which recess has a flat face 3 terminating at its inner edge beneath a stop-shoulder 4. The front of the recess 2 is a straight shoulder 5 at approximately right angles to face 3. This recess 2 constitutes the seat for a clamp 6 for retaining one end of a sheet or blanket 7. Such clamp is composed of two plates held together by screws 8, the inner plate being wider than the outer plate and designed to bear against face 3 and extend at its inner edge between the latter and stop-shoulder 4, while its outer edge fits snug against shoulder 5. Tension on the blanket will hold the clamp against shoulder 5, the stop-shoulder 4 preventing it from being drawn out without first disengaging the front edge from shoulder 5. Preferably the inner face of the outer plate is formed with lugs 9 so as to bind firmly against the blanket. This clamp need not extend the full length of its seat, and clamps of different lengths may be used for blankets of different widths, which latter may be of any size within the length of the cylinder. This is of special advantage in off-set or planographic printing, since the widths of blankets on transfer cylinders vary widely. Furthermore, the blanket may be shifted lengthwise of the cylinder, parallel to its axis, by sliding the clamp on its seat.

10 designates a tension roll located within the perimeter of the cylinder between the ends 12 thereof. The journals of this roll are in the form of short shafts 13, which fit within chambers in the ends of the roll, and their outer reduced ends conform to openings in the cylinder ends, wherein they are normally held by springs 14 located in said chambers. By means of any suitable tool these short shafts may be forced into the roll-chambers until their outer ends clear the inner faces of the cylinder ends to permit the roll to be bodily lifted from the cylinder. At one end the roll has a ratchet wheel 15 with which engages a retaining pawl, 16, and at its other end it is squared, as at 17, to allow of the application of a wrench. A segment of the roll is removed to provide a flat face to which a plate 18 is held by screws 19. Preferably that end of the sheet or blanket which is to be secured to this tension device is slitted to correspond to the screws 19, so that it is not necessary to entirely remove plate 18 in either attaching or removing the blanket.

In practice, the blanket is first secured to the clamp, and the latter is then placed in its seat. The slitted end is then inserted between the tension roll and its clamping plate 18, the retaining screws of the latter being then tightened. The roll is turned until the desired tension is put upon the blanket. If it be found necessary to underlay the latter, the operator merely releases the pawl and disengages the journals of the roll from the cylinder ends and lifts the roll with the blanket secured thereto and after the necessary underlay has been provided, the roll is returned to position and its spring-pressed shafts allowed to project into their respective bearings in the cylinder ends. As long as any tension is exerted upon the blanket it is impossible for the clamp to be removed from its seat.

By the means described sheets or blankets

may be securely attached to a cylinder, and blankets previously used may be readily replaced, and if necessary may be moved lengthwise of the cylinder by sliding the clamp and reattaching to the tension roll.

I claim as my invention:

1. In combination, a cylinder having a clamp-seat within the periphery thereof, said seat having a flat face and a shoulder at an angle thereto, a blanket, a clamp for one end of such blanket fitted in said seat and held against said shoulder by the blanket when under tension, a tension roll to which the other end of such blanket is secured, said roll being also located within the periphery of said cylinder, and means detachably securing said roll to the cylinder, whereby the roll with the blanket may be raised from the cylinder while the clamp remains in its seat.

2. In combination, a cylinder having a clamp-seat within the periphery thereof, a blanket, a clamp for one end of such blanket fitted in said seat, a tension roll to which the other end of such blanket is secured, said roll being also located within the periphery of said cylinder, and inwardly-movable spring-pressed shafts carried by said roll and mounted in the ends of the cylinder.

3. In combination, a cylinder having a clamp seat extending approximately the full length thereof, said seat having a flat face and a shoulder at an angle thereto, a blanket of any desired width within the length of the cylinder, a clamp of length approximately the width of the blanket, one end of which is secured thereto, said clamp being located within said seat and held against said shoulder by the blanket when under tension, a tension roll located within the periphery of the cylinder and to which the other end of such blanket is attached, and means for detachably securing the tension roll to the cylinder.

4. The combination with a cylinder having a clamp-seat, a blanket, a clamp located in said clamp seat and to which one end of the blanket is secured, the other end of said blanket being slitted, a tension roll, a plate, and screws securing the latter to said roll, said slits being designed to coincide with said screws.

5. The combination with a cylinder having a clamp-seat, a blanket, a clamp located in said clamp-seat and to which one end of the blanket is secured, a tension roll to which the other end of such blanket is secured, and shafts for said roll mounted in said cylinder, said shafts being constructed and arranged to permit of being moved lengthwise, within the roll, to disengage the latter from the cylinder while the sheet is secured to the roll.

6. The combination with a cylinder having a clamp-seat, a blanket, a clamp located in said clamp-seat and to which one end of the blanket is secured, a tension roll to which the other end of such blanket is secured, and spring-pressed shafts extended from said roll into openings in the cylinder-ends, said shafts being capable of being disengaged from said cylinder ends to permit the roll to be removed.

7. The combination of the cylinder having a recess within its perimeter, formed at its end near such perimeter with a shoulder at approximately right angles to the base of the recess, a blanket, a clamp for one end of the latter fitted in said recess and held against said shoulder by tension on said blanket, and a tension device to which the other end of the blanket is attached.

8. The combination of the cylinder having a recess within its perimeter, formed at its end near such perimeter with a shoulder at approximately right angles to the base of the recess, a stop shoulder parallel to the face of said recess at the inner end thereof, a blanket, a clamp for one end of the latter fitted in said recesses and held against said first mentioned shoulder by tension on said blanket, and a tension device to which the other end of the blanket is attached.

9. The combination of a cylinder having a clamp-seat extending longitudinally thereof, a blanket, a clamp to which one end of the blanket is secured, said clamp being held in said seat by tension on said blanket, a tension roll to which the other end of the blanket is secured, and means for detachably securing said roll to the cylinder.

10. The combination of a cylinder having a clamp-seat, a clamp therein, a blanket secured at one end to said clamp, a tension roll, a clamping plate for securing the other end of such blanket to said roll, a pawl and ratchet for holding said roll, and spring-pressed shafts extending from said roll into openings in the cylinder ends.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

CHARLES GRANT HARRIS.

Witnesses:
C. G. PRITCHARD,
HENRY A. PORTER.