H. GEORGES, A. VALENTIN & J. ZERREISS.

APPARATUS FOR WIPING INTAGLIO PRINTING PLATES.

APPLICATION FILED JUNE 10, 1913.

1,082,586. Patented Dec. 30, 1913.

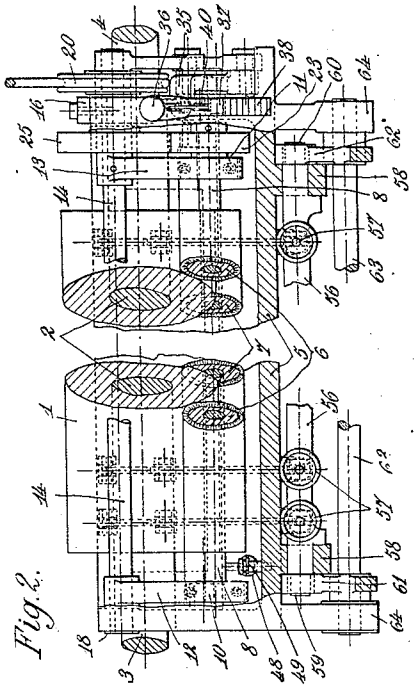


Fig. 2.

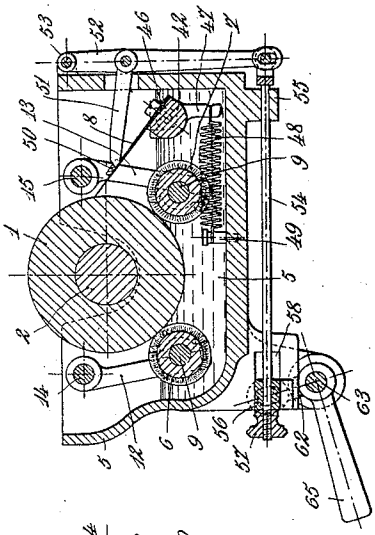


Fig. 4.

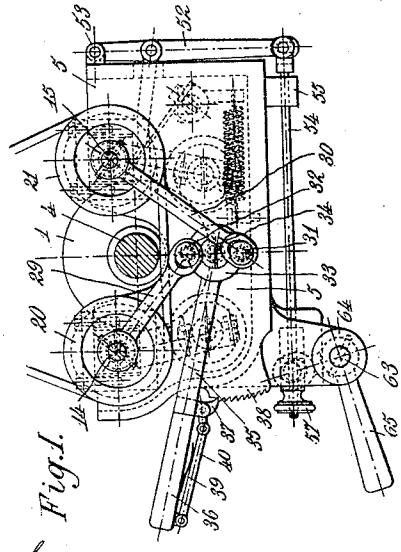


Fig. 1.

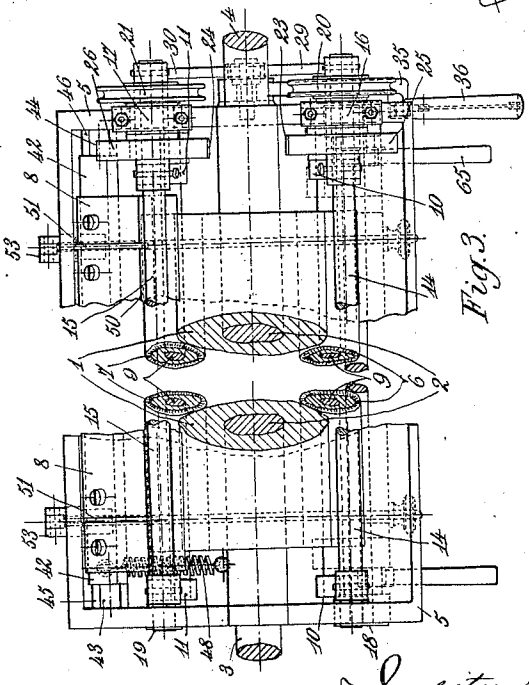


Fig. 3.

Witnesses:
M. D. Roche.
Ben R. Newcomb.

Inventors:
Auguste Valentin,
Jean Zerreiss,
by Henri Georges
by B. Singer Atty.

UNITED STATES PATENT OFFICE.

HENRI GEORGES, OF ST.-DIZIER, AND AUGUSTE VALENTIN AND JEAN ZERREISS, OF PUTEAUX, FRANCE.

APPARATUS FOR WIPING INTAGLIO PRINTING-PLATES.

1,082,586. Specification of Letters Patent. Patented Dec. 30, 1913.

Original application filed October 8, 1910, Serial No. 586,052. Divided and this application filed June 10, 1913. Serial No. 772,911.

To all whom it may concern:

Be it known that we, HENRI GEORGES, citizen of the Republic of France, and resident of St.-Dizier, France, and AUGUSTE VALENTIN, citizen of the Republic of France, and JEAN ZERREISS, subject of the German Empire, both residents of Puteaux, France, have invented certain new and useful Improvements in Apparatus for Wiping Intaglio Printing-Plates, of which the following is a specification, the subject-matter of this application being divided from our prior copending application, Serial No. 586,052, for a process and apparatus for wiping intaglio printing-plates, filed October 8, 1910.

The apparatus according to the present invention comprises principally a roller of a soft and resilient material such as gelatin, rubber or the like, for wiping the surface of intaglio printing plates previously inked. The roller having a certain speed of rotation, is arranged in such a manner that it can be rubbed tangentially on the surface of the inked plates and wipe them. This roller is afterward washed, cleaned and the ink, etc., is wiped off from the same during the time consumed by one revolution of said roller. Said roller is passed through a cup containing a liquid which dissolves the ink used and by the frictional contact with brushes assists in the solution of the ink collected on the roller, a scraper being provided for wiping the roller so that during its rotation its surface is always clean when coming into contact with the surface of the plates to be wiped.

In order that the invention may be clearly understood, the description is accompanied by a drawing showing the apparatus by way of example, in which:

Figure 1 is an end view of the apparatus. Fig. 2 a longitudinal view of Fig. 1, projected to the right, the front wall of the cup being broken away so as to show the interior of the apparatus. Fig. 3 is a plan view of the apparatus, and Fig. 4 is a vertical cross section through the same.

Wiping apparatus.—The wiping apparatus comprises the following parts: A roller or cylinder 1 of soft and resilient material is cast on or secured to a steel spindle 2 provided at each of its ends with journals 3 and 4 which enable the roller to be mounted in adjustable bearings suitably arranged on the frame of the machine on which the apparatus is to be placed, in such a manner as to enable an adjustment of the tangential contact of the roller with the surface of the plates to be cleaned. The rotation of the wiping roller 1 is produced by suitable transmission means controlled by one of the revolving parts of the machine. A cup 5 preferably of cast iron contains as illustrated in the drawing, the cleaning brushes 6 and 7 and the scraper 8. The cleaning brushes 6 and 7 are mounted on mandrels 9 the end journals of which rotate in bearings 10 and 11 at the lower ends of levers 12 and 13. These levers are secured to the spindles 14 and 15 which rotate in the bearings of the brackets 16 and 17 and in the sockets or sleeves 18 and 19. The mandrels 9 carry driving rollers 23 and 24 which come into contact with the rollers 25 and 26 keyed to rings which are loosely mounted on the spindles 14 and 15 and in bearings of the brackets 16 and 17.

Drive for the cleaning brushes.—Grooved pulleys 20 and 21 are keyed to the rings carrying the driving rollers 25 and 26. The rotation of the pulleys 20 and 21 is brought about by a belt driven by a pulley keyed to one of the revolving parts of the machine. The pulleys 20 and 21 keyed to the same rings as the driving rollers 25 and 26, rotate the said rollers which bring about by their contact with the rollers 23 and 24, keyed to the mandrels of the cleaning brushes 6 and 7, the rotation of the said brushes.

Regulation or adjustment of the contact of the cleaning brushes with the surface of the wiping roller.—The adjustment of the distance between the axles of the wiping roller 1 and of the cleaning brushes 6 and 7 is effected by means of levers 29 and 30 secured to the spindles 14 and 15 and pivoted by means of elongated holes to eccentric pins 31 and 32 carried by a disk 33 mounted on a journal 34 screwed into the side of the cup. The disk 33 is provided with a bell-crank lever 35 having a handle 36 on which is mounted a pawl 37. This pawl is held in engagement with the teeth of a toothed rack 38 by means of a spring 39 which presses against the pivoted lever 14 mounted on the handle. It will be readily

understood that the regulation of the contact of the cleaning brushes with the wiping roller or cylinder is effected in the following manner: When the handle 26 of the lever 25 is gripped and the spring lever 14 is pressed with the finger, the pawl 37 will be disengaged from the teeth of the toothed rack 38 and it will be possible to manipulate the handle 36 so as to bring about an angular movement of the disk 33 upon the pivot pin 34. The journals 31 will then bring about an angular movement of the levers 29 and 30 which, by means of the spindles 14 and 15, will produce the same angular movement of the levers 12 and 13 regulating the contact between the cleaning brushes 6 and 7 and the wiping roller or cylinder 1.

Regulation of the contact between the wiping scraper and the wiping roller.—The scraper 8 is held in place by means of screws on the cross bar 42. This cross bar is provided at its end with journals 43 and 44 mounted to revolve with a slight friction in the bearings 45 and 46 integrally made with the cup. The cross bar 42 carries an extension 47 to which is connected a tension spring 48 also connected to a journal 49 screwed into the bottom of the cup. The spring 48 draws the lever 47 and has the tendency to keep the scraper away from the surface of the wiping cylinder 1. It will therefore be only necessary to overcome the resistance of the spring by pressing on the upper face of the scraper in order to produce a contact between said scraper and the wiping cylinder. To this end, on the upper face of the scraper is arranged a bar 50 having notches into which engage levers 51 pivoted to the levers 52. The upper ends of the said levers 52 are pivoted to lugs 53 integrally cast with the cup.

The bottom ends of the levers 52 are pivoted to the corresponding end of the rods 54 mounted so as to move with a slight amount of friction within the brackets 55. The screw threaded ends of said rods pass through holes in the cross bar 56 and carry milled nuts 57 bearing on said cross bar 56. The latter is mounted with its ends in guides 58. It is also provided at its ends with two pins 59 and 60 held in oval holes in the levers 61 and 62 which are keyed to the spindle 63 mounted in sleeves 64 integrally made with the cup.

In the construction in question the adjustment of the contact between the scraper and the surface of the wiping roller is effected by manipulating the lever 65, whereby the cross bar 56 is moved either forward or backward. In case it is moved forward, the bar 56 exerts a pull upon the rods 54 which in their turn exert a pull upon the levers 52, which, by means of the levers 51, bearing on the scraper bring it into contact with the surface of the wiping cylinder. Partial adjustment of the contact between the scraper and the surface of the wiping roller, in case the generatrix of the said roller is not absolutely straight, is obtained by means of milled nuts 57 which separate and regulate the pressure of the lever 51 upon the scraper.

The wiping device thus described shows the following characteristic features: The cup containing the liquid dissolving the ink employed for inking the plates is provided with walls through which none of the mechanical parts passes below the level of the liquid contained in said cup. The adjustment and the distance of the brushes relatively to the surface of the wiping roller, is effected by simply manipulating a lever arranged within reach of the hand in front of the apparatus. The adjustment of the scraper is obtained partly by means of set screws arranged within reach of the hand in front of the apparatus. The distance or the contact of the scraper with the surface of the wiping roller is quickly obtained by manipulating levers arranged within reach of the operator in front of the apparatus. The arrangement of the different parts for regulating the cleaning brushes and the wiping scraper relatively to the surface of the wiping roller is such as to enable the adjustment in question to be effected without the necessity of stopping the working of the apparatus.

We claim:

1. In an apparatus of the character described for wiping intaglio printing plates, the combination of a cylinder of a soft, resilient material, with a cup through which said cylinder is passed adapted to receive an ink dissolving liquid, means for revolving said cylinder in the liquid contained in said cup, means frictionally contacting with said cylinder during its passage through said cup for brushing it below the liquid level, and means for scraping the surface of the cylinder above the liquid level within said cup, substantially as described.

2. In an apparatus of the character described for wiping intaglio printing plates, the combination of a cylinder of a soft, resilient material, with a cup through which said cylinder is passed, adapted to receive an ink dissolving liquid, means for revolving said cylinder in the liquid contained in said cup, cleaning brushes frictionally contacting with said cylinder during its passage through said cup for brushing it below the liquid level, means for adjusting the tangential contact of said cylinder with the place to be wiped, a scraper revolving within said cup for scraping the surface of the cylinder above the liquid level within said cup, and means for adjusting the contact between said scraper and said cylinder, substantially as described.

3. In an apparatus of the character described for wiping intaglio printing plates, the combination of a cylinder of a soft, resilient material, with a cup through which said cylinder is passed, adapted to receive an ink dissolving liquid, means controlled by a revolving part of the machine for revolving said cylinder in the liquid contained in said cup, cleaning brushes frictionally contacting with said cylinder during its passage through said cup, for brushing it below the liquid level, a scraper revolving within said cup for scraping the surface of the cylinder above the liquid level within said cup, means for regulating the contact of the cleaning brushes with the cylinder, and means for regulating the contact of the scraper with said cylinder, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRI GEORGES.
AUGUSTE VALENTIN.
JEAN ZERREISS.

Witnesses:
HANSON C. COXE,
RODOLPHE DELINGETTE.