

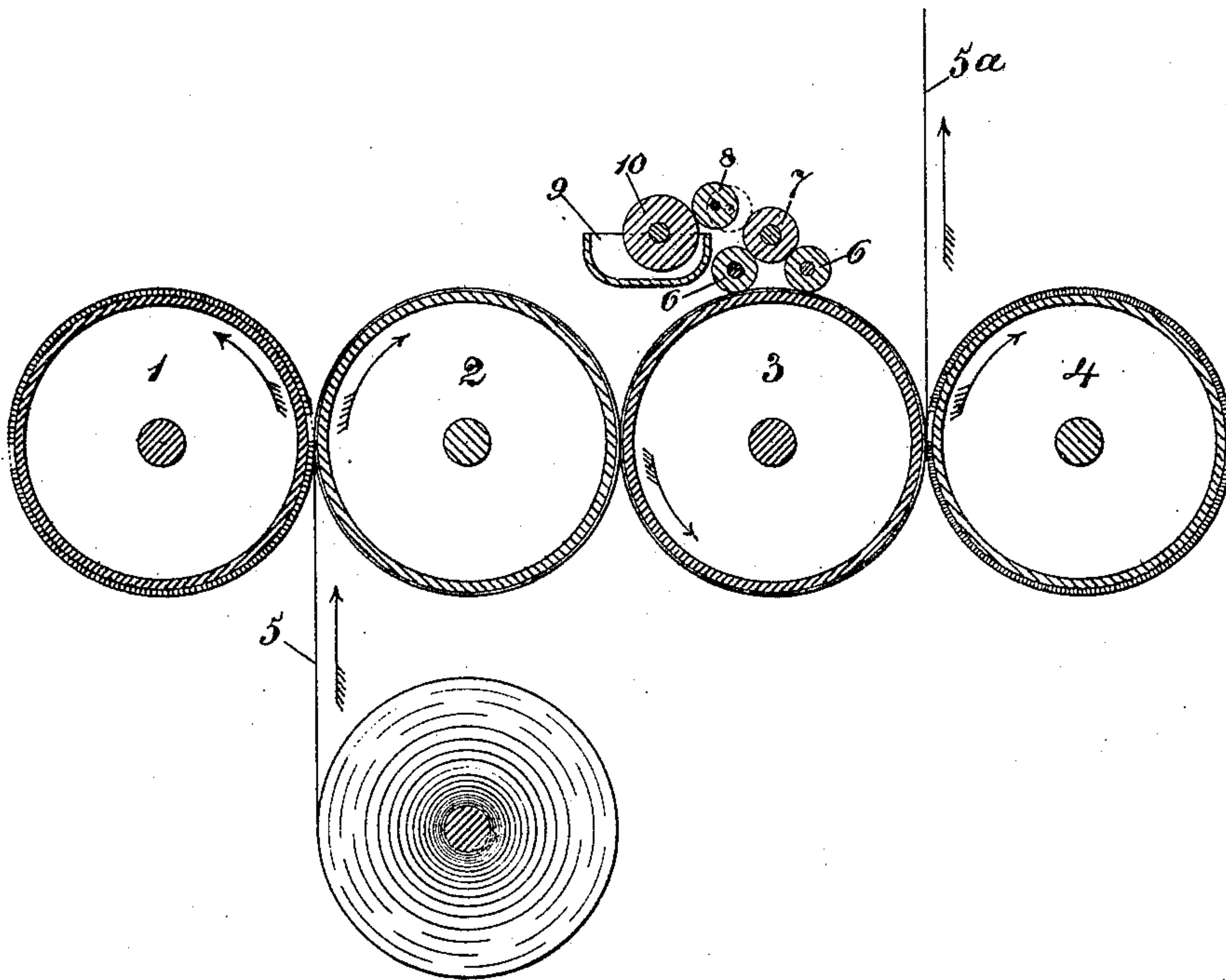
(No Model.)

H. A. W. WOOD.

METHOD OF PREVENTING OFFSET IN PRINTING MACHINES.

No. 432,289.

Patented July 15, 1890.



Attest:

Francis P. Reilly
H. C. Evans

Inventor

H. A. W. Wood
by R. H. Woodhouse
his Atty.

UNITED STATES PATENT OFFICE.

HENRY A. WISE WOOD, OF NEW YORK, N. Y.

METHOD OF PREVENTING OFFSET IN PRINTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 432,289, dated July 15, 1890.

Application filed December 19, 1889. Serial No. 334,282. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. WISE WOOD, of the city of New York, in the county and State of New York, have invented a new and useful Method of Preventing Offset in Printing-Machines, which invention or improvement is fully described and illustrated in the following specification and accompanying drawing.

The object of this invention is to avail of the principle involved in lithography, which depends upon a dampened surface of the stone or plate to repel the ink from the rollers passing over such stone. To this end a tympan-surface for a second impression-cylinder of a perfecting printing-machine is provided, which is repellent of the ink deposited in printing the first printed sides of the sheets or web, which ink is brought into contact with said tympan under pressure in printing the second sides. This ink-repulsion avoids the soiling of said tympan-surface and subsequent reoffset upon the first printed sides of the sheets or web.

The accompanying drawing shows a transverse section of so much of a rotary printing-machine as is necessary to the illustration of the invention, and as the constructions of all the parts (therein shown in section merely) are well known in the art, it is not necessary to give any additional views of them.

In said drawing the several parts are indicated by reference-numbers, as follows: The number 1 indicates a form-cylinder for the first side; 2, its corresponding impression-cylinder; 4, the form-cylinder for the second side; 3, its corresponding impression-cylinder, and 5 the web of paper to be printed on its two sides and thence led, as at 5^a, to the cutting and delivering mechanism, all of which parts constitute a well-known arrangement in a rotary perfecting-machine. The rollers 6 6 are covered with any substance—such as flannel or sponge—suitable to act as a capillary holder of water. The receiving and distributing roller 7, running in contact with the rollers 6 6, is made of wood, metal, or any substance suitable for taking and holding a film of water on its surface without absorbing the same. The roller 10, of similar construction to roller 7, runs with its lower side immersed in water, with which the pan or

bowl 9 is partially filled. The ductor-roller 8 is covered with material for the capillary holding of water, similarly to roller 6. The roller 10 is given a slow continuous rotation, and may be actuated from any moving part of the machine in any of the many ways now well known, so as to take up a film of water upon its surface. The roller 8 is caused to oscillate between contact with roller 10 and roller 7, so as to absorb from roller 10 the film of water thereon while in contact therewith and to impart to roller 7 a similar film, which is in turn absorbed from roller 7 by the rollers 6 6. In this way, by varying the speed of roller 10 and thus the thickness of the film of water taken up by it or the length of time during which the roller 8 remains in contact therewith, or both, the degree of wetting imparted to rollers 6 6 may be regulated as may be desired, this whole arrangement constituting what is well known in the art as the "damping apparatus," as used on lithographic printing-machines, the rollers 6 6 when so used imparting dampness to the surface of the stone or printing-plate with which they run in contact. In this invention, however, the damping-rollers 6 6 run in contact with the tympan of the second impression-cylinder, and the tympan is constructed of any such suitable material that water will readily adhere to it without destroying it—as, for example, thin rubber or rubber-faced cloth, or paper prepared with any water-proof material which will receive and hold a film of moisture, and thus repel the ink upon the first printed sides of the sheets and prevent its offset from the sheet to said tympan. I do not confine myself to any specific construction of parts for conveying and regulating a film of water to the said tympan, as this may be done in many ways which are well known in the art for supplying water or ink to printing-surfaces; nor do I confine myself to any particular material or preparation for the ink-repellent tympan of the second impression-cylinder. It is well known in the art that oiled or paraffined paper is used as more or less ink-repelling tympan, and that means have been instituted for supplying oil or paraffine or other more or less oily compounds to the paper tympan of the second impression-cylinder of perfecting printing-machines, and I do not claim any

such; but, in contradistinction to all oleaginous substances or compounds, I use water to make the tympan repellent of the ink.

Of course the "tympan," technically so called, 5 furnishes the impression-surface, and the impression-surface, whether that of the cylinder itself or of any impression-covering, whether technically a tympan-surface or not, is the surface to which my invention is applied, and 10 by the term "film of water" I do not confine myself to a visible distinguishable separate sheet of water, but use such term in the sense in which the water present on the impression-surface seems to perform its office, whether 15 such "film" be microscopic or hypothetic.

The drawing shows the application of this method to a rotary machine printing from

cylindrical-surfaced forms; but such method is equally applicable to any of the various perfecting-machines printing from flat forms. 20

Having thus fully described my said improvement, as of my invention I claim—

The method of preventing offset of ink from printed paper to the impression-surface of a printing-machine, consisting in keeping said 25 impression-surface moistened with water sufficiently to repel the ink therefrom and thereby prevent the soiling of the same, substantially as and for the purposes set forth.

II. A. WISE WOOD.

Witnesses:

A. T. MOORE,
THOS. MORCH.