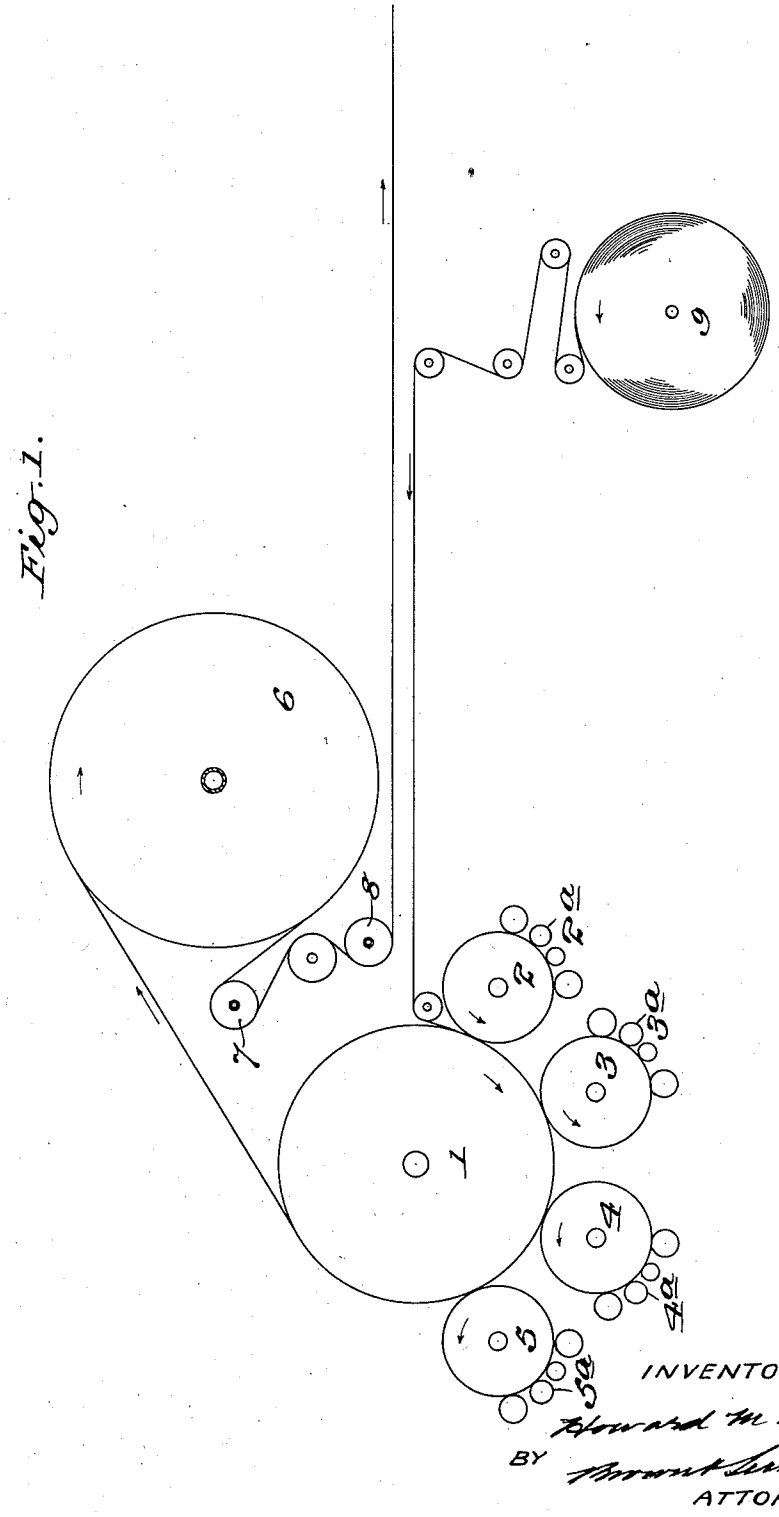
July 21, 1936. H. M. BARBER 2,048,484

WEB PRINTING ROTARY PRESS

Filed July 27, 1935 2 Sheets-Sheet 1

Fig. 1.



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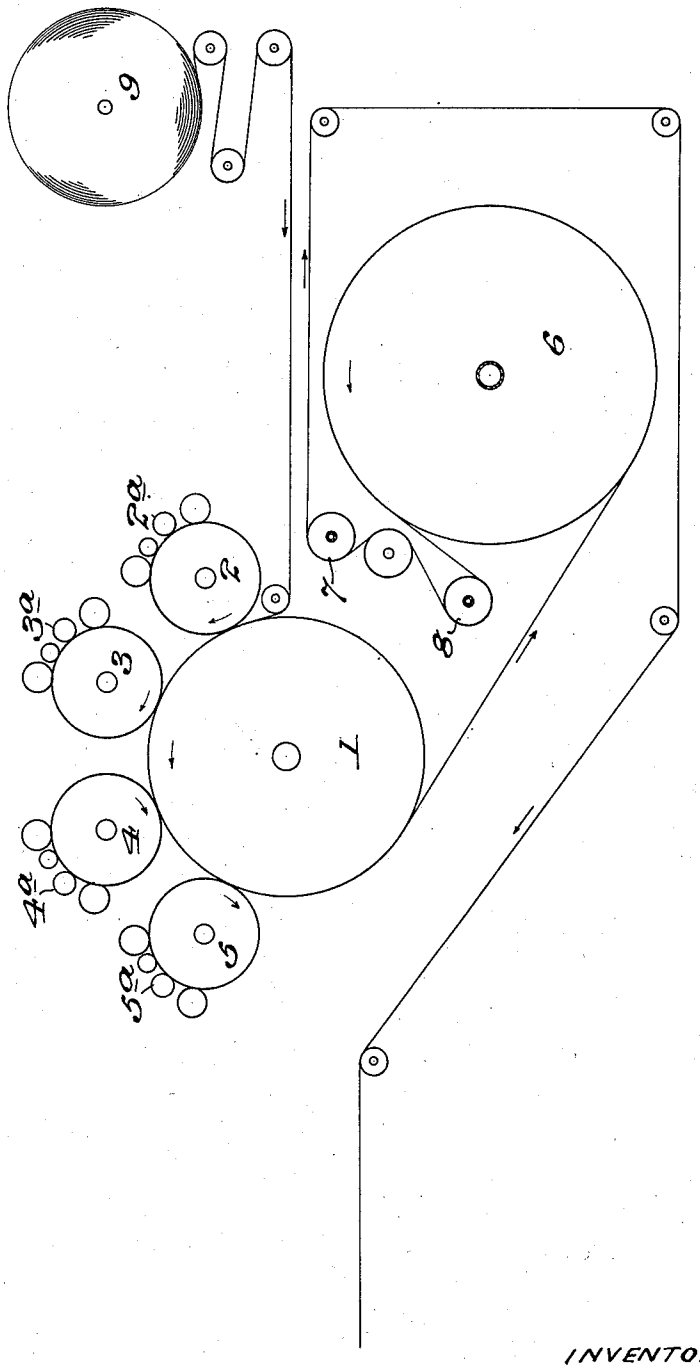


Fig. 2.

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Patented July 21, 1936 2,048,484

UNITED STATES PATENT OFFICE

2,048,484

WEB PRINTING ROTARY PRESS

Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware

Application July 27, 1935, Serial No. 33,495

3 Claims. (Cl. 101—178)

In high speed rotary web printing presses where quick drying inks and a web heating and cooling unit are employed, it is very desirable that the printing and web heating and cooling units be so located with respect to each other as to produce the best results while occupying a minimum amount of space.

My invention comprises, generally, a multicolor (in the present instance four color) printing unit located at one end of the press, said printing unit consisting of an impression cylinder and form cylinders arranged either around its under side or its upper side, as the case may be, a web supply roll located in line with the press, and a combined heating and cooling unit located in line with the press, between and above or below the printing unit and supply roll, as the case may be, means being provided for passing the web from the supply roll to and through the printing unit, then to and through the combined heating and cooling unit and finally delivering the web at one or the other end of the press, as the case may be.

Practical embodiments of my invention are represented in the accompanying drawings, in which

Fig. 1 represents a diagrammatic side elevation of one form of my invention; and

Fig. 2 represents a similar view of a second form of my invention.

The printing unit is herein represented as a four color unit, the impression cylinder being denoted by 1 and the four form cylinders by 2, 3, 4, 5. In the embodiment shown in Fig. 1 the form cylinders are arranged around the under side of the impression cylinder 1, while in the embodiment shown in Fig. 2 the form cylinders are arranged around the upper side of the impression cylinder.

The inking mechanisms for the four form cylinders are denoted by 2*a*, 3*a*, 4*a*, 5*a*.

The combined heating and cooling unit is located in line with the press. In Fig. 1 the combined heating and cooling unit is shown as located above the printing unit while in Fig. 2 the combined heating and cooling unit is shown as being located below the printing unit 6.

The combined heating and cooling unit is herein represented as comprising a large heating cylinder 6 and two small cooling cylinders 7, 8, located at the side of the heating cylinder toward the printing unit.

The web supply roll 9 is located in line with the press beyond said units.

The web is led from the web supply roll 9 to and through the printing unit, to and through the combined heating and cooling unit and it is then delivered in either of two directions. In Fig. 1 the web is delivered at the end where the web supply roll is located, while in Fig. 2 the web is delivered at the opposite end.

It will be understood that guide rolls are provided for passing the web in the prescribed paths from the web supply roll to the delivery.

It will also be understood that any suitable heating medium, such as steam, may be supplied to the heating cylinder 6 and that any suitable cooling medium, such as water, may be supplied to the cooling cylinders 7, 8.

It will also be understood that any well known or approved quick drying inks may be used in the printing unit.

It will also be seen that where the web is led beneath the heating cylinder of the combined heating and cooling unit on its way from the cooling cylinders, the tendency of the ink to become soft because of the heat rising from the heating cylinder, is obviated.

What I claim is:

1. In a multicolor rotary non-perfecting web printing press, a printing unit located at one end of the press and comprising an impression cylinder and form cylinders arranged around its side, a web supply roll located in line with the press, a combined heating and cooling unit located between and below the supply roll and the printing unit, said heating and cooling unit comprising a heating cylinder and one or more cooling cylinders, and means for delivering the web in a path leading under the heating and cooling unit.

2. In a multicolor rotary non-perfecting web printing press, a printing unit located at one end of the press and comprising an impression cylinder and form cylinders arranged around its side, a web supply roll located in line with the press, a combined heating and cooling unit located between the supply roll and the printing unit, said heating and cooling unit comprising a heating cylinder and one or more cooling cylinders, and means for delivering the web in a path leading under the heating and cooling unit at the opposite end of the press from the printing unit.

3. In a four color rotary non-perfecting web printing press, a printing unit located at one end of the press and comprising an impression cylinder and four form cylinders arranged around its upper side, a web supply roll located in line with the press, a combined heating and cooling unit located between and below the supply roll and the printing unit, said heating and cooling unit comprising a heating cylinder and one or more cooling cylinders located on the side of the heating cylinder toward the printing unit, and means for delivering the web in a path leading under the heating and cooling unit.

HOWARD M. BARBER.