

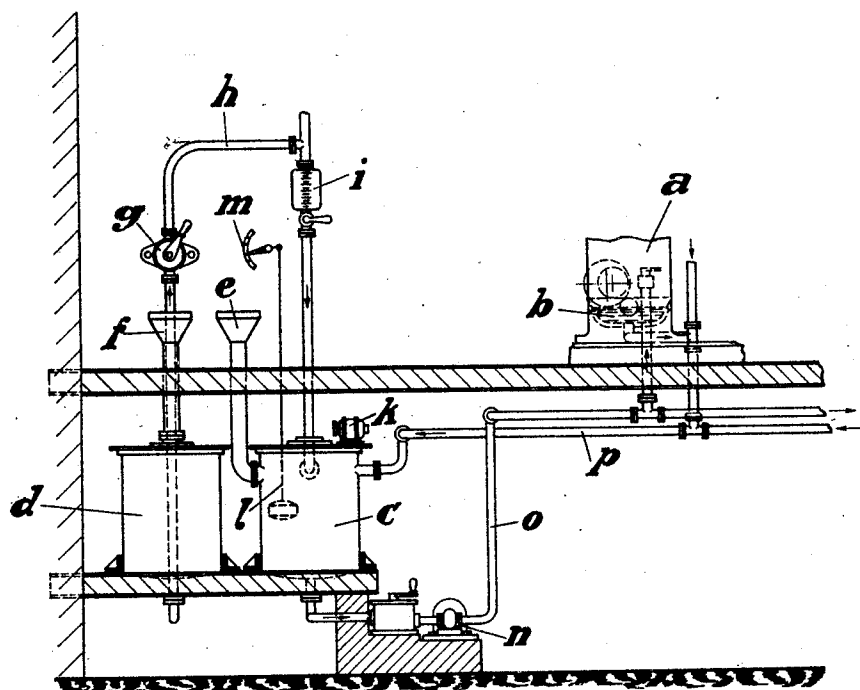
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ADJUSTING THE PROPORTION OF COLOR TO THINNING AGENT IN
 CONNECTION WITH INTAGLIO PRINTING MACHINES
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Att'y

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ADJUSTING THE PROPORTION OF COLOR TO THINNING AGENT IN CONNECTION WITH INTAGLIO PRINTING MACHINES.

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The quality of the printing by means of intaglio printing machines depends in a high degree upon the proportion of color to color thinning agent such as xylol being properly adjusted. In the hitherto known working methods, the color as well as xylol are charged into the color box of the intaglio printing machine. The mixing is therefore effected manually by the machine operator. With this known method the xylol evaporates in a comparatively short time and consequently the color becomes too thick. The machine operator must then improve the mixture by adding xylol, which is a somewhat delicate operation and not very suitable for maintaining the right proportion of the two constituents.

According to the present invention the color and the agent serving for thinning the color are mixed in separate closed containers which are provided with suitable stirring apparatus, and are circulated constantly to supply the color box of the printing machine so that the box is constantly filled to a certain height with the correct mixture of color and xylol. Measuring devices are preferably arranged close to the machine, which enables the machine operator to observe at any time the proportion of color to xylol and regulate same in the required manner.

The drawings show by way of example an arrangement suitable for carrying out the invention.

a designates an intaglio printing machine, *b* a color box appertaining thereto. The color is contained in a closed container *c* whilst the thinning agent is contained in a likewise closed container *d*. In the construction shown the two containers *c* and *d* are arranged underground and are adapted to be charged by means of hoppers *e* and *f* respectively. The xylol is supplied from the container *d* into the container *c* by means of a pump *g* and pipes *h* into which is built a measuring apparatus *i*. The color and the xylol are mixed in the container *c* by means of a suitable stirring apparatus (not shown) operated by means of a motor *k*. The machine operator can at any time observe the quantity of xylol fed into the mixing container *c* by means of the measuring appa-

ratus *i*, and can thus accurately adjust the proportion of the two constituents. The mixing container is preferably provided with a float *l* connected with a device for indicating upon a scale *m* the level of the liquid in the container *c*. The color mixed with xylol is forced by means of a pump *n* and pipes *o* into the color box *b* and returns through a pipe *p* back to the container *c* so that a constant circulation of the color is maintained. The color box of the printing machine is by this means constantly kept charged with fresh color which has been mixed in the required proportion with xylol, which is of very great importance in ensuring a high quality and degree of uniformity of the printing.

The return conduit *p* is preferably provided with means for cleaning the color, such as suitable color filtering devices, in order to prevent access of impurities to the mixing vessel *c*.

In applying the invention to multi-color printing machines, two or more mixing vessels *c* must be provided which are supplied with liquid from one or more xylol containers.

What I claim is:

1. A method of maintaining the required proportions of color to color thinning agent in intaglio printing machines, comprising supplying color and color thinning agent to a container outside the color box of the machine, mixing the color and color thinning agent therein, and circulating the mixture between the color box of the machine and the container.

2. In combination, a color box for an intaglio printing machine, a container for color, a container for color thinning agent, a mixture receptacle, means for feeding color and color thinning agent from said containers to said receptacle, means for regulating the proportion of color and color thinning agent fed, means for thoroughly mixing the fed ingredients in the receptacle, and means for circulating the mixture between the color box and the receptacle.

In testimony whereof I have affixed my signature.

OTTMAR WILHELM.