

intense humanism and understanding. The task of the advertiser in the trade paper is made a pleasant one by reason of the intelligent receptivity of the subscriber.

The subscriber and advertiser recognize the benefit of business reciprocity, and fully appreciate the friendship based upon it.

They know each other's needs—that they need each other for their individual growth.

They acknowledge the distinct services to each other.

Whether you call this sentiment or something else, yet

it is the very essence of success, producing results otherwise unobtainable.

The trade paper has made giant strides. Its intimacy and strength with its subscribers and contributors are remarkable. But its greatest achievement is the creation of a bond of sympathy, mutuality and understanding between its subscribers and advertisers that is unique.

And we do business with our friends; our enemies will not trade with us anyway.

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The Needed Touch of Appropriateness

ONE of the reasons for so much printing being poor is lack of thought in the preparation. The two seals shown below illustrate this point. The first seal was evidently de-



The original



The new treatment

signed by a seal maker during the course of an uninteresting day's work. The lettering is the plain and commonplace kind known in society as "block," and gives a result

that is very similar to the appearance of hundreds of other seals. A printer having been given the order for the production of announcements planned the work in a style of the seventeenth century in order that it should have some relation to the title of the organization, which is "Colonial Daughters of the Seventeenth Century." He suggested that the seal be redesigned, and the second specimen is the result. The lettering on the improved seal design contains the heavy and ligatures used in that period, and the figure is in form. The circular lines were perfect in the manner of the time. The seal printed upon dampened hand-made paper has a Colonial look that is pleasing. It is this attention to details in planning a job of printing that makes possible the word "good."

When Composing Machines Were Novelties

COMPOSING machines are so familiar nowadays in shop equipments that a person does not realize that thirty years ago the printing business was using them experimentally. The recent exhibit at the Waldorf-Astoria of four of the more conspicuous early machines was an interesting one, and thru the courtesy of the Mergenthaler Linotype Company we are enabled to show here pictures of these four machines. The first is a Mergenthaler rotary-matrix machine of 1883, on which the finger keys controlled a rotary type wheel with projecting characters. The characters were selected successively by the operation of the keyboard and indented in a papier-mache strip. The matrix strip thus formed was cut up into lengths



The Mergenthaler rotary-matrix machine of 1883

and secured to a flat backing sheet to form a page or column matrix. Type was then cast into it and the plate obtained. This machine was built in a dozen different forms and proved moderately successful.

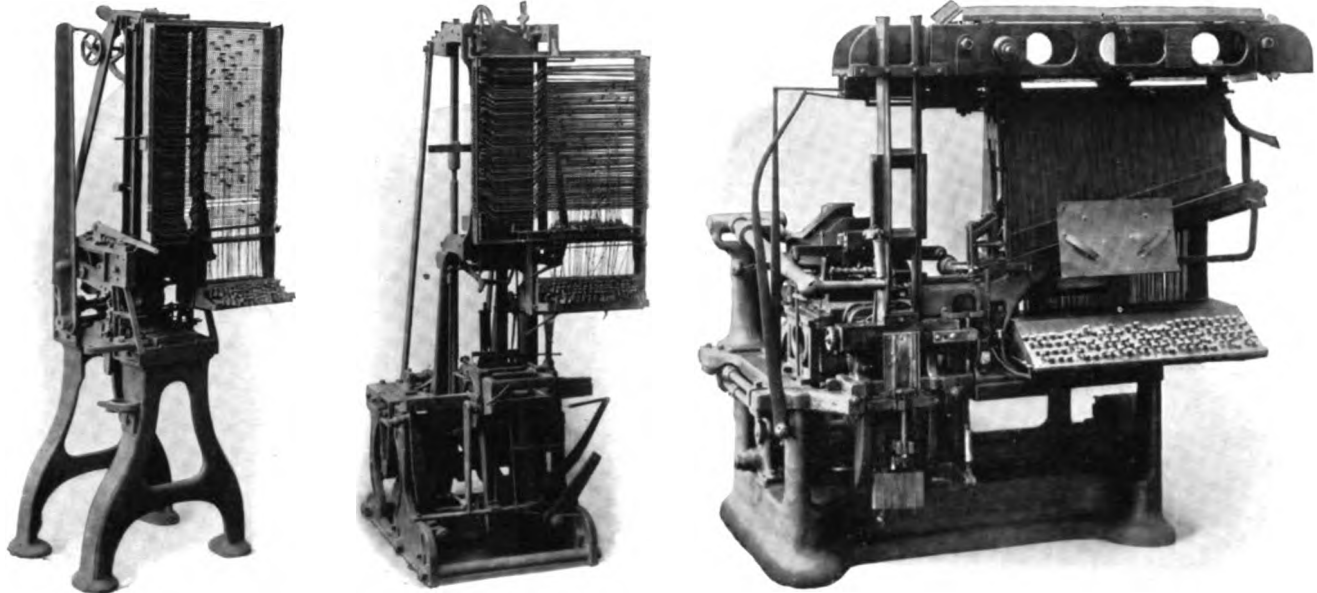
The second picture shows a Mergenthaler first band machine, without metal pot, of 1884. This machine produced papier-mache matrices for stereotypes. It was equipped with a series of vertical bars, tapered endwise, each carrying a full alphabet of type and spaces. The finger keys caused the bars to descend successively, side by side, each being arrested to bring its selected character to a certain level. After the "line of type" was assembled and justified the papier-mache matrix strip was forced against it, thus producing a matrix for one line. These lines were then assembled side by side to form a stereotype matrix. A good print was obtained, but the action of this type of machine was slow.

The third picture shows a Mergenthaler second band machine, with metal pot, of 1885. This was the first machine to produce lines of type or printing slugs automatically, thru the action of finger keys. It was provided with a series of vertical tapered bars each containing an alphabet of female characters or matrices and blank spaces of different widths. Finger keys caused these bars to descend one at a time so that the selected characters, one on each bar, were brought to a common alignment. A sliding mold for the slug or line of type was presented against the line of matrices, and this mold was filled with molten metal from a metal pot at the rear, the matrices forming raised type on the front edge of the slug in the mold. The slug was ejected from the mold, between trimming knives, into a galley. The matrix bars were lifted to their original positions preparatory to a new arrange-

ment for the next line. This was a practical machine, giving good results, but slow in action.

In the fourth picture the device is taking on the appearance familiar at the present day and is known as the Mergenthaler blower machine of 1886. This was the first

face of a slotted mold, which was then filled with molten metal from a pot operated by a pump, producing a slug on the front edge of which type was formed by the matrices. The matrices were then lifted to the top of the machine and returned thru a distributor to the magazine.



The Mergenthaler first band machine of 1884, the second band machine of 1885 and the blower machine of 1886

commercial linotype machine that used small circulating matrices, each containing one character. The matrices, stored in vertical tubes, were released in the proper order by finger keys, delivered to an inclined chute, along which they were carried laterally and successively by an air blast to form a composed line. This line was transferred to the

The line was justified by wedge spacers. The composition of one line, the casting of another and the distribution of a third proceeded concurrently, giving high speed. Many of these machines were manufactured and used commercially. The first commercial operation was in the office of the New York *Tribune* in July, 1886.

Inks for Good Printing

A SET of requirements and tests has been prepared by the Government Printing Office at Washington for the various inks used there, and in a pamphlet* the Government has passed the information along to printers generally. The Government acknowledges that the requirements and tests are not always fulfilled in practice, yet they are standards that should be tried for. What do our readers think of them?

REQUIREMENTS FOR A SATISFACTORY TEST

WEB-PRESS INK

1. *Nonseparation of Oil from Pigment.*—The oil or varnish should not separate from the pigment either on the face of the type or in the fountain.
2. *Transfer.*—Ink should transfer from type to paper so as to leave face of type clean.
3. *Tack.*—Ink should have sufficient "tack" to dry rapidly, but should not pull the nap or face from the paper, nor the face from the roller.
4. *Drying.*—Ink should not dry on form, rollers or distribution so that it may not be easily removable therefrom after standing over night.
5. *Spreading of Oil or Varnish.*—The oil or varnish should not spread in the paper after printing.
6. *Color.*—The ink must dry a bright, solid black, not gray; it should not blister the face of the paper, and should dry rapidly enough to permit quick handling of printed product.
7. *Quantity Required.*—The weight of the amount used must be noted and averaged on a basis of ten thousand printed pages.

*"The Composition, Properties and Testing of Printing Inks," Circular No. 53. Sent free on application to Bureau of Standards, Department of Commerce, Washington, D. C.

JOB BLACK INK

1. *Nonseparation of Oil from Pigment.*—The oil or varnish should not separate from the pigment either on the face of the type or plates or in the fountain, but should be short enough to break up readily in the distribution and not "string."
2. *Transfer.*—Ink should transfer from type or plates to paper so as to leave the face of type or plates reasonably clean.
3. *Tack.*—Ink should dry hard on writing or bond paper to admit of easy handling at the press without damage or injury to the work, and should not pull the coating or face from the paper, nor the face from the roller.
4. *Drying.*—Ink should not dry on form, rollers or distribution so that it may not be easily removed therefrom.
5. *Offset or Smutting.*—Must be able to carry sufficient color, print clean and sharp, without offset or smut on sheets falling on top from the press fly, or in piling the work; nor should the offset pile up on the drawsheet in backing up.
6. *Color.*—The ink must dry a deep, solid carbon (not aniline) black, and not turn gray nor have a metallic sheen or luster, nor blister the face of the paper.
7. *Quantity Required.*—The weight of the amount used must be noted and averaged on a basis of five thousand printed pages.

FLAT-BED BLACK INK

1. *Nonseparation of Oil from Pigment.*—The oil or varnish should not separate from the pigment either on the face of the type or cuts or in the fountain, but should be short enough to break up readily in the distribution and not "string."
2. *Transfer.*—Ink should transfer from type or cuts to paper so as to leave the face of type or cuts reasonably clean.
3. *Tack.*—Ink should dry hard on the machine-finished paper immediately to admit of easy handling without damage or injury to the work, and should not pull the coating or face from the paper, nor the face from the roller, nor blister the face of the paper.
4. *Drying.*—Ink should not dry on form, rollers or distribution