

marine we get a very dull, dirty-looking, grayish green. The same may be repeated with mixtures of yellow and red. The brightest orange yellows will be obtained from lemon yellows and scarlet reds, while primrose yellows and crimson red being farther apart and their connecting line approaching nearer to the black, will produce much duller orange tones.

If we connect the three primary pigment colors, crimson red, primrose yellow and cyan blue, by straight lines, the triangle formed will include all the colors that can possibly be obtained by the mixtures of these three colors. According to the theory put forth by one or two observers, we ought to be able to select any three equidistant points on a circle representing all the pure colors in their sequence and connect them through a triangle, thus forming various triangular color systems of equal value for pigmentary mixtures. This, however, can only be regarded as a scientific theory which is not borne out by practical experiments and may be dismissed without troubling the practical worker with its discussion.

In practical color-mixing we find that the only true primary pigment colors are those which result from the combination of two primary color sensations, namely, crimson red, which is the combination of the spectrum red and violet sensations; primrose yellow, which is the combination of the spectrum red and green; and cyan blue, which is the combination of the spectrum green and violet light sensations. The light sensation, which is omitted in these combinations, forms the complementary color of the respective primary pigment color. In the first of the three combinations (spectrum red and violet) green was omitted, and green will be the complementary color of the crimson red and will be found opposite the crimson red in our color system. In the second combination (spectrum red and green) violet was omitted, and violet is the complementary color of primrose yellow, opposite which it has its place in our color circle. In the third combination (spectrum green and violet) spectrum red was omitted, and this is the complementary color of cyan blue, and these two colors are placed opposite each other or 180 degrees distant on the color circle. If any other colors be chosen for primary pigment colors the mixtures will lose their pristine purity of tone. A few practical experiments will soon bear out this statement.

(To be continued.)

## TYPEFOUNDERS AND TYPEFOUNDING IN AMERICA.

BY WILLIAM E. LOY.

NO. III.—ARCHIBALD BINNY.

THE first successful typefoundry in the United States was established in 1796, in Philadelphia, by Binny & Ronaldson. Archibald Binny was born and commenced his career in Scotland. After learning the printer's trade he abandoned it for typefounding, and he carried on the latter business in Edinburgh on a limited scale. He came to America in 1793, and after experiencing many difficulties he encountered James Ronaldson, in an alehouse, it is said, and from this sprung a friendship which soon resulted in a partnership. Mr. Ronaldson had been a biscuit-baker, but his establishment having been burned he was ready for a proposition like that presented him by Mr. Binny.

There was not at the time an active typefoundry in all America. The Saur foundry, at Germantown, was in operation, but only in a small way, and as an accessory to the printing business conducted there. There was thus a splendid opportunity to build up a business, and it soon sprang into an important one, a position which the foundry holds to this day. Prior to that time American printers were compelled to import their type from England, but the Binny & Ronaldson foundry soon made that unnecessary. In the words of Mr. Ronaldson, "The importation of foreign type ceased in proportion as the production of Binny & Ronaldson became known to printers throughout the United States." The foundry was improved and grew with the demands for trade, and

absorbed the tools and matrices of most of the others who had previously attempted the business, as Mappa and Bain.

In 1806 the typefoundry tools which Dr. Franklin had brought from Paris were in the possession of a relative, Mr. Duane, who had become heir to them after the doctor's death; and this gentleman, appreciating the zeal with which Binny & Ronaldson had entered upon their business as typefounders, offered to loan them such tools as they might wish from those in his hands. After an examination, Mr. Ronaldson was so struck with the superiority of some of them to their own, and fearing that Mr. Duane might change his mind, he borrowed a wheelbarrow and lost no time in transferring them to their own foundry on one of the hottest days in the summer of that year.



ARCHIBALD BINNY.

In 1811 a new and improved form of type mold was patented by Mr. Binny, which greatly increased the production of the caster, and at the same time made his work lighter. He afterward made energetic but fruitless attempts to devise a machine for rubbing type. In 1819, after a prosperous career, and being advanced in years, Mr. Binny retired from business, and was succeeded by his partner, James Ronaldson, who was again followed by his brother in 1823.

In 1812 the first and only specimen book issued by the firm of Binny & Ronaldson was sent out to printers. This shows nine bodies and seven faces of two-line letter; eleven faces larger than pica; fifteen kinds of body type, pearl being the smallest; two sizes of Anglo-Saxon, four of

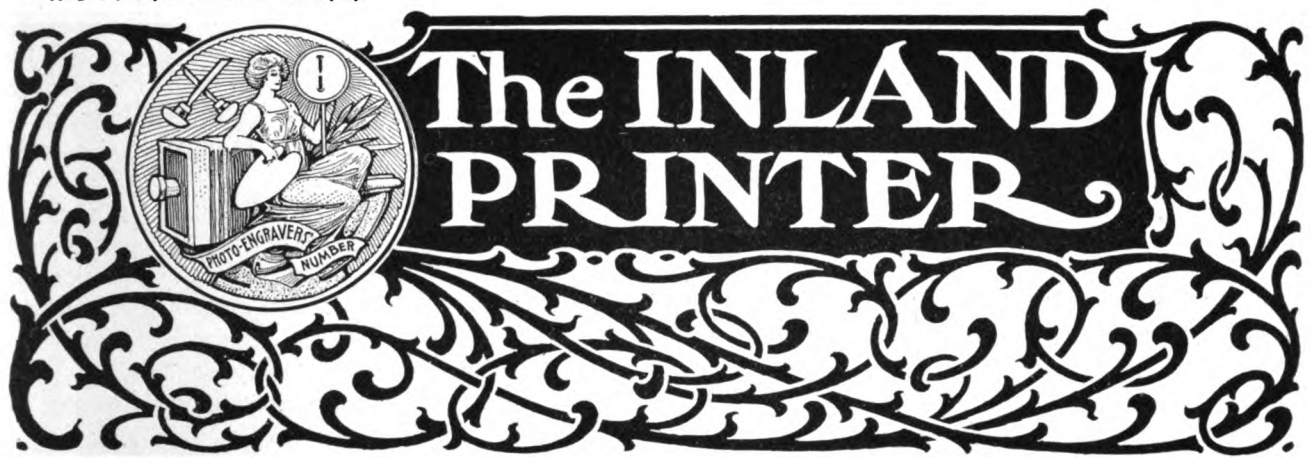


"WHAT ARE THE WILD WAVES SAYING?"

A reminiscence of the I. T. U. Convention in August last. Mr. and Mrs. "Sadie McGuire" at Whitefish Bay, Milwaukee.

Greek, four of Hebrew, two of German text, six of black, three of German, four of ornamental letter, and one of script. There were one hundred and twenty kinds of "flowers" or borders, the greatest number being on English body. It will thus be seen how fully the foundry was equipped for the period. In the preface it is stated that they were obliged to imitate European taste, contrary to their inclination, the examples of erroneously formed faces given being two kinds of long primer and small pica, which were really condensed faces.

We regard THE INLAND PRINTER as the most superb and practical journal of its class now in existence.—*The Dorman Press, Sherman, New York.*



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### COLOR-PRINTING IN 1866.

BY THEO. L. DE VINNE.



SOON after the close of our Civil War, when our country was slowly recovering from the effects of that struggle, a German came to New York city to introduce a new method of printing in colors from relief plates. He was not a printer but he had been employed in the office of his brother, who had been established in London, and he thought he knew the process thoroughly. This process began with the art of etching fine crayon-work on zinc plates. He had seen it done and was quite confident he could do it or have it done without further instruction. He brought with him from London a Wharfedale printing-press and some other appliances that were needed. He was a persuasive talker and soon succeeded in getting contracts to keep his proposed printing-house busy for many months, for he had promised to furnish color-work at a largely reduced price fully equal to the finest lithographic work, which was then done on hand presses only.

He did not succeed. His knowledge of the process was superficial to the last degree, and he depended upon the skill of draftsmen, etchers and printers whom he could not instruct and who were repelled by his assumptions. Like all disappointed designers, engravers and authors, he was sure that his want of success was the fault of the printer. If he had one good pressman he was sure that his process would succeed. He sent to London for this pressman, and a competent man he was, but he could not do what was required. After some months of expensive experiment he sold out his entire plant and his own services to the firm of Francis Hart & Co., who then had a fair reputation as good printers. The new process of etching fine crayon-work on zinc necessarily made a plate with very shallow counters. At that time (about 1866) nearly all book and job work in New York city was printed on large presses, with an elastic impression against a wool

blanket or india rubber. These elastic substances were soon found impracticable for the new plates. Francis Hart & Co. then had some experience in the printing of woodcuts against a hard packing, and in developing light and shade by means of paper overlays. They also had used with fair success on illustrated papers the peeled overlay method of cutting out from a three or four ply cardboard the gray tints, the high lights and the exposed edges of a vignettted woodcut. Neither method could be used for the crayoned relief plate. The peeled overlay produced an uneven print. The pasted overlay of thin paper, even after its edges had been softened with pumice stone, showed disagreeable dark lines in the print. It was necessary, or it was so thought at that time, to make use, for this needed impression surface, of a thickly coated cardboard on which the maker-ready could vary the different degrees of impression by scraping off the thick friable coating of white with a sharp knife and pumice stone. This secured the result desired, but it was horribly expensive. The proper making ready of a medium sheet of eight pages kept a pressman busy for about three days, during which time the press stood idle, for the scraping down had to be done on the cylinder. How the expert pressman of today will smile at the crudeness of the methods used less than forty years ago!

Fair results were reached by this expenditure of skill and patience, but it was soon found that the new process could be used to profit only on long editions. For an edition of two thousand impressions in colors, the lithographer would do similar work on the hand press quicker and better, and at smaller cost. In 1870 the steam lithographic press had a firm foothold in this country, and that put an effectual stop to the threatened rivalry of plates crayoned in relief, and Francis Hart & Co. wisely gave up the competition.

Francis Hart & Co. were probably the first printers in New York to experiment with the Meisenbach process of printing from relief plates produced by photo-





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A. H. McQUILKIN, EDITOR.

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ROGER B. SIMPSON, Eastern Agent.

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THE INLAND PRINTER is issued promptly on the first of each month, and will spare no endeavor to furnish valuable news and information to those interested professionally or incidentally in printing, engraving, electrotyping, stereotyping, bookbinding, and in the paper and stationery trades. Persons connected with any of these lines will confer a favor by sending news from their section of the country pertaining to the above trades, particularly individual theories and experiences of practical value.

Subscribers and others having questions they desire answered by letter or through THE INLAND PRINTER should place such queries on separate sheets of paper, and not include them in business letters intended for the subscription department. If so written they can be sent with business letters, but it is better to forward them under separate cover, marking plainly on outside of envelope the name of department under which answer is expected. Read paragraph at the beginning of each department head for particulars. Letters asking reply by mail should be accompanied by stamp. The large amount of correspondence reaching this office makes compliance with these requests absolutely necessary.

### SUBSCRIPTION RATES.

Two DOLLARS per annum in advance; one dollar for six months in advance; sample copies, 20 cents each.

SUBSCRIPTIONS may be sent by express, draft, money order or registered letter. **WE CAN NOT USE CHECKS ON LOCAL BANKS UNLESS EXCHANGE IS ADDED;** send draft on New York or Chicago. Make all remittances free of exchange, and payable to The Inland Printer Company. Currency forwarded in unregistered letters will be at sender's risk. Postage stamps are not desirable, but if necessary to remit them, one-cent stamps are preferred.

**Foreign Subscriptions.**—To countries within the postal union, postage prepaid, three dollars and twenty cents, or thirteen shillings two pence, per annum, in advance. Make foreign money orders payable to Henry O. Shepard. No foreign postage stamps accepted, and no attention will be paid to postal-card requests for free samples.

### ADVERTISING RATES

Furnished on application. The value of THE INLAND PRINTER as an advertising medium is unquestioned. The character of the advertisements now in its columns, and the number of them, tell the whole story. Circulation considered, it is the cheapest trade journal in the United States to advertise in. Advertisements, to insure insertion in the issue of any month, should reach this office not later than the twentieth of the month preceding.

In order to protect the interests of purchasers, advertisers of novelties, advertising devices, and all cash-with-order goods, are required to satisfy the management of this journal of their intention to honestly fulfill the offers in their advertisements, and to that end samples of the thing or things advertised must accompany the application for advertising space.

THE INLAND PRINTER reserves the right to reject any advertisement for cause.

THE INLAND PRINTER may be obtained at retail from, and subscriptions will be received by, all newsdealers and typefounders throughout the United States and Canada.

Patrons will confer a favor by sending us the names of responsible newsdealers who do not keep it on sale.

### FOREIGN AGENTS.

M. P. McCoy, Phoenix Works, Phoenix Place, Mount Pleasant, London, W. C., England.

W. C. HORNE & SONS (Limited), 5 Torrens street, City Road, London, E. C., England.

JOHN HADDON & Co., Bouverie House, Salisbury Square, Fleet street, London, E. C., England.

RAITHBY, LAWRENCE & Co. (Limited), Queen street, Leicester, England, and 1 Imperial Buildings, Ludgate Circus, London, E. C., England.

PENROSE & Co., 8a Upper Baker street, Lloyd Square, London, W. C., England.

ALEX. COWAN & SONS (Limited), General Agents, Melbourne, Sydney and Adelaide, Australia, and Dunedin, New Zealand.

F. T. WIMBLE & Co., 87 Clarence street, Sydney, N. S. W.

HERBERT BAILLIE & Co., 39 Cuba street, Wellington, New Zealand.

G. HEDELER, Grimmaischer Steinweg, 3 Leipsic, Germany.

A. W. PENROSE & Co., 44 Rue Notre Dame des Champs, Paris, France.

JAMES G. MOSSON, 12 Neustrasse, Riga, Russia.

JOHN DICKINSON & Co. (Limited), Capetown and Johannesburg, South Africa.

### EDITORIAL NOTES.

NOTHING so much increases the value of an advertisement as an attractive and artistic cut.

THE great newspapers and magazines all recognize that an inch of illustration is worth a column of description.

WE knew something would happen to China before long if she didn't discard that ancient method of printing.

THIS is the "age of illustration." The advertisement, circular or brochure of today without a cut of some kind is like the play of Hamlet with Hamlet left out.

MANY first-class book and job printing establishments now have their own process-plate plants and consider them as vital adjuncts to their business as the bindery or pressroom.

THE job printer who neglects to educate his patrons on the value of using half-tones and other illustrations in their work can not justly complain when the patrons seek other and more progressive printers.

THE proverbial cry that a Presidential year is necessarily a dull one finds no excuse this year, so far as the printing trade is concerned. From every quarter comes the news that the printers are rushed with orders.

PARTICULAR attention is directed to the article in this issue by Mr. George H. Benedict, which gives a concise statement of the case of the Photoengravers' Association of Chicago, and the action brought against them by a discharged employe.

NO other branch of the printing trade has made such strides in the past decade as that of illustration. The improvement has been so great and withal so gradual that one needs to look through a file of some of the leading magazines to fully realize it. The wonderful progress made makes even the substitution of machine composition for hand-work take a second place.

THERE was consternation among the rank and file of the union printers throughout the country when it was reported that the Milwaukee convention had pledged the union to one particular political party. The convention heard the protests and was quick to rescind its action. Where two or three printers are gathered together, there you will find a diversity of political opinion.

A CERTAIN "yellow paper" printed in New York is said to keep on hand stock-cuts for use whenever authentic portraits of people prominent in the news of the day can not be readily obtained. These