

Notes on the History of the

LUDLOW

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THE Ludlow originally derived its name from Washington I. Ludlow, who brought to the late William A. Reade the conception of a typesetting machine entirely different in principle and purpose from that now bearing the Ludlow name. Mr. Reade in 1906 formed the Ludlow Typograph Company to develop the idea.

The original idea called for a machine provided with a set of matrix bars, approximately two feet long, each of which carried the entire alphabet, points, and figures. These bars were wedge-shaped, the wide letters being on the wide part, with the progressively narrower letters following in order as the thinner end of the bar was approached. When each bar was positioned with the desired character in each instance over the mold the line was cast. This machine was intended for use as a body matter machine for small newspapers which could not afford to buy, maintain, or operate a more expensive and intricate keyboard machine. It set 8-, 10- and 12-point

matter only. Production would admittedly be less than with the more elaborate machines then in existence, but worries regarding shortage of type or type replacements would be obviated entirely, and there would be the advantage of simplicity of mechanism and of operation.

In spite of many difficulties encountered, particularly in making the matrix bars, this machine was brought successfully to completion. The first five machines of this type were built during 1909, but it soon became evident that the idea as originally conceived was not commercially attractive. Meanwhile, during this experimental period, Mr. Reade had become convinced of the existence of a great need in the composing room for equipment to produce display and job composition in some more effective way than was then available.

Making a fresh start, he conceived the idea of setting lines of individual matrices by hand directly from copy and casting slug lines therefrom with simple and therefore flexible mechanism. This constitutes the essence of the Ludlow system as it operates today, which bears no resemblance to the device the company was originally formed to develop. The first individual matrices, which were engraved, were set publicly in January, 1911. This was the real start of the present organization, and the enterprise being now on the right track, progress was steady and sure.

The casting mechanism was redesigned and twenty machines were built during 1911. But it soon became evident that the real task was not to make machines, but to provide an adequate variety of matrices. Newspapers to which attention was first directed, would not and could not use a system for which matrices were available in but a few point sizes and type styles.

The manufacture in quantity of matrices in such large point sizes proved a problem of no mean proportions, the like of which had never been encountered before. Typefounders were under necessity of providing only one matrix for any given character, whereas with the Ludlow there was requisite a method of manufacturing matrices of any letter by the thousands. The type founders could engrave directly, at small expense, the single matrix they required, while it was evident that to produce large matrices in quantity they would have to be driven.

No machines were available for this purpose, so the company had to design and build its own presses. These embodied many new ideas and the excellence of these presses has contributed greatly to the accuracy of Ludlow matrices and — in consequence — to the success of the Ludlow system. A great deal of other special machinery also had to be designed and built,

From the beginning in 1909, Arthur H. Hedly, now

president of the Ludlow Typograph Company, has been in charge of all manufacturing operations. Philip P. Merrill, vice-president and general manager, who became actively connected with the company in 1920, also has been responsible for important improvements in the Ludlow system of composition, as well as for the promotion and distribution of the company's products.

Early in 1912 fonts of single matrices for 36-point Caslon Bold were produced, and late in 1913 matrices for 24-point Caslon Light were completed. The italic matrices were on sloping bodies, a distinctive Ludlow feature.

In August, 1913, the first machine embodying the new and successful Ludlow principle was installed in a daily newspaper composing room by the *Chicago Evening Post*. This paper was a most satisfied user. In 1914, a two-machine equipment was placed in the composing room of the *Cleveland Press*, proving a success from the start. This was the first plant to approach entire slug make-up of the paper, a practice which is now encountered frequently.

In 1916 the first building in the group now owned and occupied by the Ludlow Typograph Company was leased as a factory. The general offices were still in Cleveland, and a Chicago office was maintained in the Peoples Gas Building. The following year an arrangement was

effected with the Mergenthaler Linotype Company whereby that organization would handle the sales of Ludlow equipment. Sales were handled according to this plan until January 1, 1919, when the Ludlow Company terminated its arrangement with the Mergenthaler Company and organized its own force of sales and service field representatives.

Early in the development of the Ludlow system it became apparent that its potential advantages were applicable to production not only in newspaper composing rooms but in composing rooms of commercial printers as well.

In 1918 the first Ludlow installation in a plant devoted exclusively to producing general commercial job printing was made by Saul Brothers, at Chicago.

As the Ludlow system became generally accepted by printing plants, further attention was given to increasing its usefulness to the commercial printer. Blank forms had been produced on other line casting machines before 1923, but because of mechanical limitations the idea of casting and making up blank forms from slugs was not developed to any appreciable extent.

Early in 1923, Mr. Merrill conceived the tongue and socket idea of the Ludlow slug-aligning matrix, and Ludlow ruleform matrices were first produced. This principle of holding the slugs in accurate vertical align-

ment with each other obviously requires the direct aligning of the heads of the slugs. Accomplishing this exactly is the function of the Ludlow slug-aligning matrices by which such accurate vertical alignment is secured that down rules appear in print as a continuous line, even though actually made up of a number of units on individual slugs.

This slug-aligning method has established for Ludlow ruleforms a new and higher standard often referred to as "wax plate quality," although produced at a fraction of the time and cost of wax plates.

The real idea upon which the Ludlow ruleform matrix rests is, of course, the slug-aligning matrix, but this idea would not be effective in practice if the intersector and other ruleform matrices were not made to an accuracy allowing practically no tolerance. To hold them to the extreme precision required, and to insure absolute perpendicularity of the slug-head walls, all such ruleform matrices are of special composite construction, with the ruleface cut (rather than driven) in small pieces inserted accurately into the matrix body. The production of such matrices requires extraordinary precision in every operation.

In 1920 arrangements were effected whereby the Ludlow Typograph Company undertook the manufacture and sale of the Elrod lead-, slug- and rule-caster. At first

these machines were offered only with gas-heated crucibles, but in 1929, after extensive experimentation, an electrically heated model, as well as a new gas-heated model, redesigned and improved in many particulars, was placed on the market. The range in size of the Elrod product was increased, to cast strips from 1 to 36 points in thickness.

During the last ten years, the principal task before the company has been the production of Ludlow matrices comprising an adequate assortment of type faces to meet any reasonable requirement of printers and publishers.

Within the last few years, production tools insuring even greater precision in the product have been developed and put into use, to effect constant improvement in the quality and accuracy of the matrices, upon which both the quality of the printed product and the ease of makeready so largely depend. Great progress has also been made in perfecting the mechanical efficiency of the casting machine, effecting constant betterment of the slugs produced. The Ludlow now delivers composition of a quality adequate for printing of the highest standards.

After going through the seemingly endless job of producing the standard faces demanded by its users, the Ludlow organization embarked on a program of origi-

nal type design. The present Ludlow typeface specimen book shows the extent of their achievement in matrix-making, starting from scratch only a few years ago.

Among the many notable typefaces of original design first produced by the Ludlow organization may be mentioned Umbra, a three-dimensional letter which has inspired the production of similar faces by a number of typefoundries; Mandate, the first continuous or joining script to be produced for casting on slugs; Ultra Modern, the first really modern typeface brought out in America by any composing machine manufacturer; the Nicolas Jenson family, a fine reinterpretation of the types of the Venetian master printer; Garamond, a faithful recutting of the original types of Claude Garamond; the Stellar family, the first modern san serif typeface to be offered on the American market in matrices for composition; Delphian, a fine series of classic capitals, and Eden, a distinguished tall and slender design with flat serifs.

The fundamental rightness of the Ludlow principle of hand-set, slug-cast job and display composition has been widely recognized, and the American-made Ludlow is now extensively used by printers and publishers throughout the world.