

## DAVID BRUCE.

INVENTOR OF THE TYPE-CASTING MACHINE.

A TRUE benefactor to his race, a man to whom every printer and type founder of the present time is immeasurably indebted, is living, at the advanced age of eighty six years, in modest retirement at 182 South Fourth street, Brooklyn, New York. It is with great pleasure that we present to our readers a very satisfactory portrait of the venerable inventor of the type-casting machine, and record our opinion that among all men now living connected with the art preservative, as an art or industry, there is none so worthy of honor as Mr. David Bruce.

A patent for a type-casting machine was issued to David Bruce in 1836, again on March 17, 1838, and for a more perfect machine on November 6, 1846. Although previous to this there had been attempts to cast type by machines, they had been unsuccessful, and type was still made in hand molds, the speed of which was twelve to fifteen a minute. The machine patented in 1834 is now used (with later improvements) by all American and nearly all foreign type foundries, and is run by steampower as well as by hand, producing on an average one hundred types per minute. It is not our purpose to describe the machine, as the process of making type is or ought to be familiar to every intelligent printer, but the indisputable fact that but for this invention the type founders of the present day could not produce type in its present perfection should be known and appreciated by all.

Its silent influence on mankind has been marvelous, but on this point we will quote from a letter from the inventor to the late Mr. Jas. M. Connor, of New York:

Of the machine—well, what of it? The mere renown of the invention has only this effect with me, as I trust with other inventors, the consciousness of having contributed something toward the advancement of the world's progress. The term "progress" was at one time as repulsive and unfamiliar to the ear as that of evolution is now, and yet they are both so well recognized by their traits that it would betray childishness to ignore them.

The world is apt to be forgetful of the past, and yet the world is replete with familiarized miracles. It is to be hoped that there are few so obtuse, so dull, so idiotically refined in intellect, as to ask, book in hand, Well, what has all this greasy, plebeian workshop business to do with the enjoyment of life? The pleasure-seeking lady or gentleman in their summer rambles, the millionaire, the traveler, the politician, the statesman, the historian, in short any searcher after education, cannot but be interested in any advance in those arts tending to the spread of knowledge. The reading public is rejoiced at the rapid multiplication of papers, books and periodicals through the agency of the modern printing press; but from whence came their type—these twenty-six

little symbols of our language? At the present day speed in the manufacture of type is as essential as speed in printing.

Mr. Bruce is a thoroughly practical type founder, having been a mold-maker, a justifier of matrices, and letter-cutter. In the latter capacity we owe to him the well-known series of Rimmed Shade, Title Expanded, Roman Extended, Ionic, Title, Secretary, and many others. The following highly interesting communication from the venerable inventor will, we are sure, be regarded by our readers with more interest than any words we can pen, although it is to be regretted that no fuller account of Mr. Bruce's career is at present obtainable:

## MR. BRUCE'S LETTER.

BROOKLYN, N. Y., April 19, 1887.

Gentlemen,—I am now in my eighty-sixth year, and as modestly is the chief ornament of youth I must decline your invitation to write a synopsis of my life. In short it might be said my life differs very little from the routine of other inventors and projectors—always poisoning between inflated hopes and blasting disappointments. But let me confine myself more particularly to the times about and preceding my invention.

In the year 1834 I cut myself loose from the firm of George Bruce & Co., of New York, of whom I had been one of the partners for two years, and retired to reside on my father's farm in New Jersey, on which I continued five years. It was my idea to construct, if possible, a machine capable of producing a more perfect type than was then being offered to the printer. The only machine type then being sold to them by Mr. Eliza White, was too porous and light to be satisfactory, ranging from twenty to twenty-five per cent lighter than hand-cast type, and which was urged as an inducement to the purchaser. (See Mr. White's specimens of those dates, 1834, 1840.)

Let it be fairly understood I was by no means a pioneer in facilitating the casting of type by machinery. Mr. Edwin Starr, of Boston; Mr. George B. Lobbias; my father; Messrs. Mann and Sturtevant; Mr. Wm. M. Johnson, and Mr. George F. Peterson, had all preceded me, but with little success.

My uncle, Mr. George Bruce, became purchaser of my No. 1 patent of 1836, and knowing my inventive idiosyncrasy he requested me, as a favor, that I should make him the first offer of purchase of any improvement I might subsequently invent. Hence the present machine was spurred into existence by his encouragement, and I might almost say for him. When finished, he was invited over to Brooklyn to give it an examination. Unfortunately he sent over his machinist, who saw it, but to suit his own views totally misrepresented its manifest superiority over all former machines, inasmuch as it had the capability of being driven, as now, by steam or other power, and with greater speed. Hence he rejected it without seeing it.

I assure you, gentlemen, that I was mortified and disappointed; but rallying, took the first opportunity to find for it a purchaser. Hence its first introduction in that very cautious, venerable and tasty type foundry in Boston—the Boston Type and Stereotype Foundry.

It is pleasant to look back upon the past fifty-three years and review my conflict with artists, type metal and type founders, and I may truly say that with one nameless exception my intercourse with these old types has always been agreeable. Many have manifested their friend-



ship in various kindly ways, and Mr. Lawrence Johnson, type founder, of Philadelphia, in the procurement, without my knowledge, of a costly medal from the Franklin Institute of that place.

Truly yours, DAVID BRUCE.

Long may our venerable and talented friend live to enjoy his honors is the sincere desire of THE INLAND PRINTER.

Written for THE INLAND PRINTER.

#### THE NINE-HOUR LAW.

BY AUGUST DONATH.

PURSUANT to the provisions of the law passed at the late session of the International Typographical Union, the working day of members of the craft will soon consist of nine hours. The law is mandatory in those jurisdictions where sixty or more members are employed; so it will affect about all the cities of the land where unions exist. How best to carry into effect the beneficent law is now a subject of earnest debate with those who prefer to look before they leap, and it remains to be seen what the outcome will be. In some cities little opposition is expected, while in others smooth sailing is not so confidently looked for. The stumbling block, of course, will be the proposition to work the new schedule for the old wages, which is virtually an increase of one-ninth. And right here is the opportunity to show whether the alleged motives for the reduction of working hours is a sincere one. We have insisted for a number of years that the supply of craftsmen was larger than the need for their services, and the reduction of working hours was urged as the only means of meeting this issue. Thence, according to our statement, it is not an increase of pay that we desire, but our aim is to provide employment for those who now have none. If this is carried out as faithfully as it has been urged persistently, we believe there will be no serious difficulty encountered in enforcing the new law. Nine hours and eventually eight hours will become the standard, just as the days of old, from "sunrise to sunset," shrunk to the ten hours of the present. But if the demand is made to be paid the sum now stipulated for ten hours, for the shorter day of nine, all may not be smooth sailing.

I write these lines, then, for the purpose of urging upon our members the duty they owe to the unemployed — to find work for those willing hands that are now involuntarily idle. Remove this idle contingent, now standing on the street corners of our large cities, gazing wistfully at their more fortunate comrades, who enjoy the "boon" to toil hard and for many hours for just about as much as will keep an average-sized family, provided it has no extravagant habits. Remove these members from the street to the composing room, to the pressroom, to the foundry, and you will do yourself the greatest possible service, though it be for the present at the cost of one-tenth of your earnings. Self-denial is nothing new to the union printer. Neither has he yet to learn the satisfaction of sharing what he has with his less favored brother. And self-denial in this instance means, I believe it religiously, not only work for a larger number, but increased wages, as well as shorter hours, for all. This lesson is so old that it is hardly worth while to repeat it, and yet we have too many proofs that it is not generally remembered. Superabundance of a given

commodity depresses the price, while demand for it is sure to appreciate its value. It is certainly so with labor. Succeed in employing the idle hundreds, and the one great menace to the success of every movement looking to the securing of higher wages or to the reduction of the hours of work, will be removed. I hope, then, that those of my brothers who will be engaged in this effort to secure nine hours as a day's work will be wise enough and unselfish enough to make a temporary sacrifice if the emergency seems to require it.

#### PRINTING DRY FROM ZINC.

In a recent issue, the *Lithographische Rundschau* has an important article on "Printing dry from Zinc." In the introduction the editor says that there are very few branches indeed which have so many secrets, recipes, and miraculous appliances as lithography and its allies. Many of them are offered for sale; when, however, the money is paid to the "inventor," it is found quite frequently that such recipes, etc., were known long ago. This has reference also to secret fluids and tinctures—"infallible," of course!—for which it is claimed that when a portion is mixed with the lithographic printing ink we are enabled to print dry from lithographic stone. It is well known that such fluids consist only of glycerine, and the "secret" certainly does enable one to print for some time without damping the stone, but with the result that it spoils the ink and makes the inking rollers slip. To print from stone without damping certainly has great advantages, provided it can be practically carried out. In 1885 there was a great deal said in reference to a new kind of lithographic composition roller, for which it was claimed that, by the use of a specially prepared kind of lithographic printing ink, one could print dry from stone. After a while, however, it was found that these composition rollers got out of order and out of shape; they became uneven, the inking could no longer be done in a solid manner, and it was not long before the rollers were out of order altogether. "It was strange," says the *Lithographische Rundschau*, "that this method of printing dry without damping was of more practical use in printing from a zinc plate than from stone. The uncertainty of the process kept us for a while from further experimenting, but we did not lose sight of it. Recently we had to print autographs which, being in editions of two hundred copies only, would not have been profitable had we printed them on a steam press. Hence, we printed them from zinc on the hand press without damping the zinc plate, and we succeeded wonderfully. This encouraged us to apply the same to better work, and our own practical experience convinced us that this method of printing dry from a zinc plate without damping is of a value which should by no means be underestimated." In order to give a practical proof of his experience in this matter Mr. Schlocke inserts in his paper a page printed (without damping) from zinc on the hand press. It is, indeed, a well printed page, in blue-black ink. In explanation he says: "We added to the blue-black ink some glycerine and a trifle of lard. Every practical printer will soon ascertain the correct proportion. We have no doubt that the same method of printing (without damping) from zinc will work also on a zincographic press."—*The Paper and Printing Trades' Journal*.

#### PIANO MADE FROM PAPER.

A piano is the latest article to be made out of paper. Says *Chamber's Journal*: "A beautiful musical instrument of this kind has lately been an object of great curiosity to the connoisseurs and musical savants of Paris. The entire case is made of compressed paper, to which is given a hard surface and a cream-white, brilliant polish. The legs and sides are ornamented with arabesque and floral designs. The exterior, and as much of the interior as can be seen when the instrument is open, are covered with wreaths and medallions, painted in miniature by some of the leading artists of Paris. The tone of this instrument is said to be of excellent quality, though not loud. The broken, alternating character of piano music is replaced by a rich, full, continuous roll of sound, resembling that of the organ. Only two of these instruments have been made. One is still on exhibition; the other has been sold in the Duke of Devonshire's."