

[From an Eastern paper.]

How Printing Type are Made.

In the manufacture of printing type, various processes are gone through, all requiring very great accuracy and care. Many improvements have been made, nor is it improbable that more will be effected. We shall give a brief and, we hope, a clear description of the modern manufacture of type, as we have observed it in a large establishment of this city. Each establishment has peculiarities of its own, but the general principles are the same.

The letters, etc., are first cut upon a steel punch. This requires great skill. The characters are oftentimes extremely minute, and every pains is taken to procure not only individual beauty, but general uniformity. Not only letters, but figures, signs and ornaments in endless variety are thus cut.

There are also spaces used to separate words. Quadrats, which are larger than spaces, separate sentences, and in general occupy the position among type that is represented by the unprinted parts, both spaces and quadrats being shorter than type. In a full font of type there are about 300 different characters.

The cost of the separate punches varies from two to fifty dollars. After the punch has been cut, it is indented to a certain depth into a block of copper; this is called the matrix. Electrotyping has of late years been used for the purpose of obtaining matrices from the type itself, by which means type foundries are enabled to avail themselves of each other's labor. Business morality is of a most elastic quality, and it would be a useless expenditure of time to question the propriety of the practice.

An apparatus denominated the mold is used for forming the body of the type, and to this mold, which answers for all the types of a font, the different matrices are adjusted as required. He who adjusts the matrices to the mold is called a justifier, or more commonly a fitter. All the types of a font are of the same length and depth, though the letters upon them vary in their dimensions.

The mold is so constructed as to admit of the width being altered to suit the letters to be cast; thus the letter I, which is very narrow, is upon the body of a type, the perpendicular face of which is precisely the same as that of the letter W, several times as wide.

It is necessary that the bodies of types should also have all their lines at exact right angles; without this they would not stand in line, and would consequently be useless. If the types varied in height, they would not give a perfect impression, in endeavoring to obtain which, some would be subjected to an injurious pressure.

A few types have a portion of the face of the letter projecting over the body, as in the letter f; this projection is called the kern, and in combination with other letters the projecting part generally extends over the next letter, as in fe. In those combinations, wherein the kern would come in contact with another letter, compound types are cast, as in the case of ff, fi, fl, ffi, flf. Some years since these combinations were much more numerous, but many have been dispensed with by altering the form of the letter.

The next operation is that of casting. The old method, which is even to the present time generally used in England, may be thus described. The matrix having been adjusted to the mold, is taken by the caster in his left hand. At his right, upon a furnace, is a pot of molten metal. This metal he dips out in suitable quantities with a small ladle, and pours into the mould, at the same time giving a quick upward jerk, for the purpose of forcing the metal well into the matrix, to give the type a good face. A spring which holds the matrix in its proper position, is then removed; the matrix is pried out from off the type, the mold opened, and the type thrown out. By this method an average of about 4000 types per day can be cast by one man.

An important improvement was made in 1814, by Archibald Binney, of Philadelphia, whereby, with one motion of the hand, the matrix was thrown out and the mold then opened. This invention increased the rapidity with which types were cast at least fifty per cent. Type casters acquired great expertness, and with the hand molds were enabled to cast with extraordinary rapidity, but only for a short time.

In 1828 the casting machine was patented by William M. Johnson, an ingenious citizen of New York, and put in operation in Mr. White's foundry, since which time it has been greatly improved. By this contrivance, a pump inserted in the molten metal injects the requisite quantity into the mold, which is brought sharply into contact with the piston; the mold then comes off from the pump, opens, and discharges the type into a box.

In type foundries, generally, this machine is worked by hand; but in the one we had the pleasure of examining, steam power is successfully applied. At least three times the number of type can be cast by the machine than by the ordinary hand mold, and a velocity of 200 revolutions per minute (each revolution forming one type) has occasionally been obtained, though the actual results are by no means to be based upon that fact. Various causes operate to prevent a long continuance of such speed.

The types, after being discharged from the mold, has a piece of metal, called the jet, attached to the bottom; this is broken off by a boy, called the breaker, and the singular swiftness of all his motions is truly astonishing. Smart lads or girls, who have had sufficient experience, perform all these operations with such rapidity as to pain the eye that observes them. The jets having been removed, the types are taken to another room, where boys and girls are engaged in rubbing off the inequalities upon the sides. This is effected by bringing the type in contact with a smooth stone, prepared for the purpose, and moving it from side to side. The rubbers generally smooth

several at the same time. Those letters which are kerned as before described, cannot be wholly rubbed upon a flat surface, and they are consequently filed smooth by an ingenious contrivance, which prevents the kern from being injured.

After this operation the types are set together, with the faces downward, in a composing stick eight inches long, and thence are transferred to the setting stick, which is one yard in length. Those who do this are called setters. The dresser now takes the setting sticks, and placing the line of type upon a flat surface, tightens it with a screw; then, with a piece of steel having sharp angles, he rubs off the edges, turning the line of type for that purpose. They are then placed, face downward, in a vice, and the dresser, with a plane, cuts a small groove in the end, over the place from which the jet has been removed. He now carefully examines the faces with a magnifying glass, rejecting all such as are in the least imperfect.

The perfect types are now formed, and they are placed together, side by side, upon a small board with a frame on three edges, until there is a page. The page is uniform in size, being 6 by 4½ inches. A cord is then drawn several times tightly around the page, and it is wrapped up in paper ready for the printer.

Type metal is readily fusible, and is composed of antimony, tin and lead. These are used in various proportions, according to the size of the letter and the degree of elasticity required. Lately, a process, by which the face of the type is coated with copper, thereby increasing its durability, has been adopted to a considerable extent.

Until within a few years there were but few varieties of type in use—now they are to be counted by hundreds. They are cast from the most minute size up to large blocks having a surface face of 16 square inches.

Of Diamond types (the smallest size in use) 201 lines measure 12 inches. Of an averaged-sized Diamond letter, 81,274 may be impressed on a surface of one square foot; and there are Diamond spaces so small that 203,207 will go to a square foot, or 1,411 to the square inch; and of these about 6,200 are obtained from one pound of metal. The largest letter regularly supplied by type foundries is called twelve line pica; these are two inches on the perpendicular face, varying in width with the letter. The larger sizes that we see on show-bills, etc., are cut in wood.

Such is a brief, and, we feel, very imperfect sketch of the origin, progress, and present condition of an art which has already accomplished so much for mankind. Eulogium has been exhausted in its praise—it is beyond all praise; like the sun, the air, it is a necessity—"The Art Preservative of all Arts."

It has enlightened ignorance, dispersed error, corrected superstition, and overthrown armies. It strengthens the brave, encourages the timid, inspires the desponding, and consoles the afflicted. Its light penetrates the darkest dungeon and cheers the most humble cottage. Truth accompanies it and error flees before it. It will regenerate the world!

[From "the American Merchant in Europe, Asia and Australia."]

CANTON.

At last I am in sight of Canton, the grand capital of China trade, where heads of houses most do congregate—where money is obtained from wealthy Chinamen, middle-men, brokers, etc., who get it from bankers in the interior—where orders are given to the houses and agents up and down the coast where wires are pulled—secret expeditions fitted out—teas and silks and imports are talked on an extensive scale—where so many merchants have made in a few years of active labor fortunes in the trade, and where hospitality abounds and kind attentions are showered upon the stranger. Yes, this far-famed Canton, known to every school boy, and every young merchant who ever learned to talk ship—Canton, the centre of all Eastern exchange, the grand bourse of Chinese Asia.

The cabmen of Albany—the hack drivers of Montreal—the kingly boatmen of Singapore, must retire in favor of the boatwomen that came near smothering our boat in order to get a fare to the pier; such an infernal yelling and jabbering, pulling and hauling, rowing and sculling, screeching and gesticulating, can be found nowhere else. Why, it is enough to drive one into a lunatic asylum. It ought not to be tolerated, for sometimes it is positively dangerous when the tide is running a perfect sluice.

Some of the women are very comely, and in their peculiar Bloomer costume and strikingly original style of head dress, you can but be attracted. As in Hong Kong, twenty-five cents is all they expect for rowing ashore a boat load. After paying in some cases from \$10 to \$15 in Melbourne, I really felt ashamed to give the girls here so little; but I was cautioned against introducing bad habits by giving them more. These poor creatures live entirely upon the river, and how I cannot tell, for in the vicinity of Canton there must be at least from 50,000 to 60,000. A typhoon or a fire, I should think, would completely sweep them away, for they lie huddled together like so much firewood.

Arriving on New Year's morning I was most fortunate; for, in accordance with our time-honored custom, calls were being exchanged, and I was just in time to pay my respects and wish the pleasant returns of the year to the eighteen European, English and American ladies then in Canton, whose cordial welcome is most pleasant to remember. Beautiful houses, large and commodious, all joined together, or only separated by a small alley-way, splendidly furnished, and none without engravings or pictures; fancy Chinese ornaments and specimens of every kind of Chinese ingenuity met your gaze, and everything seemed fresh and new to me, all different from the Western world.

The new comer delivers his letters and calls upon those whose acquaintance he wishes to

make; and then, if properly introduced, come attentions on every side. My home is delightful and my kind entertainer makes me feel that during my stay in Canton his house is mine. He has done a large business in his day, and I think him one of the most industrious men I ever saw. Breakfasting, dining, excursion parties to the White hill, to the Honan temple, the Parsee gardens, the curiosity shops, music in the evening, or bowls, or billiards, or books, or papers—you may take your choice; but your time will soon fly away among a people who only try to anticipate your wants and pleasure.

The billiard room and bowling alley are private clubs, well managed and well attended; good tools to work with and Chinese makers. At the reading room you may find books and papers, and all the printed gossip of the day, as at the Hong Kong Club. You can soon do up the lions of the place, after you have gone round the walls of Canton and run the risk of getting your nose punched by a bamboo for your boldness in looking in at the gate.

After you have looked into the shops in old and new China streets, walked round the factory garden, where foreigners are allowed the entire space of about eight hundred feet in length by one hundred and twenty deep, for trees and plants, a church, a lodge and benches, and paths, for public promenade and nothing more, and you have been once all round to see whom you may know, and in one week's time most likely you know them all, for knowing one it secures the entree to the rest.

After you have been through the hongs and godowns, seen the tea prepared for shipmen, and the way it is got up, and talked with some of the Chinese merchants who insist upon your taking with them a cup of tea without milk or sugar, the grounds in the cups, each made expressly for each person; after you have chin-chinned several of these Hong merchants and heard them expound commercial affairs; after you have been over the Dutch Folly, the pavilion of the fire genii, the Lyre pagoda at Wampoa; the wonderful gardens—wonderful because so singular and novel; after you have seen the duck-hatching up the river, where the young ducks are traced in all their stages; after you have been to the White Hills on your Chinese pony, or carried up by your Chinese coolie, in your Chinese chair, and looked down upon the City of Canton, with its one hundred and twenty-four temples and halls, pavilions and pagodas; after you have perfectly satisfied your curiosity by looking at the flower boats and gazing at the beautiful specimen of Chinese frailty so fantastically dressed; after you have seen all these, you will have a right to say that you have killed all the lions at Canton. It takes but a short time to run through the list, and when once seen it is time to go over the ground a second time.

The City of Canton is about one thousand years old, but no foreigners have ever had the entree to its interior. Notwithstanding the treaty provides for going into Canton, by diplomacy and intrigue the Chinese officials have managed to break faith, and keep out all outsiders. How much longer this will last remains to be seen. The foreign population of the Hongs occupy about fourteen acres of land, none of which can be owned by the residents. Some of the Hongs rent for \$4,000, and so on down to \$1,200 per annum. In 1822 most of these buildings were destroyed by fire. The residents are called factors; hence the name factories. On every side of you, Pigeon English—that horrible jargon of mutilated baby talk which custom has made law—meets you. From boatwomen to shopmen—houseboy to compradore—you hear nothing else. I endeavored to get a copy of Hamlet's soliloquy, which was translated into Pigeon English, but I have failed to do it. I can only remember its commencement.

"To be or not to be" reads: "Can—no can." Send for your hat, and this would be the style: "Go top side—sabe—that hat—pay my." A noise is heard in an adjoining street; the cause, says the servant, is "Chiney woman have catchy one piece bull chilo." In other words, it would read: "Mrs. Pigtail of a boy." I called upon some ladies; boy returns: "No man can see," intimating probably that they were not at home. For "yes," read "can do." "How many to dinner this evening?" My boy promptly replies: "Four piece man—two piece missie." Of course I have laid in a good stock of Chinese presents; I should be considered the veriest barbarian did I not. I have been through all the shops buying sandal wood fans and card cases, ivory chess men and whisk counters, purses and boxes, studs and Jade stone, bronze ornaments, bamboo work, carved necklaces and walnuts, and bracelets and rings, silver and copper ornaments, and a thousand other little notions which will soon reduce your loose cash, especially where your sovereign or pound sterling is worth but \$4. It makes a wide difference in one's finances.

Since the rebellion, Canton has been active, and its sister port—Yongker in experience, younger in commerce, younger in years—are gradually taking away her prestige. Foo Choo is getting the black teas, while Shanghai takes the silks in large quantities, and the green teas, but Canton, nevertheless, has the wealth, the capital, the headwork, the experience and the exchanges; she is still hard to beat, and may yet be able to hold her head as high as her northern branches. We must wait. I was much surprised to find such battalions of Parsees promenading in the factory gardens, all speaking understandable English.

These high turbaned merchants are taking off the best share of the opium trade; and now a clipper steamer, the Lightning, plies between Calcutta and Cumingmoon—opium and advices her only "pigeon." Some of the names of these men seemed to have been given them purely for the amusement of the Western merchant, for they have a strange sound, mixed up common and uncommon names, Scriptural and sectional. My few days' visit has gone, I can hardly tell where,

but to-morrow I am bound to the north, and my next chit-chat you may expect from Shanghai or Foo-Chow Foo.

Take Notice.

On Nov. 4, while marching from G. S. L. City, a man belonging to my command lost a Colt's Revolver, Navy size. The finder will please leave it with br. A. N. HILL at the General Tithing Office.

C. W. WEST, Col.

Married:

In this city, Nov. 16, 1857, by Elder W. Woodruff, Mr. NEPHI HAMPTON and Miss JULIA ANN KATZ.

"Joy to the groom and to the bride bliss—
Their union be ever like sweets of first kiss."

NEW ADVERTISEMENTS.

TAKEN UP:

ABOVE the Warm Springs, a brindle STEER CALF, about 8 months old. The owner is requested to call and pay expenses and take him away.
GEO. M. BURGESS,
38-1 17th Ward.

LOST.

ON THE 8th of Nov. inst., from North Canyon Ward, a roan Indian PONY MARE, branded on the left hip T L. Whoever will return the same to me in City Bountiful, shall be liberally rewarded.
38-1 THOS. F. FISHER.

JOHN CUTLER

STRAIGHTENS and FILES SAWS. Repairs Joiners' and Carpenters' tools, makes Kolves. WANTED—Old Files, Chisels and Steel for Knives. Apply at the Public Works. 38-1

LOST,

THURSDAY evening, 19th inst., a LAND WARRANT or Certificate for 160 acs. of Land, issued to Thomas Bingham for services in the Mormon Battalion. The finder will please return the same.
38-1 W. H. HOOPER.

STRAYED:

FROM THE BOTTOMS on Mill creek a white OX with a few light yellow spots on the body, 5 years old, has D Z rudely cut on the near horn; was turned out on Sep. 12. Whoever will bring same to me in 13th Ward shall be rewarded.
38-1 J. V. LONG.

STRAYED:

ESCAPED FROM MY STABLE in the 17th Ward, on Friday night last, Nov. 13th, a white HORSE, 14 or 15 hands high, with a hair brist on, branded X on the left hip and sore back caused by saddle and rather poor. Whoever will bring the same to the stray pen or my residence in the 17th Ward, opposite G. Wardle's Hall will be liberally rewarded.
38-1 E. Y. HAMPTON.

NOTICE.

JOHN H. PICKNELL is always on hand at C. Taylor's slaughter house to kill beeves for \$1 per head, and will pay a good price for hides. N.B. Tripe and cow heels always on hand. 32-1f

THE PUBLIC

ARE hereby forbidden to pass and repass over the land known as Dr. Richards' pasture, and lying between the ten acre lots and Jordan river. Such as transgress this prohibition will be liable to prosecution for trespass.
34-1f BRIGHAM YOUNG, FRANKLIN D. RICHARDS.

TO ALL THE SAINTS.

R. BRITTON, Goldsmith and Manu- facturing Jeweller, wishes to inform the inhabitants of Great Salt Lake City and the Territory generally that he is carrying on the Jewellery Business in all its branches at the shop of J. M. Barlow, one door east of the Deseret Store, Tithing office block, G. S. L. City. All persons having work in my possession please call and get it. 37-3

WHEAT AND CLOTHING.

BRING along your substantial Cloth- ing and Exchange on liberal terms for wheat, corn, cattle, pork and other domestic products, at the Deseret Store.

For the purpose of a more equal distribution of clothing throughout the settlements, it has been suggested by the First Presidency that clothing of every description be deposited at the Deseret Store, and those who are in need to bring in their grain, &c., and be prepared to make the exchange for the articles needed.

Let everybody look over their wardrobes, turn out their drawers and boxes, and see what can be collected to supply the present wants of a large portion of this community.

P.S. In consequence of the Annual State Fair being held at the Deseret Store, the premises will be closed on Friday the 25th inst. and re-opened for business Oct. 6th.

NOTICE TO THE PUBLIC.

JENNINGS & WINDER, are prepar- ed to kill beeves for private families at their public Slaughterhouse. Persons wishing can have them cut up ready for salting and taken home. Charge for killing, \$1, or will take the hide and pay \$1.50.

JENNINGS & WINDER'S

New Meat Market is on the corner North of J. Cain's.—Meats of all kinds and of the first quality always on hand. Also Pork and Bologna Sausage, dried Beef, corned Beef, Lard, Tallow, pickled Tongues, &c., &c.

JENNINGS & WINDER'S

Tannery and Leather business continued at the old place. The best price paid for hides of all kinds.

N.B. The above firm would be glad if those persons indebted to them would call and settle forthwith, and any having claims present them and take your pay. 34tf

THE DESERET NEWS.

PRINTED ON WEDNESDAY.....DELIVERED ON THURSDAY.

TERMS—\$6 PER ANNUM.

BOOK, JOB AND CARD PRINTING

Executed to order in this office; and having received some important additions to our stock of

Job and Ornamental Type,

We are prepared to do work at reasonable rates, and in the most approved style.

BOOK-BINDING

In all its branches carried on in connection with this Office. Send in your orders.