

THE PASSING OF LI HUNG CHANG.



BORN IN 1823; DIED IN 1901.

When General Grant was returning from his famous journey around the world, he said: "I have met on this journey four great men—Bismarck, Beaconsfield, Gambetta and Li Hung Chang. I am not sure, all things considered, but Li is the greatest of all the four." John Russell Young, one-time Minister of the United States to China, has made this fine word picture of the wonderful one-man power in the Chinese nation: "I see in him an historical figure of the century—the one Chinese statesman with the presence and courage to lead his people toward what is best in our Western civilization; a masterful, intrepid spirit, who has done his work with fortitude."

American Steel.

By Waldon Fawcett.

STEEL, that most useful and, after all, the most valuable of metals, is so pre-eminently the most important of the products of Uncle Sam's energy, that its superiority has come, of late years, to be universally recognized.

The age of iron has passed and the industrial and commercial world now lives in the age of steel. The latter metal is, of course, an outgrowth of that which was once supreme in the manufacturing world in that the iron ore must first be converted into pig iron ere it can attain to the dignity of classification as steel; but the latter commodity is tougher and more ductile, and so it is preferred for construction of buildings and ships and, indeed, everywhere great strength is required. When steel first came into popularity it cost much more to produce a ton of steel than to turn out the same amount of iron, but a gradual cheapening of processes has been going on,

storehouses in the Northwest, a train load at a time, is unloaded by means of iron buckets, each holding more than a ton of ore, which spin back and forth along structures that resemble miniature suspension bridges and carry the dark red material to the foot of the blast furnaces. Here small cars running on an inclined railroad take the ore and ascend with it to the top of the



IRON ORE MINE.

blast furnace and, upon reaching the summit, an ingenious mechanical device overturns the car and tumbles its contents into a great fiery pit which yawns below.

A blast furnace is nothing more nor less than a gigantic mixing pot in which the raw material from the mines, coke or some other form of fuel, and limestone are churned about

the fact that through each great "brew" of white burning liquid, replenished every quarter of an hour with fresh ore and fresh fuel, there is forced for hours at a time a tornado-like blast of hot air, which not only makes the mass boil more actively, but also tends to drive off its impurities. Ranged near each of the blast furnaces are several monster iron tubes, resembling in general outline the appearance of the blast furnace itself. These are the "stoves" of the plant and in them is heated the air which is blown through the fiery mass within the blast furnace. When it is explained that many present-day blast furnaces give forth considerably more than half a thousand tons of iron every day, and that two tons of ore, a ton and a quarter of coke and half a ton of limestone are required for each ton of molten metal produced, it will be appreciated that the operation of a single blast furnace is no inconceivable enterprise.

In the tapping of a blast furnace there is presented the first of those thrilling pictures which have no counterpart in any other field of activity. A handful of men, pitifully pigmy in appearance beside the towering furnace with its tiny, glowing white eyes, thrust and wrench and pound until an incision is made low down in this great tank of burning metal, and then spring quickly out of the way in order to avoid the stream of scalding metal which spurts from the opening, looking for all the world like a luminous porridge.

This liquid iron, newly escaped from

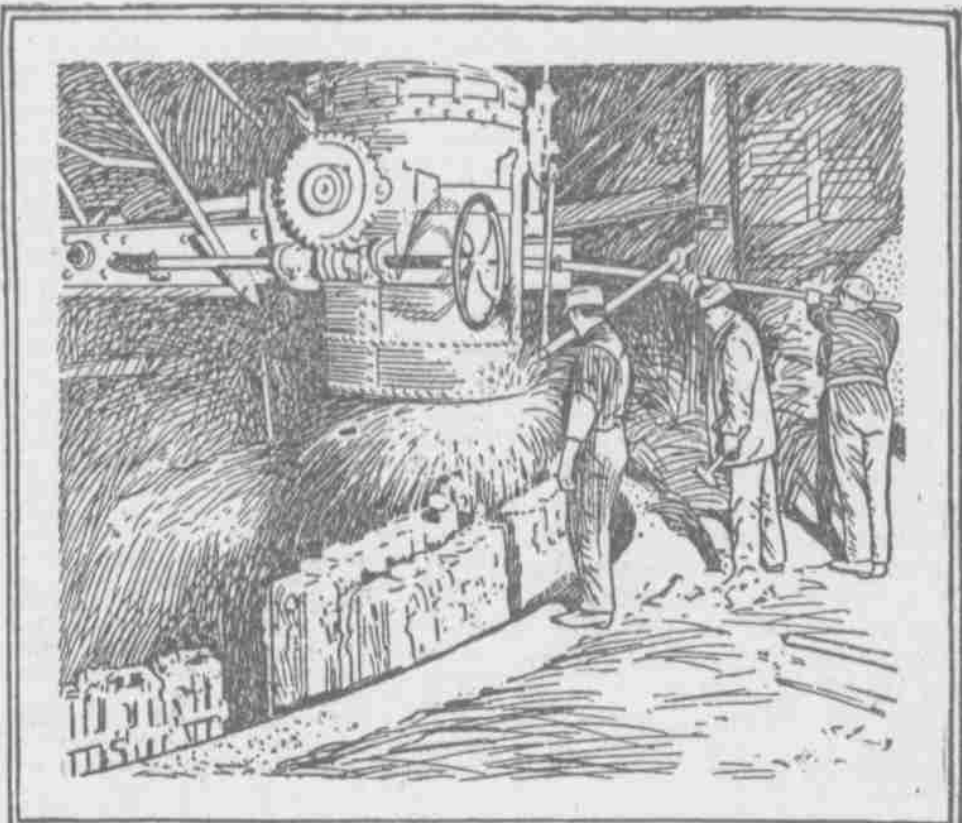
but it results in the production of a better grade of steel. Formerly it was so much more expensive than the Bessemer process that few consumers of steel could afford to pay the price exacted, but here, as in all other branches of steel making, costs have been shaved very heavily of late years. In the open-hearth plant, instead of a



ROLLING IRON.

"converter," there are long lines of furnaces that look like bake ovens and in which miniature seas of white metal, so intensely hot that you cannot gaze upon it save through blue glasses, boil and bubble, like lime in the mortar box before some building in course of erection.

Cast into ingots, these are allowed to cool in their moulds, and are then once more thrust into a bath of flame and for the last time reheated. Thence the metal may be fed into the enor-



POURING MOLTEN IRON INTO MOULDS.

the boiling pot, is a deceitful quantity. Apparently it is slow and sluggish in its movement, and yet it burns its way forward with insidious and surprising rapidity. The workmen in charge, black, half-naked figures silhouetted against a glowing background, either guide the furious stream into ponderous kettles which stand awaiting it on the railroad cars near by, or else they allow it to furrow its way to little channels cut in the sand.

A few years ago all the iron from a blast furnace ran into the hundreds of little troughs, each about three feet long, which dotted the sand floor all about the flame-spitting tower, and when the metal had become quite cold each tiny trench contained an unshapely bar of iron appropriately designated as a "pig." However, inasmuch as the very next step in steel-making is to get this metal back into the molten shape, the shrewd ironmongers who were ever seeking every possible way to save money in the process, concluded that it was simply a waste of time and money to let the pig-iron cool at all, and now the molten metal is trundled away in broad-mouthed kettles to the steel-making plant.

It is essential at this juncture to introduce the reader to the two different methods of steel-making—the Bessemer and the "open-hearth" processes, as they are respectively termed. Up to this point the transformation of the iron is invariably exactly the same, no matter what its ultimate destination may be; but with the end of the journey of the railroad train loaded with half a dozen kettles each containing full twenty tons of the bubbling, red-tinged mass, comes the parting of the ways.

From a spectacular standpoint, the Bessemer process is the more interesting. Each kettle of molten iron, as it arrives from the blast furnace, is poured into a still larger caldron known as the "mixer," where it boils and sizzles in company with the contents of other kettles for quite an interval of time. Next it comes to a "converter," an egg-shaped receptacle of herculean size and strength, and here once more it undergoes purification by means of another terrific blast of air, forced upward through the mass with such violence that the top of the "converter" literally resembles a volcano in action. When the purification by this heroic method is completed, the molten mass is ready to be poured into the ingot moulds, where it hardens in the form of blocks, each weighing five tons.

The "open-hearth" method is less impressive in the eyes of the onlooker,

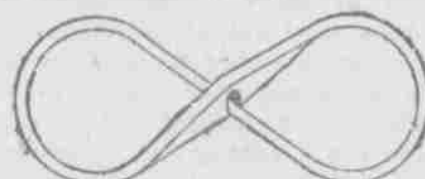
mous jaws of giant rolls which flatten it into plate of various size; it may be pressed into armor for battleships by means of huge presses, or it may be squeezed into long slender strands that are ultimately cut into bars or railroad rails. All the while it remains red hot and water must be continually poured over the machinery, with the result that every time the rolls "bite" a slab of iron to force it into some thinner form, there is a report like the discharge of a cannon.

It may be stated advisedly that nowhere among the world's workers are there men who hourly brave death in such terrible form as it is presented to the steel workers. A blast furnace may "break-out" and engulf the poor, helpless mortals at its base in an ocean of annihilating flame; one of the giant ladders hoisted hither and thither by long, gaunt arms of steel, may slip from its place and drown hapless victims in a molten cataract; or some wriggling, snake-like cable of burning steel may snarl and tangle and, without an instant's warning, wrap itself around some bystander's workman before he can even turn to escape.

It is by the conduct of steel-making on so heroic a scale that the United States is being enabled to capture the steel markets of the world. Last year she sent abroad nearly \$118,000,000 worth of iron and steel, an increase of one-fourth over that of the two previous years, and it was distributed amongst all the countries on the globe. —The Book World.

Automobile Racing Track.

A correspondent in the Horseless Age suggests that some of the rich automobile owners who are constantly grumbling at the impossibility of se-



SUGGESTED AUTOMOBILE TRACK.

curing suitable roads or tracks upon which to speed their machines should get together and build a double-kite track, something on the order of the accompanying illustration, with a bridge over the crossway. The track, he thinks, should be at least eight miles long and fifty feet wide, with a level "run-in." A grandstand midway, he says, would give a commanding view of the whole course.

The present growth of London's population is 2500 a month.

A WOMAN'S HAND.

A woman's hand! so white, so wee,
So covered up with jewelry,
So soft, so delicately planned
That you can hardly understand
The strength in its fair symmetry.

A hand to set a grim cook free,
Or curb a tyrant's tyranny
By simple gesture of command—
A woman's hand.

Ah, but I hold in memory
The vision of a bended knee,
I still hear echoing through the land
Yells that were futile, foolish, and
I still feel coming down on me
A woman's hand.



"How well behaved Mrs. Goodstreet's children are." "Yes; she has left their bringing up entirely in charge of a governess."—Philadelphia Bulletin.

Tommy (on a visit)—"Do your specs magnify, grandma?" Grandma—"Yes, Tommy." Tommy—"Do you mind taking them off while you cut my cake?"—Tit-Bits.

Kind Lady—"And does your mamma let you go out alone at night, my little man?" Little Man—"Yes'm; maw ain't afeerd 't stay by herself."—Ohio State Journal.

Salute that mighty man, the fool!
Who else may wreck life's dearest joy
And what was built 'neath wisest rule
In one brief idle hour destroy?
—Washington Star.

Agnes—"Well, Ferdie has finally proposed. I knew he would." Ethel—"Why, you said you thought he had no intention whatever of proposing." Agnes—"Well, he didn't have."—Tit-Bits.

She (at the afternoon tea, to him)—"Oh, I'm so glad you came. Mamma says it's almost impossible to get any man who is half-way decent to come to an afternoon tea."—Town Topics.

Cholly—"Dickey was wun over and killed by a cable car, don't you know." Willy—"What horrid bad form! Everybody knows that the proper thing now is for your auto to blow up with you."—Judge.

Mrs. Horse—"Say—" Mr. Horse—"Say what?" Mrs. Horse—"When fall comes and our folks drive out to make calls, you'll have to wear a plug hat and I'll have to wear a velvet bonnet."—Chicago Record-Herald.

Crawford—"Did your wife have a good time in the country?" Crabshaw—"No; the only thing that reconciled her was the thought that she stayed away two weeks longer than the woman next door."—Town Topics.

The weeping heroine has fed—
The fainting heroine's no more;
For gain or loss, we have instead
One who talks epigram galore.
—Detroit Free Press.

"Life is nearly all strife and deception," said the mournful man. "That's true," answered Mr. Flatson. "When you aren't making a futile attempt to coerce the cook, you've got to be jollying the janitor."—Washington Star.

Auntie—"Don't you know, Bobbie, that it's very bad manners to put your knife in your mouth?" Bobbie—"Don't you think, Auntie, that it's very bad manners to stare at your guests when they're eating?"—Glasgow Times.

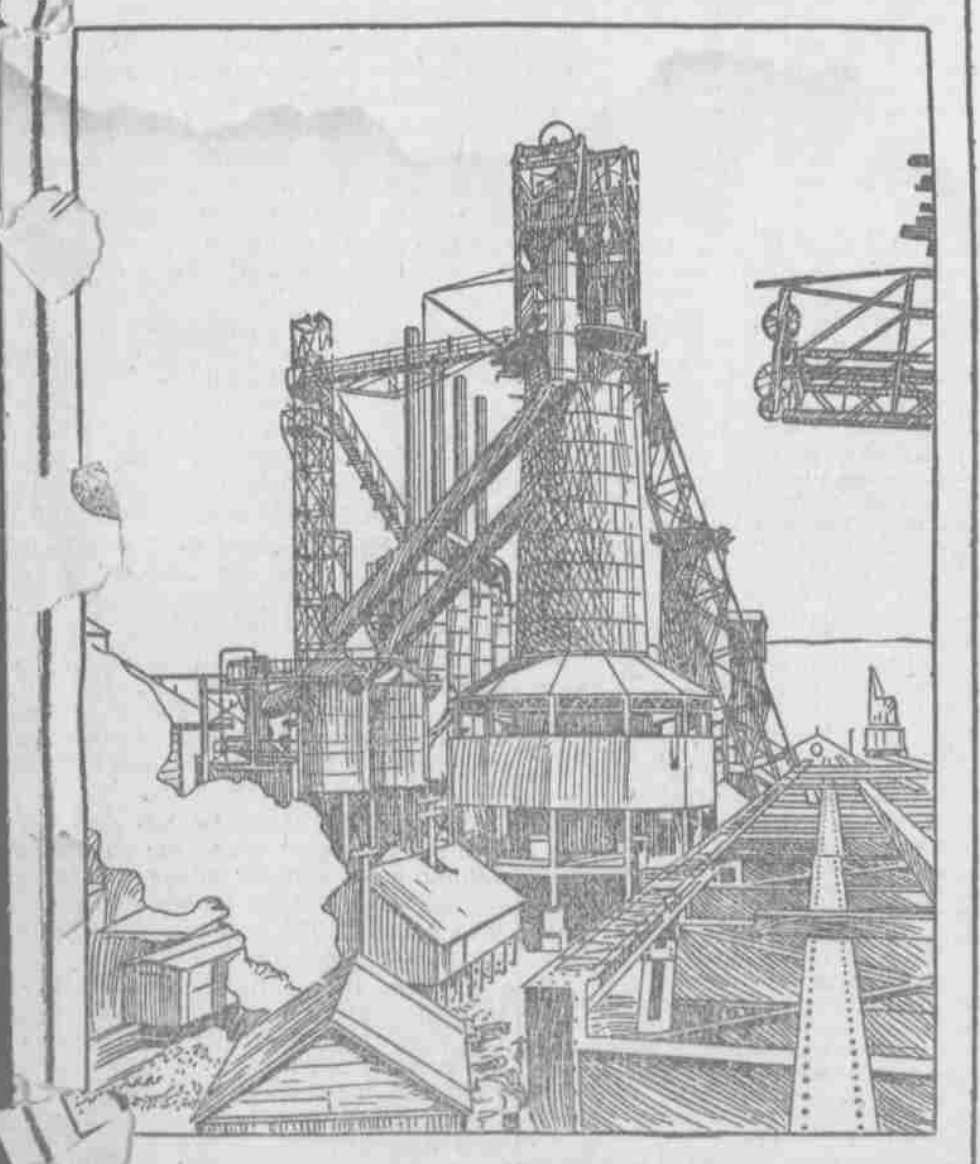
"Poor b'ye!" exclaimed O'Harra, condoling with Cassidy, who had been injured by a blast. "'Tis tough luck teh hav yer hand blowed off." "Och! Faith, it might 'ave bin worse," replied Cassidy. "'Suppose O'ld had me week's wage in it at the toime."—Philadelphia Press.

"What good does your college education do you if you can't carry a bowl of soup to a guest without putting your thumb in it?" said the summer hotel proprietor to the student-waiter. "Oh, well," was the reply, "you must remember I have two years more in college!"—Yonkers Statesman.

Deacon Jones—"So you have lost your husband, Mrs. Grimes? It is very sad." Mrs. Grimes—"Sad is no name for it. I don't believe any other woman ever had such a run of luck. He was my third, you know. I'm so discouraged I've about made up my mind not to have another."—Boston Transcript.

Some Australian Nicknames.

Australians have some queer nicknames for different States and for one another. The Queenslanders are dubbed "banana landers." Western Australians, now abbreviated into Westralians, are known as "sandgroppers." The Westralians class the whole of the other States in one group and call them "t'other side," and the inhabitants "t'other siders." Tasmania, so much like England in climate and other characteristics, is usually regarded as a little behind the times, and referred to as "the land of lots o' time," "the land of sleep a lot," and so on. Tasmanians are called "Tassies," also "jam eaters," jam being one of the chief productions of the "tight little island."



A MODERN BLAST FURNACE.

(Stoves in the background.)

how the disparity is not nearly so great. To witness a constant succession of the most stirring incidents and dramatic pictures to be found anywhere on the globe. The iron ore, coming from Nature's wonderful

until each has wholly lost its identity in one fiery boiling mass. The frightful heat of the blast furnace may not, perhaps, be better illustrated than by the fact that its blinding intensity is such that a person may not look steadily into this seething caldron even for a few minutes.

The furnace derives its name from