

FROM MINE TO FURNACE.

BY WALDON FAWCETT.

Men of affairs are wont to say that in the United States the condition of the iron market is the most accurate business barometer. Likewise has the most useful of metals grown the Yankee's best weapon in the "American business" of foreign markets. Every year finds larger shipments of iron and steel leaving the shores of the New World for distant lands and oceans, and from present indications it will not be long ere Uncle Sam is, in every truth, the iron master of the globe. The victory which is being won by the people of the greatest republic in this most important industrial field is not due to the superiority of the American metal, nor yet to the fact that in Europe nature's mineral riches are dwindling away, while the mines of Miss Columbia's domain hold an inexhaustible supply. The real secret of this magical supremacy is found in the cheapness with which iron and steel may be produced on this side of the Atlantic. Despite the high price of American labor, and thereby hangs our present industrial progress.



LAKE STEAMERS (WHARFERS) UNLOADING ORE.

The iron ore which forms the principal part of our hundreds of blast furnaces is obtained in part from Cuba, Nova Scotia, the Southern States and Colorado, but the vast proportion of it comes from that marvelous region the shores of which are washed by the high waters of the Great Lakes, and which over-extends goodly portions of the States of Michigan, Minnesota and Wisconsin. Connecting these mineral storehouses of the Northwest with the manufacturing plants of the Middle States is a unique transportation chain which enables the embryo iron more cheaply than freight is carried anywhere else in the world.

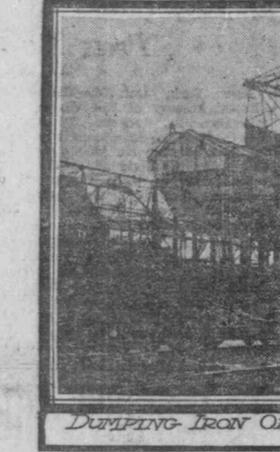
To carry the freshly mined ore more than 1,200 miles by land and sea and deposit it within a week after it has left the mine's shovel at the furnace, Pennsylvania and Ohio is in itself a marvel of twentieth century achievement, and yet it is not half so

wonderful as the vehicles in which the treasure is carried, of the giant machines, seemingly endowed with almost human intelligence, which load and unload it on ships and cars and enable it to make an "automatic" journey of one-third the distance across the continent without a stroke of manual labor being applied to it. Powerful mechanical shovels that load a railroad car in two minutes; ponderous arms of steel that relieve a ship of 30 tons of cargo at a scoop, and other engineering masterpieces are the "transport agents" on this up-to-date highway, and from the time that the bulky raw material leaves the hills of the northern wilderness until it is set down in the smoky valleys leading up from the Mississippi River, not a human hand touches it.

Each of the iron ore which comes from the famous "Lake Superior District" is not obtained from cave-like tunnels such as constitute the ordinary type of mine, but from great, open pits from which it is scooped up just as sand is secured in a siphon. In the case of the iron ore, however, there is a valuable consideration, and so the scooping is done by the so-called steam shovels, each of which costs upward of \$100,000, weighs as much as a locomotive and does the work of eight one hundred men. In appearance the steam shovel, very much resembling a large excavator, with a

long arm protruding from one end, and terminating in a steel bucket which can hold tons in its clutch. By means of oil-lined railroad tracks, the steam shovel is enabled to descend into these huge holes in the ground—sometimes half a mile across—known as "open pit" mines, and a few feet of the capacious scoop of a mechanical shovel—each trip occupying seconds where one would expect minutes—suffices to fill the largest size railroad car.

The first stage of his industrial majesty's



DUMPING IRON ORE AUTOMATICALLY.

long wooden boxes built out into the lake a distance of from one-half to one mile, and on either side of them the boats tie up broadside. In the placing of the bulky raw material on board the vessels, alike to the other transfers on this magical journey, human hands are not used. Gravity is the all-sufficient power. When a vessel is in place alongside an ore dock her hatches are opened, and into the hold there pours steady streams of the bi-colored mineral from perhaps a dozen different bins in the big dock, and within three or four hours the biggest of the lake ships has had her fill and is ready to be away.

These freighters of the inland seas, by the way, which play so important a part in the drama of iron, are vessels without a counterpart on any of the other waters of the globe. The hundreds of vessels which move to and fro carrying the ore from mine to furnace comprise the greatest fleet engaged in any one traffic under the American flag. In the eyes of the person accustomed only to oceanic or river craft they are very odd in appearance, for the bridge, mast and decks are huddled together at the extreme

forward end of the boat, while the engines and propelling machinery are located at the opposite extremity. They have been built in this way, however, in order to facilitate the working of the marvelous machinery which hoists the ore out of the hold when the ship has reached her destination.

This unloading apparatus constitutes the very climax of achievement in the fashioning of mechanical marvels to do man's work. There are several different varieties of the time-saving and labor-saving utensils, but the most wonderful is what is known as the "automatic unloader," although, to be sure, it is deserving of a more romantic name. Each machine weighs as much as a railroad accommodation train and does the work of dozens of men. A great iron arm looks very much like a miniature suspension bridge, supported in the middle instead of at the ends, is moved out until it overhangs the ship to be unloaded. Then the end over the vessel descends after the fashion of a sea-saw and lowers into the hold of the ship a clamshell bucket in which several men might sit comfortably. The iron jaws are spread wide apart as the bucket descends, and at the swinging of a lever by an operator standing in a small cage directly above

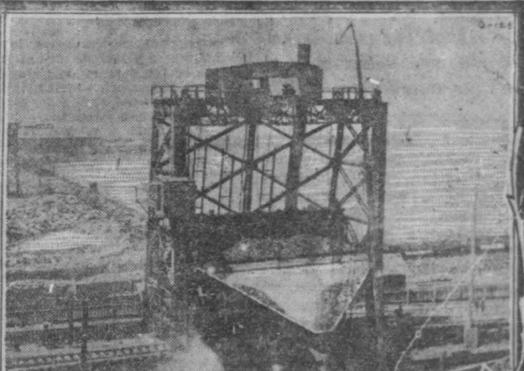


GIANT CANTILEVER CRANE FOR COAL AND IRON ORE HANDLING.

ple to the mechanical rollers employed to remove the ore from the lake ships. Then, too, car dumpers are utilized to empty the contents of the ore cars in double-quick order into smaller cars, which are whirled away the months of the furnace.

The introduction of these marvelous workers in one of the most perilous of activities has happily resulted in a tremendous reduction in the loss of life in the iron industry. In no phase of the work, however, has danger been so completely banished as in the once-deadly task of feeding to the blast furnaces their continuous diet of ore and coke

and limestone. In the old days men stationed at the top of the furnaces to pour in these ingredients of iron making were time and again overcome by the gases which escaped when the lid was lifted from the furnace and fell headlong into the scorching cauldron. In the new era, however, there are no men at the top of the blast furnaces. Instead the ore and coke and limestone are sent aloft on a novel inclined railroad, and by an ingenious arrangement the arrival of a load of ore at the top is the signal for a lifting of the lid of the furnace and the material is dumped automatically into the set of flames



CAR DUMPING MACHINERY FOR QUICK UNLOADING.

doors of the blast furnaces where its transformation is to begin, but more often it must make a railroad journey after leaving the ship in order to reach its destination. Connecting the unloading docks on Lake Erie—the greatest ore ports in the world—and the manufacturing plants of the "Pittsburg district"—the fountain head of the stream of American iron now overspreading the globe—are special ore-carrying railroads quite as remarkable as those which connect the mines with the ports of departure on the upper lakes. When it is unloaded from the steel steamers and low barges in which it has been brought down the lakes the iron ore sets out on the final stage of its journey behind the most powerful iron horses ever constructed. Each of these locomotives weighs, with the tender, nearly 300 tons, and can draw several dozen of the biggest car bodies ever set on wheels.

Arrived at the blast furnaces the ore is taken in hand by yet other wonderful machines. Some of them—hoisting and conveying apparatus for transferring the newly arrived ore from cars to the storage piles and later from the storage piles to the always hungry furnaces—are very similar in principle

to the mechanical rollers employed to remove the ore from the lake ships. Then, too, car dumpers are utilized to empty the contents of the ore cars in double-quick order into smaller cars, which are whirled away the months of the furnace.

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THE BEAUTIES OF THE DIPLOMATIC CORPS.

BY WALDON FAWCETT.

Our national capital has been denominated the most cosmopolitan city of the New World. Perhaps from one standpoint the correctness of this claim might be questioned, for, to be sure, Washington has no great "colonies" of other nationalities, such as are to be found within the confines of the metropolis, but certain it is that no other city on this side of the Atlantic is a rendezvous for social leaders from so many lands and climes as are assembled at Uncle Sam's seat of government. The fact that it is the capital brings these people to Washington, for every government of any pretensions on the globe now maintains its regularly accredited envoy or agent at Miss Columbia's court, and these diplomats, in most instances, bring with them to this country the ladies of their households.

Some of these official guests tarry in the land of the Stars and Stripes for but a few months, while others have been here for half a dozen years, with every prospect that they will remain that much longer. It is a unique and most interesting congress of beauty, which is made up of the wives and daughters and sisters of the statesmen who come to wrestle with the international problems that affect the greatest of republics. At present 37 nations are represented in the diplomatic corps, as this branch of officialdom is termed, and in most instances the representation includes one or more members of the fair sex. There are women whose marvelous complexions proclaim an outdoor life in Europe's most climate; brilliant hostesses with gowns and conversation Parisian; almond-eyed Chinese ladies of high degree, and veiled and closely guarded beauties from Turkey, to say nothing of belles from that gayest of capitals—Vienna—and daughters of sunny Italy. From the Pan-American republics come dark-eyed senoritas, with the rich olive complexion and high coloring of the Latin races, and from Japan and Korea quaint bits of femininity, who are among the first to profit by the era of greater freedom which has lately dawned for the women of their race.

Among this great galaxy of the gentler sex from all quarters of the globe who are making their home temporarily in Washington are many who would attract attention anywhere by their beauty. It may, however, be a source of satisfaction for her countrywomen to know that the highest honors in this international salon of personal charms are carried off by an American woman—Baroness von Sternburg, wife of the German Ambassador. Whether or not it be true that all the world loves a lover, certainly it is patent that all womankind takes the greatest interest in a bride, and thus the pretty young mistress of the Kaiser's diplomatic establishment in the United States has a potent factor of concern with which to supplement the admiration for her beauty, since it was little more than two years ago that Miss Langham, a native of California, and claimed by Kentucky, was wedded to the young Teuton diplomat who had long enjoyed the close friendship of President Roosevelt.

Baroness von Sternburg is of medium height and very graceful. She is a blond, her hair being tinged with a touch of auburn and her violet eyes are shaded by long black lashes. Her features are delicate and regular and their beauty is accentuated by perfect complexion, clear and exquisite, tinted. The Baroness spent most of her girlhood in courtiers in Europe, but her love story began when she was crossing the Atlantic to visit her people in the United States. It wasn't a love story without any distressing moments of uncertainty as to the outcome, either, for the German government, which has a fatherly interest in the welfare of its officials and demands good-sized dots for its young men, was not a bit taken with the idea of giving one of its cleverest diplomats to a girl whose only dower was the fairest of faces. However, obstinate governments, like obtuse fathers, do relent sometimes, and so it happened that the international romance had a "happy ever after" ending.

In direct contrast to Baroness von Sternburg is personal appearance, in tastes and in manner is another great beauty of the Diplomatic Corps—Countess Marguerite Cassini, the-bearse young mistress of the Russian Embassy. The Countess, who is not the wife of the Ambassador, but is adopted daughter, is possessed of many of the elements of attractiveness which render the Russian women so fascinating and yet she cannot be said to be a typical Russian beauty, for most of the belles of the Czar's domain are blondes, whereas the chic chateaux of the ambassadorial household at Washington, is a most pronounced brunette. However, she has the superb complexion, fine teeth and splendid carriage for which her countrywomen are famous and far from being out of keeping, her wealth of glossy black hair and large, expressive, dark eyes add just the requi-

at once every afternoon. But for all her gaiety, her frivolity, her love of life and activity, her superabundance of energy and enthusiasm, Countess Cassini has a serious side which makes her in many respects the most remarkable girl in America. If inclined to doubt this just consider that this girl of little more than 20 years speaks seven languages and discharges all the social responsibilities of hostess of an important household with the skill and tact of the veteran campaigner of the smart world. Baroness Hengelmuller, wife of the Austrian Ambassador, was one of the famous court beauties of Vienna before she came to make her home in America's capital. She has been here longer than most of the other leaders of the Diplomatic Corps, having resided in Washington for fully nine years and it is said that no other foreign hostess in officialdom has so extensive an



BARONESS HENGELMULLER, WIFE OF AMBASSADOR FROM AUSTRIA-HUNGARY.

acquaintance in social circles in all the leading American cities. The Austrian Ambassador came to the land of the free, a bride. Baron Hengelmuller is her second husband and she was married to him in Dresden only a short time before she was selected to represent his country at Uncle Sam's hub of public affairs. Although a Russian, or, rather, a Polish woman, Baroness Hengelmuller fulfills every ideal of the much-admired "Irish type" of beauty. The dark hair, blue eyes, brilliant coloring and graceful yet piquant nose are all



MADAME JUSSARA, WIFE OF FRENCH AMBASSADOR.

hers. She is tall and statuesque, and notably one of the most artistically gowned women in the Diplomatic Corps. It may be noted, by the way, that in no other realm of public life is such store set by fine clothes. At the approach of warm weather each summer the beauties of the Diplomatic Corps fit to Europe, but it is not half so much for a vacation or a rest as to procure from the veteran campaigner of the smart world, Baroness Hengelmuller returned from abroad a few months since she brought fourteen trunks whereas, Countess Cassini brought in 25 trunks. These women are more lucky than their American sisters. Following the world-wide custom, Uncle Sam does not ask the diplomats to pay duty, and thus an envoy's wife or daughter may make her money go farther than can her Yankee rival.

When it comes to a discussion of beautiful costumes, however, we must not overlook the treasures of the sister and daughter of Sir Cheungang Liang Cheng, the new Chinese minister. These ladies—the daughter is only sixteen years of age—have silks and satins richly embroidered which will be the envy of any American woman, and alike to most Chinese women of high social status, they have most magnificent jewels, fully rivaling, in fact, the famous pearls and diamonds that sparkled in the velvet headdress of Madame Wu, the wife of the former Chinese minister.

Baroness Sternburg is not the only beautiful American in the Diplomatic Corps at Washington. A considerable number of American women have within the past few years married foreign diplomats, but it is unusual, that so many of them as at present are permitted by their husbands' duties to make their homes in the capital of their native land. One of the most prominent of these American women is Madame Jussara, the wife of the Ambassador from France. The romance of this distinguished Frenchman and his American wife is assuredly not a case of the attraction of opposites, for the husband is rather under medium height, while Madame Jussara is not tall, and both have very dark hair and eyes. Baroness Helen von Giskars,

the American wife of the first secretary of the Embassy of Austria-Hungary, is beautiful enough to attract attention in any assembly, and a lavish heritage of good looks is the possession of Baroness Mouchet, the wife of the Minister from Belgium. She, too, is a bride. Her father, Gen. Powell Clayton, is United States ambassador to Mexico, and it was while making her home in the City of Mexico a few years ago that Prince Charmant appeared in the person of the titled Belgian.

The claim that the women of the Pan-American republics lose much of their beauty comparatively early in life is assuredly not borne out by the appearance of the members of the gentler sex in the households of the envoys from the Central and South American republics. There is in Washington no matron of more attractive appearance than Senora de Apriza, the wife of the Ambassador from Mexico. Not is she alone in the enjoyment of this distinction. There is Senora Calderon, the wife of the Minister from Peru, who, though the mother of seven children, has a face well nigh as youthful as that of her elder daughter, and Madame Pezel, of the same legation, a representative of the Spanish type of beauty in its highest refinement.

Many persons hold to the belief that the typical Italian woman should possess something of that wild, dark, picturesque beauty supposed to be characteristic of the Latin race, but it must be admitted that Signora M. de' Fiori des Pinaiches, the wife of the Italian ambassador at Washington, affords scant trace of it. By the casual observer she might be mistaken for an American woman. She and her husband are cousins, and spent their childhood in the same house, growing up almost as brother and sister. A storm of opposition greeted their desire to marry, but the young people were very much in earnest, and in time the little god of Love came out triumphant. WALDON FAWCETT.

of their own. They start out in the evening just before dusk, and each one carries a lantern and a long stick with a piece of red cloth tied on the end.

When he reaches a pool the frogcatcher shows his light, and the frog, attracted by it, hops toward it. Next the man lightly drops his cloth upon the water, and the frog, thinking something good is coming, snaps at it, and so catches its teach in cloth. It cannot get away, and the frogcatcher catches it without any trouble.

POINTS.

- The rye crop last year, with an acreage of 1,900,894, yielded \$15,905,871.
- The barley crop last year, with 4,993,137 acres, brought to the farmers \$69,166,313.
- The number of ants in a nest varies from 12,233 to 93,024. These figures are from a recent count of five nests.
- The income of the British postoffice from money in envelopes having no or insufficient address is \$50,000 or \$55,000 a day.
- Austria imports less agricultural machinery per square kilometer of agricultural land than any other country in Europe.
- There is a point near the famous Story Cave, in the Catskill Mountains, where ice may be found on any day of the year.
- The Borough of Fulham, London, by the use of its garbage in the furnace of the municipal electric lighting plant, makes a profit of \$3,442 a year.
- Mexico is practically a virgin field in the matter of advertising, and the American exporter who pays adequate attention to it is the one who will win the lion's share of business.
- The French Army was discovered that bees can be used as messengers in time of war. One has flown four miles in 25 minutes with a message. When liberated they will return to their hives, just as a carrier pigeon will return to its loft.

Frog Catchers in Paris.

French people, you know, are very fond of frogs, and, as they eat only the hind legs, a great many are needed to supply the demand. Consequently frog catching is quite an industry. In some places frogs are caught by means of nets, but in Paris the men have a method



BARONESS STERNBURG, AMERICAN WIFE OF GERMAN AMBASSADOR.