

ENORMOUS MINERAL DEPOSITS ON THE CONGO-ZAMBESI WATERSHED WHICH MAY AFFECT THE WORLD'S MARKET

SAWING LOGS FOR THE MINES. THE HILL BEHIND IS SOLID ZINC.

HAVE you heard of the mountains of copper which are now being developed just above here, in the territory higher than the State of Ohio, and they consist of two great belts 200 miles long. So far more than 100 copper mines have been discovered, and the mining engineers say that there are already more than 2,000,000 tons of copper in sight. They estimate the value of the ore exposed at over \$2,000,000,000. In the same regions there are tin mines running through a belt of more than 150 miles. The tin is high-grade, carrying the value of \$139 to the ton, and that in sight is estimated at \$1,000,000. In addition to this there are gold mines which are now yielding 100 ounces a month, and the gold carries platinum and palladium of high grade.

The Tanganyika Concession.
These wonderful deposits are in what is known as the Tanganyika concession, a tract of country in the Congo Free State just across the Rhodesian border. They belong to the King of Belgium and a syndicate of English capitalists, led by Robert Williams, who was practically the discoverer of the mines and who organized the company eight or nine years ago. Mr. Williams became interested in the mines of Northern Rhodesia, and he got from Cecil Rhodes the right to locate 100 mining claims with the provision that the Chartered Company of British South Africa was to be entitled to 25 per cent of all the minerals found. Mr. Rhodes was induced to give the concession because he wanted a steamboat on Lake Tanganyika to enable him to push his Cape to Cairo Railroad scheme, and I am told that Mr. Williams furnished the boat. Among the first deposits discovered were those of the Kinshanshi copper mines, in Rhodesia, not far from the Belgian border. These have already been developed to the depth of 400 feet and it has been decided to erect a smel-

ter there which in about two years will be yielding several millions of dollars per annum in prospecting about Kinshanshi. Mr. Williams got the idea that there might be important finds over the border. He took his mining engineers and went out in the Congo Free State and there found these enormous deposits which promise to revolutionize the copper markets of the world. He then went back to London and formed his syndicate. A concession was gotten from King Leopold by offering him and certain Belgian capitalists 56 per cent of the stock. Since then the mines have been partially surveyed and a railroad is now building which will connect them with the Atlantic in Portuguese West Africa. The capital stock is only \$4,000,000, but the possibilities of the company are far beyond those of any other of the great mining syndicates.

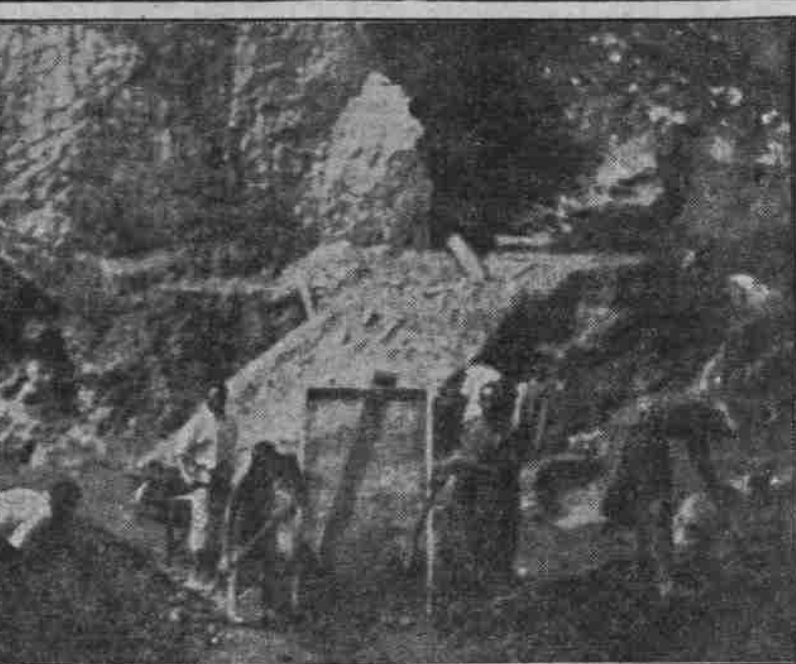
Continent Roofed With Copper.
These mighty deposits form a copper roof to the lower part of the African continent. They lie on the height of land between the Congo and the Zambezi, and in that correspond to the enormous mineral deposits on the height of land of our continent. The great ridge of North America comes to its top just north of the Congo. A little farther north the ground begins to fall toward Hudson Bay. On that ridge are the nickel mines of Sudbury, containing the greatest bodies of that metal known to the world. A little farther east are the immense silver deposits of cobalt, the metal lying in veins on the very top of the rocks and so close to the surface that you can pick them up. Below on both sides of Lake Superior are the enormous deposits of iron belonging to our steel trust and also the famous Calumet and Hecla copper mines, which were for a long time the richest of their kind in the world.

A similar wealth of minerals exists on the great ridge of South Africa. Northern Rhodesia is peppered with copper and iron. Here at Broken Hill are hills

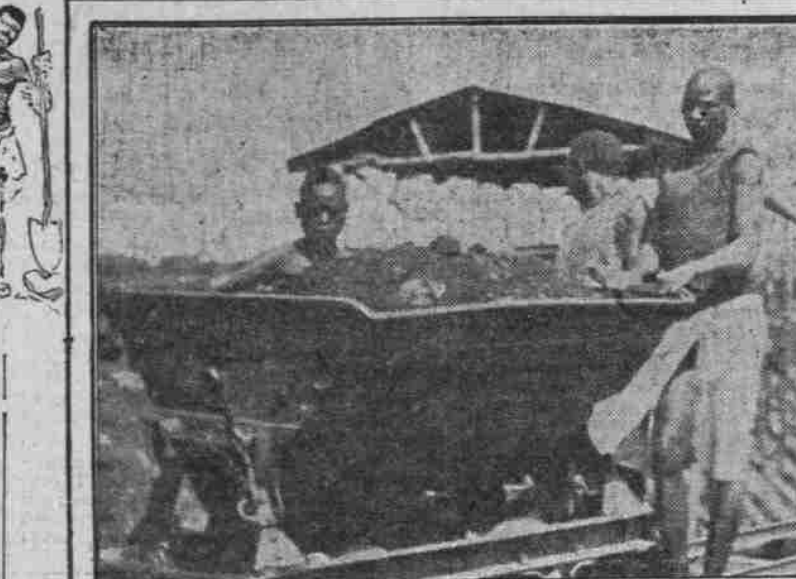
of lead and zinc, which I describe further in this letter, and the syndicate which owns them has found 6000 different deposits of valuable minerals in this colony. The ore seems to grow richer and richer about the edges of the ridge, and over in the Congo possessions the whole country near the border is highly mineralized. I am told that the natives there have been mining copper for generations past. They use smelted ore and have wrought from it their hoes, spears and axes. Some of the implements made by the natives are shown here. Both handles and blades are made of solid copper. I have a copper axe before me as I write and a copper hoe stands by my side.

On the Congo watershed the copper lies right on top of the ground. The mines can be worked like quarries and they will probably be handled with steam shovels when the railroad from Fort-rose West Africa is finished. The ore used by the natives comes from Little Zulu which have been dug in the mountains. They have their own furnaces and move them around near the Congo. One of the chiefs has a large number of men and women at work and is producing a number of tons of copper a year. Speaking of the copper being on the height of land, while I was in Khartoum, in the Egyptian Sudan, I learned that there are rich mineral deposits on the Congo and the Nile, and it may be that a wealth of copper and iron exists there.

Copper, Gold, Tin and Iron.
So far the minerals found on the Zambesi-Congo ridge are copper, gold, tin and iron. There are large deposits of stream and quartz tin. At Buluwayo I was shown tin nuggets the size of walnuts which came from the Congo. Tin and also bars of pure tin which had been smelted there. At the present time only the smallest of furnaces can be used, as the only motive power is in a hotel, which is regulated by what two men can carry. It will be impossible to do much with the



QUARRYING COPPER IN THE BELGIAN CONGO



LEAD MINERS AT BROKEN HILL

mines before the railroads are constructed. The most of the gold which has so far been taken out comes from placer deposits. The grains range from a man riding the size of one's finger, and they are absolutely pure. Something like \$300,000 worth has been washed out. As to the copper, it is of a high grade. The average is from 13 to 15 per cent pure, and there is one place at Katanga where the ore runs as high as 35 per cent copper, and there is said to be any amount of it which runs 20 per cent. The ore at the Rio Tinto mine, which is the richest in Europe, contains only about 3 per cent of copper, and it is said that this African ore, even if it ran as low as 6 per cent, would, notwithstanding the great cost of transportation and treating, yield a profit where copper sells over \$300 per ton. So far all estimates make as to the value of the copper here take into account only that above water level, and if half the statements are true, the deposits must be worth far more than any others on the globe.

New Trans-African Railroad.
The King of Belgium and his associates of this syndicate are now building a railroad from Portuguese West Africa across the continent to these mines. This road will be about 1300 miles long, and less

than 200 miles of it are already constructed. It begins at Lobito Bay, near Benguela, in about the center of the province of Angola, and runs through the lowlands, a short distance, climbing the hills. The grades go up almost a mile in the first 200, and the road will pass over three ranges of mountains before it gets to the African plateau. It will cost altogether \$35,000,000 or \$40,000,000, but it is estimated that it will annually carry minerals of the value of \$60,000,000, in addition to its local traffic, which will probably be considerable. Lobito Bay, where the road starts, has a wide and deep harbor. There is already quite a few there. The railroad has its offices, and there are warehouses, restaurants and a hotel. The company has created a hospital. It will build steel plants and the Cape to Cairo road, which is planned there, will have its connection with the road which the Germans are now building from Dar es Salaam, across German East Africa to Ujiji, so that one will be able to go across the continent from west to east by steam. Long before this Lobito road is com-

pleted, these copper mines will probably be shipped out over that road by way of Capetown or Beira. The Cape to Cairo syndicate has already surveyed the line of track from Broken Hill to Mabaya, an important point on the Congo frontier. This is 200 miles from Broken Hill, and the understanding is that the copper syndicate will continue the line from there through the copper belt to Ruwe.

Prospecting in Rhodesia.
The Rhodesia Copper Company, which operates the Broken Hill mine, has a large number of properties scattered here and there over this part of the world. Not long ago it had 600 claims registered, and these were mostly lead, copper and zinc. There is plenty of iron about here, and many of the streams carry some gold. Broken Hill has several mining engineers and a number of prospectors. Prospecting in Rhodesia is far different from the same business in our country. Our mineral regions are usually broken and mountainous. In Northern Rhodesia the country is comparatively level and there are but few outcroppings. From December to May the land is covered with grass, which reaches so high that a man riding on horseback through it cannot be seen at a distance of 100 feet. This is in the wet season, when it rains so heavily that it is impossible to travel the roads or to examine the surface of the ground. It is only when the rains are over that the prospecting begins. The

or tunnels have been run through it on a level with the plain, and there is nothing but lead and zinc all the way. The lead is mostly lead, and the zinc is pure, and the zinc runs over 8 per cent, the whole containing high values throughout. By means of a diamond drill the mine has been taken to a depth of 100 feet below the surface, and the drill is still in the ore. Borings in the plain two miles to the southeast and northwest have disclosed ore equally rich.

Little Zinc Mountain.
After leaving the hill I went with Mr. Donald, the mine manager, to another about a half mile distant over the plain. This is known as Hill No. 2. It is 90 feet high, containing about four times as much ore as the surface of the hill I have mentioned. It ore is almost altogether zinc, the main body containing 35 or 40 per cent of that metal. A wide vein of reef takes up the greater part of the hill, and the remainder is composed of leachings from this body. Ten thousand tons of ore have already been taken, and the pockets near the reef, and it is calculated that the main body has more than 400,000 tons of zinc, and that there are 300,000 tons of lead above the reef level, which occurs at 15 feet below the surface.

In addition to these two hills there are five others here—all of them mightily nuggets of lead or zinc rising above the surface of the plains. Indeed, the managers of the mines tell me they have enough ore in sight to keep them busy for five years if they were smelting at the rate of 100 tons per day.

Among Miners.
I have spent some time here going about among the native miners. There are 400 at work, under the charge of 22 white foremen. The natives are Bantu negroes from the tribes of the vicinity. They are small in stature, but they are said to be good workmen, and they do their work with a steady supply of cheap labor. The wages which are now paid are only 8 cents per day, to which must be added the cost of food and clothing, bringing the labor charge for each miner up to 25 cents. These natives have a village of their own some distance from the European quarter. It consists of a hundred or so clay huts running around a court of five acres. Each hut accommodates five or six natives, and not a few of them have their wives with them. Their food is cornmeal, each man being allowed three pounds per day. The meal is made from Kaffir corn and it is ground by a portable engine right at the mines.

White Settlement in Mid-Africa.
As to the white officials and their assistants, they live quite comfortably. One of the best of them is in the black continent. Their town is right in the wilds and a half day's ride will give them almost any kind of big game. They have built comfortable bungalows built of brick and native mud made of limbs chinked with clay from the white ant hills nearby. They are thatched with straw. I understand that these native huts are more comfortable than the bungalows. They have only holes for windows, so that the air can always blow through. Their roofs are conical and so thick that the sun cannot penetrate them. They rise 15 feet above the walls and extend out over them so that they are safe from the rain coming in. The bungalows have roofs of galvanized iron, which make them hot at midday. Many of the native huts are equipped with hammocks, beds and easy chairs. Some of them have other little bits nearby, which serve as kitchens and as the homes of the black servants. Completely few of the miners board at the hotel. Several have their wives with them, but they are housed in the bungalows, which are surrounded by gardens and lawns, and the climate is as well here as in the mining regions farther south. Broken Hill, N. W. Rhodesia.

Everyone Must Be Tipped

What the Tourist Is Expected to Do When He Travels in Germany.

GENERALLY speaking, no one in America except the waiter expects a tip; in Germany every one does. Ignorance of this leads to all sorts of trouble between foreigners and natives in both countries. To try to tip gets the foreigner in America into trouble. To fail to tip or to refuse to tip gets the foreigner, and particularly the American, into trouble in Germany.

Not long ago a writer for the New York Sun met an American in the smoking saloon of a Hamburg-American steamer. He was on his way home after visiting Germany for the first and, as he said, the last time.

"I hate the country and the people!" he declared at intervals. "A bunch of snobs and beggars!"

The trouble arose almost entirely from the fact that the American did not know when, where and how much to tip. An experience happening to him in the famous Cafe Bauer in Berlin on the avenue Unter den Linden will serve as illustration.

"I was sitting with a party of friends," he said, "and as it was time to get on with our sightseeing I signalled the waiter that I wished to pay. It took a mighty long time to catch his eye, but that's by the way.

"When he did come, instead of taking the money himself he called another waiter—they called him the Oberkellner, bow waiter, I suppose. I was a bit surprised, but I paid him and he gave me change, at the same time looking hard at me, evidently for a mark. I took a mark, about 20 cents, I guess, over to the waiter who had brought us the goods. But what do you think? Why, he shoved it over to the bow waiter.

"What's that for?" says I.

"That's for the Oberkellner," he says. "I'm not allowed to take it."

"Do you think I let it go to the Ober chap?" Not me!

"Look here," I says to the Ober. "I've never seen your ugly mug before and I don't want to see it again and you've done nothing for us. And with that I pocketed the coin and we all went away."

"And did the Ober say anything?" one of his hearers asked.

"Yes, he did, but I didn't stay to hear what it was nor what the Germans said either, who were all standing up and watching the whole performance."

The same man told of another tipping experience of his. This time it was in Hamburg. He was pretty well served at the hotel there, it seemed, and after a two-day stay his bill came to about 13 marks.

"I was well looked after," he said, "and handed out 15 marks in tips."

These two incidents are good examples of the behavior of large numbers of foreigners, especially Americans, who when

traveling in Germany, indeed everywhere on the Continent, either tip too little or tip too much. In both cases they do a lot of harm without knowing it.

In the first case they make bad blood between the two peoples and leave a very bad impression about their countrymen and their countryman's manners and disposition. In the second case they put down their fellow countrymen. Not to come after them in a false position, for if they do not tip on the save extravagant scale they are considered mean and treated accordingly.

It is simply a matter of ignorance of the custom of the country, and a very excusable ignorance, inasmuch as tipping in a country is a science which it takes a good deal of miscellaneous experience in that country to learn. Here are some pointers for the use and guidance in Germany of those who have not a determination not to tip at all or with a general idea they will tip according to the service rendered, as will more do, giving not the other fellow in receiving.

In a second-class hotel the tips may be lowered as around even as much as 50 per cent, but in that case don't expect to carry any popularity away with you.

The hotel is not yet completely done with, for during a long stay the hotel people are sure to be called on to render you miscellaneous services. There is a lady, for example, who takes your coat and hat at the entrance to the hotel restaurant. Here also an emerging is an opportunity for parting with 30 pfennigs. Your wife similarly will often find such opportunities. They call for 20 to 50 pfennigs.

The general rule of the restaurant is that the tip should be 10 per cent on the bill, and it is a good rule where the party is small and proportionately the reckoning small too. On a bill of three marks, for example, you tip 30 pfennigs, of five marks 50 pfennigs, which is enough up to 10 marks. From 10 to 20 marks one mark will do.

Above 20 marks to say 30 you must be drinking champagne, and in that case, certainly when French champagne, not German, imports a certain nobility and grandeur into the occasion, you will be expected to be filled by nobler and grander sentiments than usual and disposed to tip accordingly. Here, indeed, the 10 per cent rule would apply, for a three mark tip on a bill of 30 marks for two or three people would satisfy the waiter as nearly as a waiter is capable of ever being satisfied, but if the party is large, say six or seven, and the bill is over 50 marks you will be expected to distribute about 10 marks.

Never let yourself be imposed on by the fine surroundings of a chic Ger-

man restaurant or by the gorgeous dress of the waiter in them. Stick to the 10 per cent rule, and when the bill is between 50 marks and 100 marks give 10 marks. After 100 marks you must be a millionaire and can act as you please. No tip is too large for the "numbers racket" from an American millionaire.

When railway traveling carry with you several 50 pfennig pieces for porterage. Fifty pfennigs is usually too much and a German would probably give 25 or 30, but nickel coins are inconvenient and confusing to carry and the foreigner is always expected to carry the money. It is better that the foreigner is considered to be naturally more generous than the native, but that he knows less.

One of the strangest phenomena of tipping in Germany is that it is common on Berlin streetcars. The fare is almost invariably two cents (10 pfennigs). As a matter of custom one person of every three gives the conductor a cent (5 pfennigs) for himself, and nearly every well dressed woman traveling alone does. The reason may be that streetcar riding is regarded as remarkably cheap, though another explanation offered is the desire to have the conductor on your side in case of a streetcar row.

At every one in Germany dependent on the tourist industry expects a tip, however small, and that where eating and drinking in hotels and restaurants are concerned, 10 per cent on the amount of the bill is a golden rule.

Put Up the Sword.
James Jeffrey Roche in the Century. I have sung of the soldier's glory As I never shall sing again; I have gazed on the shambles grey, I have smelled of the slaughter pen. There is blood in the ink well dotted, There are stains on the laurel leaf. The "numbers racket" is a thing that never shall die, With the tears of a needless grief. The bird is slaughtered for fashion, And the beast is killed for sport; And never the word compassion. Is whispered at Moloch's court. For the parent seal in the water, The party small and proportionately, Her beauty sister or wife or daughter, Her son may be beautiful, And the merciful thought we smother— For such is the way of man— As we murder the useless mother For the "numbers racket."

But a season of rest comes never For the patient sport of all, Will his patience endure forever, Who noteth the sparrow's fall? When the volleys of hell are sweeping The sea and the battle plain, And never to wake again? When hunger and ravenous fever Are slaying the wasted frame, Shall we worship the red receiver, Do you think our God is sleeping? We may win the center to cover The odor of blood—in vain; God asks us over and over, Where is thy brother, Cain?

Gentle Art of Sating Mines

Modern Catch-as-Catch-Can Methods With Personal Equation Important.

IN the development of the mining districts of the West there has been always a good supply of suckers, and the sale of salted mines has been the result. That there is "a sucker born every minute" is recognized by the mining shark, says the St. Louis Globe-Democrat, and it is probable that in the new mining camps of Nevada the sale of salted prospects goes merrily on.

For those to whom the term is new, it may be said that "sating" is the process of making a worthless mine, or prospect, appear valuable to the prospective buyer.

One of the most successful methods of sating a placer mine was the broadcast drill. In carrying out this scheme the owner or his agent comes to the mine in the small hours of the night and sows several thousand dollars' worth of gold dust in the gravel, and the next day the buyer is around every day, seeing things with his own eyes, and when he sees a clean-up of several thousand dollars' worth of gold, he is convinced, and the deal is made.

It will take him just two days to find out that he has been sated, and that the gold he saw was practically all the gold there is in the claim. In the meantime the former owner has had plenty of time to make a good get-away to pastures new.

The shotgun method of sating a placer mine is the favorite method of writers of mining stories. It is not in use at present, and it is likely that its use has been greatly overrated. However, there was one case in which it was used with good results to all parties concerned.

Two Englishmen were working a placer mine in California. They had washed the gravel until they could get no more gold, and were preparing to abandon their claim, when they heard of two Chinamen, the Chiamen, and arranged to go out and look at the mine. They did not have time to return to the mine, so decided on a novel plan of sating.

They had killed a rattlesnake the evening before and had thrown it into the cut, and when they went out to the mine one of the Englishmen kept a little ahead of the others. When he arrived at the cut he let out a warwhoop and fired both barrels into the snake, filling the gravel with gold dust. The scheme worked to perfection.

The Chinamen were suspicious and insisted on taking their own samples. They took samples in several places, and the Englishmen kept a little ahead of the result. They offered the Englishmen \$100 for it, and after a little haggling the deal was closed.

The Chinamen went to work the next day, and their first month's work netted them about \$25,000. Another day's work and the Englishmen would have struck it.

But even the sucker becomes wise in

time. Buyers now insist on taking their own samples. They insist on drilling holes and blasting out the ore and picking their samples out of the ore they have mined themselves. But in spite of all these precautions they are often sated.

Sometimes the face and sides of the ore are drilled with a very fine drill, called a needle drill. The holes thus made are filled with a mixture of quartz sand, gold and plaster of paris. When the prospective buyer comes along he is allowed to have his own way about sampling the mine and gets the sated sample.

Another sating method which was used in the Cripple Creek district, is the tin can method. In this the sucker drills the holes and takes his own sample from the rock he has mined with his own hand—but, alas! only to be sated. The innocent looking tin can picked up on the dump and used to water the hole while drilling has been generously "doped" with chloride of gold by the seller.

One of the crudest cases of sating was perpetrated by an old negro on two United States Senators and a banker. These men had all had mining experience, but they thought the negro was an expert on the rock he had mined.

One day a negro appeared at the bank and asked to see the owner. He was asked his business, and produced an assay certificate showing an assay of several hundred ounces per ton silver. He was ushered into the back room and a messenger dispatched to the assay office to verify the certificate. It was found to be correct, so the negro was held while the three capitalists had a consultation. It was decided that on the next day the negro and sample the prospect.

The negro was held until next day, when he went out with the Senator and the banker. The samples assayed even better than the first ones. The negro wanted \$10,000 for the mine, but they brought in a lot of gold coin and wanted to come back to the West. The banker showed it to the Senator and asked: "Shall we send for him?"

"Yes," said the Senator. "He's too smart a nigger to be stopping back there."

So he was brought back and given a job as a porter, and worked in that capacity until his death a few years ago.

"How is a man to avoid being sated?" In the first place there are two classes of people that have any business dealing in mines. They are the man who understands the business, and the capitalist, who can afford to lose occasionally.

One point capitalists avoid being sated is to employ a competent mining engineer, and have him make a thorough examination of the property.

Cold Comfort.
Chicago Tribune.
"It's such a small chunk of ice you give me for 50 pounds," complained the housewife.
"But notice, ma'am, the firm and excellent quality of it," said the teamster.
"In buying ice your motto should be, 'Not how much, but how good.'"

The Aviator.
A brother to the bird on wing,
A transient vision, gone;
He soars the clouds where eagles swing
And darts from alien clime to clime;
Men's last great masterstroke, his skill,
On pinions posting, then away,
Plain, desert, city, vale and hill
Receding in a mist of gray.
Up, up, with balanced flight he cleaves
The storm-web that the lightning weaves!
The tramway fades, the motor gleams
A transient vision, gone;
Once more the Titan spirit dreams
And light wings lift him to the dawn;
The marvel of his genius grows—
The daring airship in the skies
His bird of steel, his eagle's mate,
The master of its fate, its right,
Guiding the ages unto light!

All hail the Aviator! all hail
The conquering genius of the years,
Be he on earth or on that airy ball,
The doubt, the darkness and the tear!
The bird of steel, his eagle's mate,
That old, determined will supreme—
To conquer, and at any cost
Full of the dream:
Hail him, far poised against the blue,
With God's white sunlight shining through!

Today the step, the forward spring;
Tomorrow, and we know not yet
How from the flogging ends its wings,
How far achievement's end are set;
The vision starts, but we dare
And naves clash against the sky;
When Boston unto Bagdad seems
A flash of wings between two dreams!

Dip down, O soaring thing of fate,
Till, like the Simbad of the tale,
We enter through the magic gate
The wild dominion of the gale;
The Orient to the Occident,
Far-flung across the element
From lands of sunset to the dawn;
Dip down, O ship that tempt us dare
To high altitudes of the air!