

THE INDIAN.

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Where are our Chiefs of old? Where our Heroes of mighty name?
The fields of their battles are silent—scarce their mossy tombs remain!—OSSIAN.

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THE PETROLEUM OIL WELLS OF BAKU.

From the Scientific American.

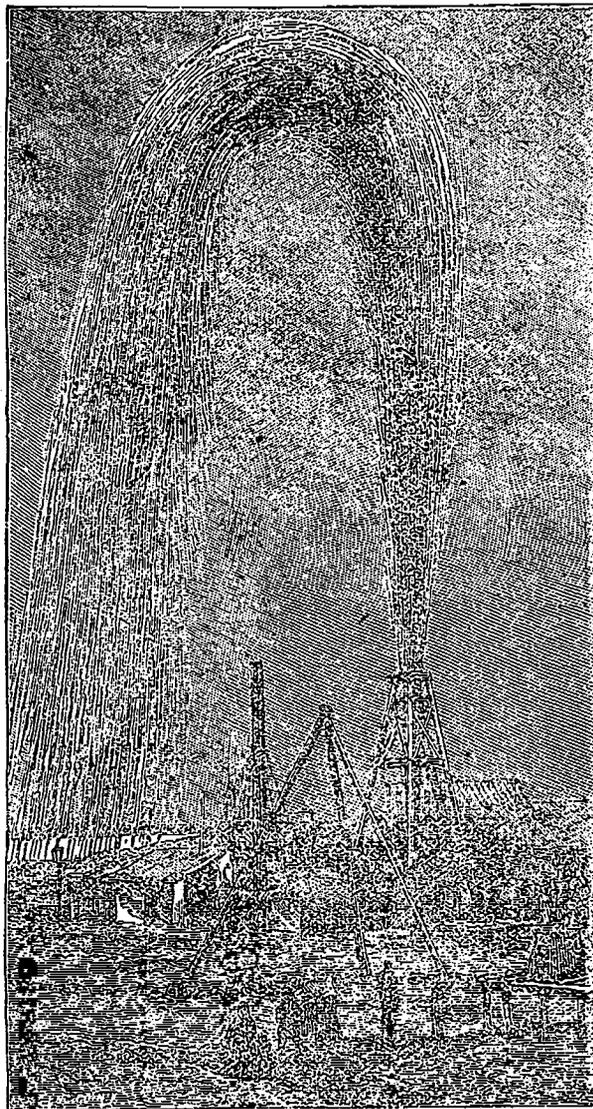
We have at different times described the great establishment of Messrs. Nobel Brothers at Bakhani, adjacent to Baku, and the operations conducted there. The boring of oil wells, the pumping, refining, and other processes, are not the only task which the petroleum industry of Baku has to carry out. The transport of the article to the consumer has also to be accomplished. It is known that for many centuries past there has been more or less trade in naphtha with Persia and other neighboring regions. The great problem was to get the oil into Russia, and to send it into all the principal towns of that widely extended country. The distant position of Baku made this a most difficult undertaking. The oil has first to be sent to Astrakan; but at the mouth of the Volga, owing to its shallow water, a transshipment into barges has to take place. Some of the oil is sent on by the river, but the greater part is transported by railway. Trucks of a peculiar form have been made for this purpose, and they are now to be seen at all the principal railway stations of Russia.

Messrs Nobel Brothers, who have brought all the science of Europe, as well as the experience of the Americans, to bear on the manufacture of the oil, have also carried their ability and energy into the organization of transport. They have a splendid fleet of iron screw steamers, fitted up with tanks which carry the oil to the Volga, with barges carrying it on to Tzaritsin. At this town they have a large depot, from which they send the oil by rail to depots in all the principal towns. By these means they now supply the whole of Russia, and American oil has been entirely driven from that country. They have begun to extend the supply into Germany; and it may be looked upon as only a question of time when a great part of Europe will receive its petroleum from Baku. Among many projects connected with this new industry is the proposal to lay a pipe, to act like a siphon, from Baku to the Black Sea, and thus to deliver the oil at Poti or Batoum, and by steamers thence to carry it not only over the Black Sea, but over the Mediterranean. The cost of such a pipe line would be great, for the distance is over 500 miles; so, at present it is only talked about; but, if the supply of petroleum at Baku continues in undiminished quantities, this is likely to become an accomplished fact at no distant date.

Petroleum oil is now largely used as a fuel to

heat the steam boilers in the Caspian steamers. The oil is brought to the furnace by one pipe, from a tank, while another pipe brings steam from the boiler; the oil is poured into the blast of high pressure steam, and is thereby pulverized or blown into minute particles, which become a sheet of flame underneath the boiler. If a sufficient supply of this fuel could be procured for our ocean-going steamers, many advantages could be derived from it. Among these may be

in all tropical seas, this would end the well known horrors of the stokehole. The disagreeable process, more particularly to passenger ships, of "coaling" would be done away with; and, of course, there are no ashes to raise and throw overboard. In proper tanks it is perfectly safe—even safer than coal, the danger of which we have had experience of not long since. It would thus be cheaper than coal, safer, and its use would be conducive to the comfort of passengers and all on board ship.



A FOUNTAIN OF PETROLEUM OIL,
BAKU, RUSSIA.

noticed that it takes less bulk than coal; a ton of *Astarki*—the Russian name, which means "dregs"—is equal to about two tons of coal; but on the Caspian a ton of *Astarki* is about thirty or forty times cheaper than the ton of coal. The furnaces burning this material require no stoking, thus saving hands; to vessels going through the Suez Canal and the Red Sea, and

A MISSIONARY'S OPINION OF THE AMERICAN INDIAN.

The Indian must be built up. He is now but an atom of the tribe. He must be made an individual. He has keen instincts, but needs to be taught to reason. He is quick to learn, but repeated action is irksome. He must, therefore, be trained into habits of work and of thinking. All this is so closely related to his religious life that the higher possibilities of development are only open to him through Christianity. The faith of the Son of God must become the main-spring of his life. So the heart of the Indian question belongs to the churches. The political issues are outward conditions merely. These are important; and Christian people have a share in the public responsibility for them. But the greater work they share with nobody else. It is theirs alone under the gospel commission.

It is, therefore, a great mistake to allow the political phase of the question to be uppermost in missionary meetings. It obscures the sense of personal obligation. If the Government is a great sinner, they say, let the Government be made to see its sin, and do works meet for repentance. So the personal responsibility is shifted over to the shoulders of the Government. Thus, with all the increase in public interest in the Indian question, there has been comparatively little increase in the funds given for Indian Missions. And although the missionary work that we have been doing has been so richly rewarded by success, and though the field is full of grand opportunities for still larger and better work, yet the enthusiasm of Christians is not aroused to the point of freely offering themselves for this service. In the Congregational and Presbyterian ranks, there have been almost no recruits of ordained missionaries, save a few sons of the old missionaries, for over thirty years. Something is wrong or this could not be.—[*American Missionary*.]

The Six Nations will hold a picnic in Phil. Carlows grove on Aug. 12th.